

The Greenback, the Humpback, and the Silverback: How a Third Wave of Federal Water Policy Could Benefit the West

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ABSTRACT

Proposing any major new federal initiative regarding water in the western United States might seem preposterous, given conventional wisdom and entrenched positions on state control of water resources. But there is a strong rationale, and a growing imperative, for a new federal water policy for the West. Many river basins face serious problems as limited water supplies are over-allocated, demands continue to increase, and climate change promises to exacerbate the West's perennial problems of scarcity and variability. Solutions to such problems are likely to be expensive and will need to address national interests as well as state and local concerns. Like the first two eras of federal water policy—water project development, followed by environmental protection—the third wave will need to bring federal money to the table in proportion to the size of the problems to be solved. But that money will come with important conditions, helping to ensure that western water problems are resolved in a way that meets national needs. This Article begins by summarizing the value of the federal role in western water management, examining the first two waves of federal water policy, and exploring how Congress employed a broadly similar approach to both building water supply projects and regulating water quality. It then turns to indications of modern demands for federal involvement in western water issues, and concludes with observations about important elements of a third wave of federal water policy for the West.

INTRODUCTION

When the 113th Congress passed the Water Resources Reform and Development Act (WRRDA) of 2014,¹ it was remarkable in more ways than one. A Congress that generally dislikes federal involvement in matters of natural resources had directed the Army Corps of Engineers (the Corps) to undertake numerous water-related activities,² and authorized nearly three dozen new projects.³ A

¹ Water Resources Reform and Development Act of 2014, Pub. L. No. 113-121, 128 Stat. 1193.

² The Congressional Budget Office (CBO), commenting on the version of the WRRDA bill that would soon become law, noted that key provisions of the bill will: (1) “expand and clarify the Corps’ authority to control invasive aquatic species, implement flood

Congress notoriously reluctant to spend taxpayer dollars had enacted a bill with a federal price tag far exceeding \$12 billion.⁴ And a Congress noted for partisan rancor and disagreement—arguably the least productive Congress in American history⁵—had approved this legislation by a combined vote of 503 to 11.⁶

The nearly unanimous enactment of the WRRDA shows that there is still broad support, and strong demand, for some federal activities relating to water resources. In the arid West, however, any suggestion of a new federal role in water management is sure to collide with conventional wisdom and entrenched positions. Conventional wisdom has it that the federal government has consistently deferred to state water law, leaving states in charge of making water resource decisions.⁷ Moreover, western state officials, and traditional water users with rights protected by state law, adamantly insist that any federal involvement (or “interference”) in water matters must respect

control and environmental protection projects, and assist Indian tribes with water resources projects”; (2) “direct the Corps to consult with the Federal Emergency Management Agency to develop a levee safety program and would reauthorize the Dam Safety Program”; and (3) “expand the Corps’ responsibilities for maintaining harbors and authorize the Corps and EPA to implement pilot projects and provide loans and loan guarantees to nonfederal entities to complete water infrastructure projects.” Letter from Douglas W. Elmendorf, Dir., Cong. Budget Office, to The Hon. Bill Shuster, Chairman, House Comm. on Transp. and Infrastructure (May 19, 2014) (on file with author).

³ The CBO noted that the WRRDA will “authorize the construction of 34 new water-related projects,” and also “increase the total costs allowable for construction of eight existing projects.” *Id.*

⁴ The CBO estimated that the WRRDA would cost \$5.4 billion to implement during the 2015–19 period and \$6.9 billion during the 2020–24 period, “with additional spending continuing for many years after 2024.” *Id.*

⁵ See generally Ed O’Keefe & Sean Sullivan, *Senate Abruptly Wraps Up, Capping Least Productive Congress in Modern History*, WASH. POST (Dec. 16, 2014), http://www.washingtonpost.com/politics/another-republican-upends-the-senates-year-end-plans/2014/12/16/127292d8-8559-11e4-9534-f79a23c40e6c_story.html.

⁶ The votes on final passage of the WRRDA conference report were 412–4 in the House and 91–7 in the Senate. *H.R.3080–Water Resources Reform and Development Act of 2014*, CONGRESS.GOV, <https://www.congress.gov/bill/113th-congress/house-bill/3080/all-info> (last visited Dec. 28, 2014).

⁷ The Supreme Court has declared that Congress has consistently deferred to state water law, especially in two opinions handed down on the same day and authored by then-Associate Justice Rehnquist. *California v. United States*, 438 U.S. 645, 653 (1978) (stating that the history of irrigation in the West shows a “consistent thread of purposeful and continued deference to state water law by Congress”); *United States v. New Mexico*, 438 U.S. 696, 702 (1978) (“Where Congress has expressly addressed the question of whether federal entities must abide by state water law, it has almost invariably deferred to the state law.”).

the “primary” role of states in water allocation and management.⁸ These factors, and the failure of many efforts to establish anything like a federal water policy for the West,⁹ indicate the challenges that would be sure to confront any proposal for a new or expanded federal role in addressing the region’s important water issues.

There is a competing argument, however, and it is not entirely radical: federal laws and institutions already play important roles in western water management, reflecting the reality that federal law has sometimes taken precedence to protect national interests in water resources.¹⁰ Despite questions about the appropriate federal role, Congress has already established hugely significant programs relating to water because it saw important problems of national significance that could not be resolved without federal intervention. Today, major western river basins are facing similarly significant problems, as limited water supplies are over-allocated, demands continue to increase, and climate change promises to exacerbate the West’s perennial problems of scarcity and variability. Solutions to such

⁸ For example, in a 2014 policy statement, the Western Governors’ Association declared, “As the preeminent authority on water management within their boundaries, states have the right to develop, use, control and distribute the surface water and groundwater located within their boundaries, subject to international treaties and interstate agreements and judicial decrees.” W. GOVERNORS’ ASS’N, POLICY RESOLUTION 2014-03, WATER RESOURCE MANAGEMENT IN THE WEST ¶ B.1 (2014), available at http://www.westgov.org/images/stories/policies/Water_Resource_Management_in_the_West.pdf. The statement also insisted that “[t]he federal government has long recognized the right to use water as determined under the laws of the various states,” and that “[n]othing in any act of Congress or Executive Branch regulatory action should be construed as affecting or intending to affect states’ primacy over the allocation and administration of their water resources.” *Id.* ¶ B.1.a. For its part, the National Water Resources Association, a confederation of western water user organizations, takes the position that federal agencies have improperly used federal environmental laws in a way that is inconsistent with state water laws, and that

[a]ny attempt to condition, restrict, or prohibit the appropriation, storage, carriage and consumptive use of water through regulation under federal environmental laws must be consistent with and take into account state water law. It is urged that the present Administration continue to support a strong system of water allocation and management by the respective states.

Position Statements, NAT’L WATER RES. COUNCIL ¶ 12, <http://www.nwra.org/position-statements.html> (last visited Aug. 6, 2014).

⁹ See Janet C. Neuman, *Federal Water Policy: An Idea Whose Time Will (Finally) Come*, 20 VA. ENVTL. L.J. 107, 114–16 (2001) (explaining reasons why federal water policy does not exist). “The simple mention of ‘federal’ water policy in some parts of the western United States is akin to ordering a gardenburger at a cattlemen’s convention.” *Id.* at 115.

¹⁰ See generally Reed D. Benson, *Deflating the Deference Myth: National Interests vs. State Authority Under Federal Laws Affecting Water Use*, 2006 UTAH L. REV. 241.

problems are likely to be expensive and will need to address national interests as well as state and local concerns.

Thus, there is a strong rationale, and a growing imperative, for a new federal water policy for the West. Like the first two eras of federal water policy—water project development and environmental protection—the third wave will need to bring federal money to the table in proportion to the size of the problems to be solved. Federal money will come with important conditions, helping to ensure that western water problems are resolved in a way that meets national needs.

This Article begins by summarizing the value of the federal role in western water management, symbolized by “the greenback, the humpback, and the silverback.” It then examines the first two waves of federal water policy, exploring how Congress employed a broadly similar approach to both building water supply projects and regulating water quality. The Article then turns to indications of modern demands for federal involvement in western water issues, and concludes with observations about important elements of a third wave of federal water policy for the West.

I

THE VALUE OF THE FEDERAL ROLE IN WATER MANAGEMENT

Western states and water users have long regarded the federal role in water matters as problematic, and perhaps more trouble than it is worth.¹¹ Some people oppose any new federal action relating to water

¹¹ Within a decade of Congress passing the 1902 Reclamation Act, Wyoming officials were voicing great resentment against the federal government for its activities and attitude in that state. T.A. LARSON, *HISTORY OF WYOMING* 357–58 (2d ed. 1978); *see infra* notes 85–104 and accompanying text (explaining the 1902 Act). In 1909, the governor of Wyoming criticized federal agencies—presumably the Reclamation Service—“whose meddlesome activity frequently acts as a hindrance to our development, and hence irritates our people.” LARSON, *supra* note 11, at 357. The state engineer accused the agency of ignoring state laws, among other transgressions, and wrote “[t]he present attitude of the Reclamation Service must change radically before any real good can be accomplished in this state by it.” *Id.* at 358. In the 1950s and ’60s, one of the major controversies in federal water policy was the acreage limit for receiving subsidized water from Reclamation projects, which had always been a key part of the federal program; large landowners (especially in California) wanted the cheap water but rebelled against the acreage limits. *See generally* Paul S. Taylor, *Excess Land Law: Calculated Circumvention*, 52 CALIF. L. REV. 978 (1964). In 1971, the great water law scholar Frank Trelease wrote,

When [federal] and state law clash, when gaps appear, when federal law upsets that which state law has set up . . . then there is federal-state conflict in the field

resources in the West, a view seemingly held by the current majority of the House Natural Resources Committee.¹² The record shows, however, that federal laws, programs, and institutions have proved their worth in developing and protecting the nation's waters.

The value of federal involvement in this context can be summarized, or symbolized, by three things: the greenback, the humpback, and the silverback. The greenback, of course, is money: federal dollars spent on things such as infrastructure projects. The humpback refers to the humpback chub, a native fish species in the Colorado River system, representing national priorities (in this case endangered species) that would go more or less unprotected without federal law. Lastly, the silverback is a dominant male gorilla—a metaphor for the federal government's role in ensuring that states meet their legal responsibilities despite local resistance—a role that former EPA administrator William Ruckelshaus once referred to as “the gorilla in the closet.”¹³ This Section briefly explains each of

of water rights. There is confusion, uncertainty, bad feeling, jealousy and bitterness. To a substantial degree, this is what exists today.

FRANK J. TRELEASE, NAT'L WATER COMM'N, FEDERAL-STATE RELATIONS IN WATER LAW 11 (1971).

¹² For example, on June 24, 2014, the House Water and Power Subcommittee held a hearing entitled “New Federal Schemes to Soak Up Water Authority: Impacts on States, Water Users, Recreation, and Job's [sic].” Press Release, House Comm. on Natural Res., Witnesses Agree Proposed Water Rights Regulations Continue the “Obama Knows Best” Water Policies (June 24, 2014), available at http://naturalresources.house.gov/uploadedfiles/6_24_14_wprelease.pdf. The Natural Resources Committee's press release stated that recent federal agency actions “turn over longstanding water rights and eliminate multiple land and water uses on and off federal lands,” represent “executive agencies running amok,” and they “fundamentally alter . . . the relationship between the states and the federal government” *Id.* An earlier hearing focused on legislation, H.R. 3189, and its GOP sponsor said it would “protect local water rights from federal government overreach and takings” Press Release, House Comm. on Natural Res., Witnesses, Members Agree Rep. Tipton's Legislation Needed to Prevent Federal Water Grab (Oct. 10, 2013), available at http://naturalresources.house.gov/uploadedfiles/10_10_13_wp_tipton_leg.pdf.

¹³ In his second stint as EPA administrator, Ruckelshaus said in a 1984 speech to EPA employees that although the states had the interest and capacity to control pollution, “[the EPA's] responsibility is not to get along with the states, it is to insure compliance . . . unless [the states] have a gorilla in the closet, they can't do the job. And the gorilla is the EPA.” Steven D. Shermer, *The Efficiency of Private Participation in Regulating and Enforcing the Federal Pollution Control Laws: A Model for Citizen Involvement*, 14 J. ENVTL. L. & LITIG. 461, 466 (1999). While his comment referred to environmental regulation rather than water management, the states, whatever their intentions, have the same trouble standing up to their politically powerful water users as they do their polluting industries. In the water context, the federal “gorilla” can ensure that the states don't just serve their local interests at the expense of the environment, tribes, or downstream states.

these sources of federal influence in the context of water management.

A. The Greenback: Big Bucks to Address Big Challenges

Some of the federal government's most important contributions regarding water have involved spending large sums of money, often for infrastructure projects. In the first half of the twentieth century, project opponents unsuccessfully challenged the government's authority to construct certain projects, arguing that some purposes exceeded Congress' powers regarding water.¹⁴ Since 1950, however, it is clear that Congress may authorize construction of water projects under the General Welfare Clause and the constitutional spending power, without the need to rely on a traditional federal purpose such as navigation.¹⁵

The construction and operation of federal water projects has transformed the nation's aquatic landscape. In the West, the Bureau of Reclamation (Reclamation) built hundreds of dams, especially once the program expanded to serve municipal, industrial, and hydropower purposes;¹⁶ currently, Reclamation has 337 reservoirs in its portfolio.¹⁷ Nationally, the Corps was even more prolific, building nearly 700 dams for flood control, hydropower, and other purposes.¹⁸ These projects represent a truly massive investment of federal funds, totaling roughly \$22 billion for Reclamation projects alone.¹⁹

¹⁴ See, e.g., *Arizona v. California*, 283 U.S. 423 (1931) (upholding authorization of the Bureau of Reclamation's Boulder Canyon Project on the Colorado River); *Oklahoma ex rel. Phillips v. Guy F. Atkinson Co.*, 313 U.S. 508 (1941) (upholding authorization of the Corps' Denison Dam on the Red River).

¹⁵ *United States v. Gerlach Live Stock Co.*, 339 U.S. 725, 738–39 (1950) (determining that the general welfare and spending powers supported authorization of the Bureau of Reclamation's Friant Dam on the San Joaquin River).

¹⁶ See generally Donald J. Pisani, *Federal Reclamation in the Twentieth Century: A Centennial Retrospective*, in *THE BUREAU OF RECLAMATION: HISTORY ESSAYS FROM THE CENTENNIAL SYMPOSIUM VOLUMES I AND II* 611 (2008), available at http://www.usbr.gov/history/Symposium_2008/Historical_Essays.pdf.

¹⁷ *Bureau of Reclamation Quickfacts*, U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, <http://www.usbr.gov/facts.html> (last visited Aug. 7, 2014).

¹⁸ *Dam Safety Program*, U.S. ARMY CORPS OF ENGINEERS, <http://www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx> (last visited Aug. 7, 2014).

¹⁹ According to a 1996 GAO report, as of 1994, the federal government spent \$21.8 billion to construct 133 Reclamation water projects. U.S. GEN. ACCOUNTING OFFICE, BUREAU OF RECLAMATION: INFORMATION ON ALLOCATION AND REPAYMENT OF COSTS OF CONSTRUCTING WATER PROJECTS 23 (1996) [hereinafter 1996 GAO REPORT]. There appears to be no parallel estimate of the total cost of all Army Corps of Engineers projects,

The costs of these projects cannot be measured solely in dollars, of course; the Corps and Reclamation are somewhat legendary for the environmental impacts of their handiwork.²⁰ However, the corresponding benefits have been substantial. For example, Reclamation claims to deliver water to 10 million acres of farmland, generate 15% of the nation's hydropower, supply municipal and industrial water for 31 million people, and host 90 million recreational visitor days annually.²¹ For its part, the Corps claims that its flood control projects save \$3 billion per year in flood damages, that its reservoirs host more than 40 million visitor days,²² and that it generates 24% of the nation's hydropower.²³

Federal money spent on water infrastructure has often yielded benefits, beyond the projects themselves, in the form of practical incentives for resolving looming disputes between sovereigns. Through much of the twentieth century, the lure of federal water projects helped motivate states to enter into compacts for allocating the water of interstate river systems. As stated by one authority,

It has been suggested that “[m]ost compacts represent compromises reached by the water resource establishments of the signatory states against a background of urgent need (or at least desire) for federal benefits that are contingent upon agreement being reached.” The federal benefits typically were the funding and building of water development projects using interstate waters, projects that by common understanding were not likely to be funded by Congress

but given that the Corps has roughly twice as many reservoirs as Reclamation, the number is almost certainly higher.

²⁰ In his chapter “The Go-Go Years,” Marc Reisner summed up the impacts of the peak period of federal dam construction on the nation's rivers. MARC REISNER, *CADILLAC DESERT* 151–75 (1st ed. 1986). Congress authorized a huge number of Reclamation projects from 1928 to 1956, “along with hundreds of projects built by the Corps of Engineers in the East and West. In that astonishingly brief twenty-eight-year period . . . the most fateful transformation that has ever been visited on any landscape, anywhere, was wrought. It was a profound change—profound and permanent.” *Id.* at 172. Reisner's summary of the impacts of the Corps' efforts to improve navigation on the nation's major river systems appears at page 177.

²¹ *Quickfacts*, *supra* note 17.

²² *U.S. Army Corps of Engineers Overview*, U.S. ARMY CORPS OF ENGINEERS, <http://www.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/219/Article/475462/us-army-corps-of-engineers-overview.aspx> (last visited Aug. 7, 2014).

²³ *USACE Hydropower—Renewable, Reliable, Energy Independence for America*, U.S. ARMY CORPS OF ENGINEERS (Apr. 10, 2013), available at http://www.usace.army.mil/Portals/2/docs/civilworks/budget/strongpt/fy2014sp_hydropower.pdf.

absent agreement by the affected states regarding allocation of the interstate waters.²⁴

More recently, federal money for water infrastructure and other tangible benefits for Indian Country has been a crucial element of tribal water rights settlements that help resolve bitter disputes over reserved right claims.²⁵ For example, the Navajo Nation's claims to water from the San Juan River in New Mexico were settled largely through authorization of a pipeline project costing more than \$1 billion, to be constructed almost entirely with federal funds.²⁶

B. The Humpback: Federal Law to Promote National Priorities

Despite conventional wisdom about deference to state authority, federal water law has played a major role in the West for more than a century. The 1899 Supreme Court decision in *United States v. Rio Grande Dam & Irrigation Co.* showed that the federal government would sometimes be at odds with the states over water, and that federal law would not simply allow states to allocate water at the expense of national interests.²⁷ In that case, the Court blocked a proposed dam on the Rio Grande in New Mexico that had been authorized under territorial law, applying a federal statute prohibiting “the creation of any obstruction, not affirmatively authorized by law, to the navigable capacity of any waters” subject to U.S. jurisdiction.²⁸ The Court also observed in dictum that a state could not deny the United States, as an owner of land along a stream, the right to such

²⁴ DOUGLAS L. GRANT & GREGORY S. WEBER, *CASES AND MATERIALS ON WATER LAW* 495 (8th ed. 2010) (quoting Charles J. Meyers, *The Colorado River*, 19 STAN. L. REV. 1, 48 (1966)).

²⁵ See A. DAN TARLOCK ET AL., *WATER RESOURCE MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY* 767–74 (7th ed. 2014) (summarizing tribal water settlements generally, and providing a table of approved settlements with the financial cost of each). “Virtually all [settlements] created trust funds of mostly federal money for tribes to invest in water development or economic development activities. The funds ranged from \$6 million to over \$150 million.” *Id.* at 768.

²⁶ Jerold Widdison, *Navajo-Gallup Water Supply Project*, in *WATER MATTERS!* 20-1, at 20-3 to -5 (2014), available at <http://uttoncenter.unm.edu/pdfs/water-matters-2014/20-navajo-gallup-water-supply-project.pdf>. This pipeline will also provide important off-reservation benefits by bringing a sustainable water supply to the city of Gallup, New Mexico. *Id.* at 20-3.

²⁷ 174 U.S. 690 (1899).

²⁸ *Id.* at 707 (quoting Rivers & Harbors Appropriation Act of 1899, ch. 907, § 10, 26 Stat. 426, 454 (1890) (codified as amended at 33 U.S.C. § 403 (2012))).

water “as may be necessary for the beneficial uses of the government property.”²⁹

The Court would soon give effect to those words in the landmark case of *Winters v. United States*, holding that an Indian reservation in Montana had an implied water right—under federal law—to the water needed for irrigation by its resident tribes.³⁰ Although the treaty establishing the reservation said nothing about water, the Court held that water rights are essential to the treaty’s basic goal of helping tribes become farmers.³¹ The Court rejected arguments about state control over water resources in *Winters*,³² and did so again in *Arizona v. California*,³³ reinforcing and clarifying the law as applied to Indian reservations,³⁴ and establishing that other federally designated lands could have “reserved rights” to the water needed to fulfill their specific purposes.³⁵

The federal government has also asserted national priorities in hydropower—planning and promoting development of major hydroelectric projects—over state objections. Although the Federal Power Act contains at least two provisions that seem to give states significant authority regarding proposed hydropower projects,³⁶ a series of Supreme Court cases interpreted those provisions narrowly, leaving a federal agency firmly in control of project licensing decisions.³⁷ In *First Iowa Hydro-Electric Cooperative v. Federal*

²⁹ *Id.* at 703.

³⁰ 207 U.S. 564, 576–77 (1908).

³¹ *Id.*

³² *Id.* at 577.

³³ 373 U.S. 546 (1963).

³⁴ *Id.* at 597–600.

³⁵ *Id.* at 601.

³⁶ The Federal Power Act requires a federal license, issued by the Federal Energy Regulatory Commission, or FERC (formerly the Federal Power Commission), prior to construction of a hydropower project. 16 U.S.C. § 802 (2012). Section 9(b) of the statute requires a license applicant to show FERC that it has “complied with the requirements” of the laws of the state where the project will be located “with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes.” *Id.* § 802(a)(2). In addition, section 27 provides that the Federal Power Act shall not be construed as impairing state laws “relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein.” *Id.* § 821.

³⁷ *First Iowa Hydro-Elec. Coop. v. Fed. Power Comm’n*, 328 U.S. 152 (1946); *Fed. Power Comm’n v. Oregon*, 349 U.S. 435 (1955); *California v. Fed. Energy Regulatory Comm’n*, 495 U.S. 490 (1990). In each of these cases, the Commission approved a project that would have had lesser environmental impacts if state law, or state agency recommendations, had been followed.

Power Commission, the Court held that giving full effect to those provisions would mean that a state could essentially have veto power over a federally licensed project, which “easily could destroy the effectiveness of the Federal [Power] Act . . . [and] subordinate to the control of the State the ‘comprehensive’ planning which the Act provides shall depend upon the judgment of the Federal Power Commission”³⁸

Most recently, Congress has established certain environmental goals as national priorities, most notably through the Clean Water Act (discussed below) and the Endangered Species Act (ESA).³⁹ The ESA seeks to conserve threatened and endangered species and the ecosystems on which they depend.⁴⁰ Although the ESA is not specific to water-dependent species, it almost immediately became controversial in the context of water development, when the discovery and listing of the snail darter threatened to derail a nearly completed federal dam.⁴¹ In *Tennessee Valley Authority v. Hill*, the Supreme Court held that the Tellico Dam could not be completed without violating the ESA, declaring “beyond doubt that Congress intended endangered species to be afforded the highest of priorities.”⁴² And while Congress directed the dam to be completed, it made only modest changes to the law, preserving the statute’s strong protection for endangered species and their ecosystems.⁴³ Since then the ESA has had a significant impact on water management in several places, particularly where federal water projects have a major effect on protected species and their ecosystems.⁴⁴

³⁸ 328 U.S. at 164.

³⁹ 16 U.S.C. §§ 1531–1544.

⁴⁰ The ESA’s purposes are found in section 1531(b), which refers first to conserving the ecosystems on which listed species depend, and second to conserving the species themselves. *Id.* § 1531(b).

⁴¹ See, e.g., *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978).

⁴² *Id.* at 174.

⁴³ See Holly Doremus, *The Story of TVA v. Hill: A Narrow Escape for a Broad New Law*, in ENVIRONMENTAL LAW STORIES 109, 132 (Oliver A. Houck & Richard J. Lazarus eds. 2005).

⁴⁴ See Reed D. Benson, *Avoiding Jeopardy, Without the Questions: Recovery Implementation Programs for Endangered Species in Western River Basins*, 2 MICH. J. ENVTL. & ADMIN. L. 473, 484–504 (2013) (describing the ESA’s impact on water project operations in various river basins).

C. The Silverback: Federal Oversight to Protect National Interests

Interstate water allocation is perhaps the most obvious area where federal law and a federal forum for resolving disputes are necessary to ensure that an individual state does not promote its own interests at the expense of another state. Today this point is well accepted, even obvious, but in the early twentieth century it was a contested question of law. A threshold issue in the original *Kansas v. Colorado* case regarding the Arkansas River was whether the U.S. Supreme Court even had jurisdiction over such an action.⁴⁵ Having resolved that question, the Court still had to determine whether federal law applied. Colorado and its water users argued that a state had absolute control over all the water within its boundaries and could allocate that water entirely for its own uses even if that left none for a downstream state.⁴⁶ The Court held that federal law must apply where “the action of one State reaches through the agency of natural laws into the territory of another State,” and established the fundamental principle of equitable apportionment of interstate waters.⁴⁷ Undeterred, Colorado made the same argument in a later case involving the Laramie River,⁴⁸ but the Court again rejected it because it had already been “adjudged untenable.”⁴⁹

Interstate waters, especially in the West, have been allocated largely through compacts.⁵⁰ Because each compact is a negotiated

⁴⁵ *Kansas v. Colorado*, 206 U.S. 46, 81–84 (1907).

⁴⁶ They also argued that each state had absolute control over its natural resources, and that federal involvement in interstate waters would undermine that control. *Id.* at 78–79. Colorado’s water users, especially the Colorado Fuel & Iron Company, seem to have pressed this argument harder than Colorado itself. Colorado’s main contention was that its use of the Arkansas River was not causing harm to Kansas. *Id.* at 62–64. On this issue, the Court found that Kansas was in fact being harmed, but that its injuries were relatively minor and localized, and denied relief on that basis. *Id.* at 112–18.

⁴⁷ *Id.* at 97–98. Although Kansas lost this case, the Court stated that Kansas could return if Colorado increased its depletions to Kansas’ detriment, “to the extent of destroying the equitable apportionment of benefits between the two States resulting from the flow of the river.” *Id.* at 118.

⁴⁸ *Wyoming v. Colorado*, 259 U.S. 419 (1922).

⁴⁹ *Id.* at 466. The Court noted that it had rejected this same argument in the Arkansas River litigation. *Id.* (“Further consideration satisfies us that the ruling was right.”).

⁵⁰ As of 2007 there were twenty-six interstate water compacts, mostly involving western states. Jerome C. Muys, George William Sherk & Marilyn C. O’Leary, *Utton Transboundary Resources Center Model Interstate Water Compact*, 47 NAT. RESOURCES J. 17, 21 (2007).

agreement between the states that share an interstate water body,⁵¹ compacts might be seen as a means for states to control their own destinies and minimize the risk of federal “interference” in water management. However, that view is somewhat misleading because compacts have significant federal dimensions. Most fundamentally, Congress must approve each compact before it may take effect, which is not automatic;⁵² once approved, the compact becomes a federal statute.⁵³ In addition, compacts typically contain provisions disclaiming any effects on the water rights of Indian tribes, the United States or its “agencies or instrumentalities,”⁵⁴ recognizing that federal law may provide water rights for tribal and federal lands under the *Winters* doctrine.⁵⁵ Moreover, compacts are typically enforced in the Supreme Court, which often solicits input from the U.S. government on whether to accept a case and on the merits of the dispute.⁵⁶ With several interstate water disputes currently pending before the Supreme Court, three of them involving compacts,⁵⁷ it is clear that the federal forum remains crucial even where states have agreed to a compact.

⁵¹ The Supreme Court emphasized the negotiated agreement element of interstate water compacts in its recent decision in *Tarrant Regional Water District v. Herrmann*, 133 S. Ct. 2120, 2130 (2013).

⁵² For example, Congress never ratified the Truckee River Compact. John Kramer, *Lake Tahoe, the Truckee River, and Pyramid Lake: The Past, Present, and Future of Interstate Water Issues*, 19 PAC. L.J. 1339, 1340 (1988) (noting that the Truckee River Compact, approved by California and Nevada, “languished before Congress for fourteen years before hearings in 1985 and 1986 demonstrated that the consent and approval of Congress could not be obtained”).

⁵³ See *Tarrant*, 133 S. Ct. at 2130 n.8.

⁵⁴ See, e.g., Rio Grande Compact, ch. 155, art. XVI, 53 Stat. 785, 792 (1939) (no effect on U.S. obligations to Indian tribes, or impairment of tribal rights); Upper Colorado River Basin Compact, chs. 47–48, art. XIX(a), (c), 63 Stat. 31, 42 (1949) (no effect on “obligations of the United States of America to Indian tribes,” or on “rights or powers of the United States of America, its agencies or instrumentalities, in or to the waters of the Upper Colorado River System, or its capacity to acquire rights in and to the use of said waters”); Yellowstone River Compact, ch. 629, arts. VI & XVI(a), 65 Stat. 663, 668, 670 (1951) (no effect on tribal rights or federal sovereignty, jurisdiction, or capacity to acquire water rights).

⁵⁵ See *supra* notes 30–35 and accompanying text.

⁵⁶ See generally John B. Draper & Jeffrey J. Wechsler, *Gunboats on the Colorado: Interstate Water Controversies, Past and Present*, 55 ROCKY MTN. MIN. L. INST. 18-1, § 18.02(3)(a) (2009).

⁵⁷ The pending cases were brought by Kansas (on the Republican River Compact), Montana (on the Yellowstone River Compact), and Texas (on the Rio Grande Compact). The other interstate case in the Supreme Court involves the Apalachicola-Chattahoochee-Flint system in the Southeast, where there is no current compact.

In the context of tribal reserved rights, the Supreme Court recognized the importance of federal oversight of state courts, even as it handed the states a major victory in allowing them to adjudicate tribal water right claims. The Court decided in 1976 that a federal statute (the “McCarran Amendment”)⁵⁸ established a strong Congressional policy of having a single proceeding, often in state court, to determine all water right claims (including federal and tribal) for a single river basin.⁵⁹ In *Arizona v. San Carlos Apache Tribe of Arizona*,⁶⁰ the Court recognized potentially serious problems with having state courts adjudicate tribal claims,⁶¹ but insisted that tribal rights would nonetheless be protected. For one thing, federal law would continue to govern tribal water claims, which state courts “have a solemn obligation to follow.”⁶² “Moreover, any state-court decision alleged to abridge Indian water rights protected by federal law can expect to receive, if brought for review before this Court, a particularized and exacting scrutiny commensurate with the powerful federal interest in safeguarding those rights from state encroachment.”⁶³

In the regulatory context, Congress has repeatedly established national programs for addressing environmental problems by allowing states to implement federal standards, subject to federal agency oversight.⁶⁴ The Clean Air Act offers a clear illustration: it requires the EPA to set *national* standards for air quality,⁶⁵ calls on *states* to ensure attainment of those standards through “State Implementation Plans,”⁶⁶ but requires EPA approval of such plans.⁶⁷

⁵⁸ 43 U.S.C. § 666 (2012).

⁵⁹ *Colo. River Water Conservation Dist. v. United States*, 424 U.S. 800, 820–21 (1976).

⁶⁰ 463 U.S. 545 (1983).

⁶¹ *Id.* at 566–69.

⁶² *Id.* at 571.

⁶³ *Id.* However, the Supreme Court’s interest in actually protecting tribal water rights has been questioned, in light of its handling of the challenge to the Wyoming Supreme Court’s decision on the water rights of the Wind River Reservation. *See generally* Andrew C. Mergen & Sylvia F. Liu, *A Misplaced Sensitivity: The Draft Opinions in Wyoming v. United States*, 68 U. COLO. L. REV. 683 (1997).

⁶⁴ *See* Robert L. Fischman & Jaelith Hall-Rivera, *A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery Under the Endangered Species Act*, 27 COLUM. J. ENVTL. L. 45, 78–79 (2002) (summarizing the important roles given to states in implementing federal pollution control law, and describing this approach as cooperative federalism).

⁶⁵ 42 U.S.C. § 7409 (2012).

⁶⁶ *Id.* § 7410.

⁶⁷ *Id.* § 7410(k).

The Safe Drinking Water Act⁶⁸ provides another example, directing the EPA to develop national standards for drinking water quality;⁶⁹ allowing a state to take over primary responsibility for enforcing these standards if EPA determines that its laws and institutions are adequate;⁷⁰ and authorizing the EPA to file its own enforcement action if a state fails to respond adequately to the EPA's direction.⁷¹ In the water context, however, the best-known example of this approach is the Clean Water Act, as explained below.⁷²

In summary, the importance of the federal role in water management is shown by the greenback, the humpback, and the silverback; that is, the federal government is an important player because of its singular capacity to address major challenges by spending big money, by setting and protecting national priorities, and by providing a necessary check on state actions. The next Part examines how Congress has applied these principles, while providing important roles for state laws and institutions, in two distinctly different eras of federal water policy.

II

TWO WAVES OF FEDERAL WATER POLICY: DIFFERING GOALS, SIMILAR ELEMENTS

The twentieth century brought two well-recognized waves of federal water policy⁷³: water project development and environmental

⁶⁸ *Id.* §§ 300f to 300j-26.

⁶⁹ *Id.* § 300g-1.

⁷⁰ *Id.* § 300g-2.

⁷¹ *Id.* § 300g-3.

⁷² See *infra* notes 111–34 and accompanying text.

⁷³ In a recent book looking at issues of water management in nations with federal systems, noted water scholar Andrea Gerlak identified four “streams” of U.S. water policy beginning in 1900. Andrea K. Gerlak, *Federalism in US Water Policy*, in *FEDERAL RIVERS: MANAGING WATER IN MULTI-LAYERED POLITICAL SYSTEMS* 41, 43–48 (Dustin Garrick et al. eds., 2014). The titles and periods she identified for these streams were: Federal Development and Dominance (1900–1960), Development Doubts and Environmental Concerns (1960s to 1980s), Devolution and Penny-Pinching (1980s), and Restoration and Collaboration (1990s–present). *Id.* Gerlak’s four “streams” may provide a more complete and nuanced view of twentieth century water policy than my two “waves,” and she is correct in suggesting that environmental protection has been a lower priority (at least for Congress) since the 1980s. However, I have simplified twentieth century federal water policy into two overlapping eras because each of these two eras has left a legacy that remains largely in place today: federally operated water projects (operated mostly by Reclamation and the Corps) and federal environmental laws (such as the Clean Water Act and ESA).

protection. The first wave, which emphasized dam construction, lasted into the 1970s;⁷⁴ the second wave, which focused on river conservation and water quality regulation, began in the 1960s.⁷⁵ Given their sharply different goals, and the common understanding that the rise of environmental concerns helped bring an end to the dam-building era,⁷⁶ one might think that these two waves of federal water policy were nothing alike. However, the two waves—and especially their flagship programs—had some fundamental and important similarities.

A. The First Wave: Dam Construction and the 1902 Reclamation Act

Once Congress decided that impounding rivers was good and important work for the U.S. government,⁷⁷ it directed several agencies to pursue water project development. The Federal Power Act of 1920⁷⁸ established the Federal Power Commission (now the Federal Energy Regulatory Commission, FERC) and directed it to issue licenses for hydropower projects on navigable waters.⁷⁹ The Army Corps of Engineers built hundreds of projects on rivers across the country, primarily for flood control; its string of six large dams on the Missouri River, authorized in 1944 under the Pick-Sloan Plan,⁸⁰ represent the largest system of reservoirs on any U.S. river.⁸¹ The New Deal era Tennessee Valley Authority⁸² built more than four dozen reservoirs in seven southeastern states, largely for hydropower

⁷⁴ See Pisani, *supra* note 16, at 625.

⁷⁵ See David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States' Role?*, 20 STAN. ENVTL. L.J. 3, 14–17 (2001).

⁷⁶ *Id.*; see also Pisani, *supra* note 16, at 625.

⁷⁷ Reisner describes the origins of federal dam building by Reclamation and the Corps in terms that often reflect as poorly on Congress as on the agencies. REISNER, *supra* note 20, at 115–20 (Reclamation); *id.* at 179–82 (Corps).

⁷⁸ The 1920 statute was originally called the Federal Water Power Act. Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920). Since amended and expanded many times, the Federal Power Act is now codified at 16 U.S.C. §§ 792 to 825r.

⁷⁹ *Id.* §§ 1, 4. One of the more important Supreme Court decisions on federal authority over water involved FERC's hydropower licensing program. *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377 (1940).

⁸⁰ The Supreme Court summarized the history of Pick-Sloan and the 1944 statute in *ETSI Pipeline Project v. Missouri*, 484 U.S. 495, 500–05 (1988).

⁸¹ John H. Davidson, *Marketing Missouri River Water: Competing Plans for Commoditizing a Natural Resource*, 89 N.D. L. REV. 1, 3 (2013).

⁸² A rather self-congratulatory history appears on the TVA website. *From the New Deal to a New Century*, TENN. VALLEY AUTH., <http://www.tva.com/abouttva/history.htm> (last visited Aug. 8, 2014).

and economic development.⁸³ But the original federal dam-building program was launched by the 1902 Reclamation Act;⁸⁴ under this statute and later enactments,⁸⁵ Reclamation built hundreds of projects in seventeen western states, primarily for irrigation.⁸⁶

In the original Reclamation Act, Congress established the Reclamation Fund⁸⁷ and authorized the Interior Department to use the money to build and operate projects to store and deliver water for irrigation.⁸⁸ These projects would supply water to private farmers, who were required to live on or near the irrigated land and were limited to irrigating no more than 160 acres.⁸⁹ Farmers receiving water from a project would be responsible for repaying the government for the costs of building that project, interest free, within ten years.⁹⁰ Over the years, Congress expanded the purposes of Reclamation projects, relaxed the repayment terms, and eventually raised the acreage cap on farms eligible for project water.⁹¹ For purposes of this Article, however, three basic elements of the program have remained consistent.

First, the Reclamation program has always represented a major federal investment in water development, by which water is delivered at a substantial subsidy. While this subsidy was originally rather modest—essentially a ten-year, interest-free loan to farmers receiving project water—it soon grew to the point where irrigators commonly

⁸³ See *Frequently Asked Questions About TVA*, TENN. VALLEY AUTH., <http://www.tva.com/abouttva/keyfacts.htm> (last visited Aug. 8, 2014).

⁸⁴ Act of June 17, 1902, ch. 1093, 32 Stat. 388 (codified in scattered sections of 43 U.S.C. §§ 371–498 (2012)).

⁸⁵ The Reclamation program has long proceeded under two types of statutes: those that provide authority and direction for the program as a whole and those that pertain to a particular project, location, or activity. See generally Reed D. Benson, *New Adventures of the Old Bureau: Modern-Day Reclamation Statutes and Congress's Unfinished Environmental Business*, 48 HARV. J. ON LEGIS. 137, 140–67 (2011) (examining both site-specific enactments and programmatic statutes relating to Reclamation since 2000).

⁸⁶ *Id.* at 140 n.16.

⁸⁷ The Reclamation Fund was established in Section 1 of the 1902 Act, codified at 43 U.S.C. § 391.

⁸⁸ *Id.* Section 2 of the 1902 Act authorized the Interior Department to construct irrigation projects; as amended, it is now codified at 43 U.S.C. § 411.

⁸⁹ These requirements, since repealed, were set out in Section 5 of the 1902 Act, 32 Stat. at 389.

⁹⁰ This long-gone requirement appeared in Section 4 of the 1902 Act, 32 Stat. at 389.

⁹¹ See Benson, *supra* note 85, at 159–60.

repaid only a minor fraction of project costs.⁹² While opinions differ on whether the federal investment in irrigation has been sound policy, there is no question that taxpayers have shouldered much of the burden of storing and delivering water to western farmers.⁹³

Second, the Reclamation program has worked within the water rights systems of the western states. Section 8 of the 1902 Reclamation Act not only recognized state laws “relating to the control, appropriation, use, or distribution of water used in irrigation,” but also required the Interior Department to “proceed in conformity with such laws” in implementing the program.⁹⁴ This provision remains on the books, and in 1978, a divided Supreme Court interpreted Section 8 to allow states to impose conditions on federal water projects so long as those conditions are “not inconsistent” with relevant congressional directives.⁹⁵

Third, Congress has always placed important requirements and restrictions on the Reclamation program that are both general and project specific. The original 1902 Act, for example, authorized the reclamation program for the single purpose of irrigation;⁹⁶ imposed acreage and residency restrictions on farmers who could receive project water;⁹⁷ fixed the terms for repayment of project costs;⁹⁸ and specified that even after repayment was completed, “title to and the management and operation of the reservoirs and the works necessary for their protection and operation shall remain in the Government until otherwise provided by Congress.”⁹⁹ Congress would later revise the program to require that repayment contracts be made with districts

⁹² 1996 GAO REPORT, *supra* note 19, 15–22 (describing forms of subsidies provided to irrigators receiving water from Reclamation projects).

⁹³ According to the 1996 GAO Report, as of 1994, the federal government has spent nearly \$22 billion on Reclamation projects, of which \$16.8 billion was considered “reimbursable” by project beneficiaries. *Id.* at 23. Of that total, \$7.1 billion had been allocated to irrigation, but irrigators were required to repay only \$3.4 billion and had actually repaid less than \$1 billion. *Id.*

⁹⁴ Most of Section 8 of the 1902 Act is codified at 43 U.S.C. § 383.

⁹⁵ *California v. United States*, 438 U.S. 645, 674 (1978).

⁹⁶ Section 2 of the 1902 Act, 32 Stat. at 388, authorized the Interior Department to construct “irrigation works.”

⁹⁷ Section 5 of the 1902 Act, 32 Stat. at 389, established these restrictions.

⁹⁸ Section 4 of the 1902 Act, 32 Stat. at 389, provided for repayment of construction costs by project irrigators over a ten-year period.

⁹⁹ Section 6 of the 1902 Act, 32 Stat. at 389, contained this proviso, which is codified at 43 U.S.C. § 498.

rather than individual farmers,¹⁰⁰ expand the program to include municipal and industrial water supply,¹⁰¹ and require conservation plans from those entities with contracts for project water.¹⁰² In addition, project-specific statutes would address such matters as the authorized uses of project water and even the types of crops that could be grown with it.¹⁰³ Thus, despite the general statement of deference to state law in Section 8, Congress has established numerous conditions on the Reclamation program and individual projects, reflecting the federal policy of the day.

B. The Second Wave: Environmental Protection and the 1972 Clean Water Act

In the 1960s and 1970s, Congress enacted several laws with the potential to restrict development and use of water resources. For example, the 1968 Wild and Scenic Rivers Act designated river segments that would then be protected from water project development, among other things.¹⁰⁴ The National Environmental Policy Act,¹⁰⁵ sometimes called the “Magna Carta” of U.S. environmental laws,¹⁰⁶ required a detailed environmental analysis before a federal agency could permit, fund, or take any action that could have significant environmental impacts.¹⁰⁷ In addition, the

¹⁰⁰ Act of May 25, 1926, ch. 383, § 46, 44 Stat. 636, 649 (codified as amended at 43 U.S.C. § 423e (2012)).

¹⁰¹ Reclamation Project Act of 1939, ch. 418, § 9(c), 53 Stat. 1187, 1194 (codified as amended at 43 U.S.C. § 485h(c)) (providing for forty-year repayment contracts, with interest, for municipal water supply or “miscellaneous purposes,” provided that such contracts do not interfere with irrigation).

¹⁰² Congress established this requirement in the Reclamation Reform Act of 1982, Pub. L. No. 97-293, § 210, 96 Stat. 1261, 1268 (codified at 43 U.S.C. § 390jj).

¹⁰³ For example, in authorizing the San Angelo Project in Texas, Congress not only specified project purposes (including “irrigation of approximately ten thousand acres of land in Tom Green County”), but also provided that no project water could be used to grow surplus crops for the first ten years. Act of Aug. 16, 1957, Pub. L. No. 85-152, §§ 1, 2(d), 71 Stat. 372, 372–73 (1957).

¹⁰⁴ Pub. L. No. 90-542, 82 Stat. 906 (1968) (codified as amended at 16 U.S.C. §§ 1271–1287 (2012)). The statutory protection from water project development is found at 16 U.S.C. § 1278.

¹⁰⁵ Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321–4370f (2012)).

¹⁰⁶ COUNCIL ON ENVTL. QUALITY, A CITIZEN’S GUIDE TO THE NEPA: HAVING YOUR VOICE HEARD 2 (2007).

¹⁰⁷ 42 U.S.C. § 4332(C). Although the statute is certainly not specific to water, one of the primary factors motivating some members of Congress in enacting NEPA was reining in the federal “mission” agencies, such as the Corps, that were intent on building

ESA¹⁰⁸ established powerful protections for animal and plant species threatened with extinction.¹⁰⁹ However, the Clean Water Act¹¹⁰ is the most ambitious environmental law specific to water.

Although Congress had previously enacted measures aiming to reduce water pollution, the Federal Water Pollution Control Act Amendments of 1972¹¹¹ dramatically increased federal involvement in water quality protection.¹¹² The Clean Water Act begins with a sweeping objective “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters,”¹¹³ and establishes lofty national goals for cutting pollution discharges and attaining water quality by the mid-1980s.¹¹⁴ The law prohibits any person from discharging pollutants to water except in compliance with specified provisions of the statute;¹¹⁵ directs the EPA to develop technology-based “effluent limitations” for discharge of pollutants from point sources;¹¹⁶ and sets up separate permitting programs for the discharge of pollutants into water (under section 402)¹¹⁷ and the discharge of dredged or fill material (under section 404).¹¹⁸ In addition to restricting pollutant discharges, the Clean Water Act requires states to set standards that protect the quality of individual water bodies,¹¹⁹

environmentally harmful projects. A. Dan Tarlock, *The Story of Calvert Cliffs: A Court Construes the National Environmental Policy Act to Create a Powerful Cause of Action*, in ENVIRONMENTAL LAW STORIES 77, 85–88 (Oliver A. Houck & Richard J. Lazarus eds., 2005).

¹⁰⁸ Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended at 15 U.S.C. §§ 1531–1544 (2012)).

¹⁰⁹ See *supra* notes 39–44 and accompanying text.

¹¹⁰ 33 U.S.C. §§ 1251–1387 (2012).

¹¹¹ Pub. L. No. 92-500, 86 Stat. 816 (1972).

¹¹² “[D]espite the prominent roles Congress left for the states, the 1972 Act was a congressional statement of the need for a greater federal role in water quality regulation. . . . [U]nder the new statute, water quality regulation was subject to extensive federal oversight for the first time.” Robin Kundis Craig, *Beyond SWANCC: The New Federalism and Clean Water Act Jurisdiction*, 33 ENVTL. L. 113, 124 (2003).

¹¹³ 33 U.S.C. § 1251(a).

¹¹⁴ *Id.* § 1251(a)(1)–(2).

¹¹⁵ *Id.* § 1311(a). The statute defines “discharge of a pollutant” as “any addition of any pollutant to navigable waters from any point source,” and “point source” as “any discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged.” *Id.* § 1362(12), (14). “Pollutant” is broadly defined to include a wide range of materials, plus heat. *Id.* § 1362(6).

¹¹⁶ *Id.* § 1311(b). “Point source” is defined in the prior footnote.

¹¹⁷ *Id.* § 1342(a).

¹¹⁸ *Id.* § 1344(a).

¹¹⁹ *Id.* § 1313(c)(2).

subject to EPA oversight.¹²⁰ Finally, the statute provides for both federal grants and loans to construct publicly owned wastewater treatment plants.¹²¹

The Clean Water Act shares three big-picture similarities with the Reclamation program. First, Congress has delivered sizable federal infrastructure subsidies through grant and loan programs for wastewater treatment works. According to the EPA, the current Clean Water State Revolving Fund program has delivered more than \$100 billion to finance wastewater infrastructure over the past twenty-plus years, providing more than 33,000 low-interest loans;¹²² an earlier federal grant program for wastewater infrastructure had provided more than \$41 billion in federal spending through 1984, making it “the largest nonmilitary public works program[] since the Interstate Highway System.”¹²³ By funding these grants and loans, Congress has effectuated the “national policy that Federal financial assistance be provided to construct publicly owned waste treatment works.”¹²⁴

Second, the Clean Water Act reflects Congress’ recognition of the states’ lead role in allocating water. Most specifically, section 101(g) states “the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired” by the Clean Water Act, and state water rights shall not be superseded or abrogated.¹²⁵ More generally, section 510 declares that the statute does not affect “any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States.”¹²⁶ In addition to these statements, the Clean Water Act allows the states to exercise important regulatory authorities, such as setting quality standards for their water bodies,¹²⁷ certifying that certain federally licensed or

¹²⁰ *Id.* § 1313(c)(3).

¹²¹ *See id.* §§ 1281–1301 (construction grants for publicly owned treatment works); *id.* §§ 1381–1387 (state water pollution control revolving funds).

¹²² *Clean Water State Revolving Fund*, U.S. ENVTL. PROT. AGENCY, http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm (last visited Aug. 8, 2014).

¹²³ CLAUDIA COPELAND, CONG. RESEARCH SERV., WATER INFRASTRUCTURE FINANCING: HISTORY OF EPA APPROPRIATIONS I (2012).

¹²⁴ 33 U.S.C. § 1251(a)(4).

¹²⁵ *Id.* § 1251(g). The third and final sentence of “the Wallop Amendment” requires federal agencies to “co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.” *Id.*

¹²⁶ *Id.* § 1370.

¹²⁷ *Id.* § 1313(c)(2).

permitted activities will not violate state standards,¹²⁸ and issuing permits for the discharge of pollutants at industrial outfalls and other “point sources.”¹²⁹

Third, Congress designed the Clean Water Act to promote national goals of restoring and protecting water quality and gave the EPA power to set standards and oversee state activities to ensure progress toward those goals. For example, although states set water quality standards under section 303, the EPA must review each standard for consistency with the statute, order changes if necessary, and set the standard itself if the state refuses to make the required changes.¹³⁰ Although states can get EPA approval to issue pollutant discharge permits under section 402, they must notify the EPA of each permit they propose to issue, and the EPA can raise objections and issue the permit itself if the state does not resolve them.¹³¹ Section 510, titled “State Authority,” allows states to adopt and enforce their own water pollution control standards, but *only if they are no less stringent* than applicable federal standards.¹³² In short, the Clean Water Act gives states significant powers and duties in controlling pollution,¹³³ but also directs the EPA to ensure that they adequately serve the national interest in restoring and protecting water quality.

C. Comparing the First Two Waves: Obvious Differences, Important Similarities

At first glance, the Reclamation laws and the Clean Water Act are only similar in that they are both federal statutes relating to water. One deals with water quantity and use, the other with water quality.¹³⁴ The former authorized a public works program carried out

¹²⁸ *Id.* § 1341(a).

¹²⁹ *Id.* § 1342(b). States must gain EPA approval to operate this permitting program, but such approval is required if a state demonstrates that it meets nine statutory criteria. *Id.*

¹³⁰ *Id.* § 1313(c)(3).

¹³¹ *Id.* § 1342(d).

¹³² *Id.* § 1370(1).

¹³³ Section 1251(b) also states “the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution . . .” *Id.* § 1251(b).

¹³⁴ In a notable case upholding the state of Washington’s use of its Clean Water Act authority to require a new hydropower project to maintain adequate in-stream flows for fish habitats, the Supreme Court rejected an argument to the effect

that the Clean Water Act is only concerned with water “quality,” and does not allow the regulation of water “quantity.” This is an artificial distinction. In many cases, water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses . . .

by the Interior Department, the latter a regulatory program run by the Environmental Protection Agency. The reclamation laws make water available for beneficial use, to promote economic development; the Clean Water Act requires water pollution controls that impose restrictions and costs on economic activities. The 1902 Act sought to dam and divert western rivers in service of human productivity, whereas the 1972 Act sought to restore and maintain the integrity of the nation's waters. Philosophically, these laws could hardly be more different.

However, in significant respects the Reclamation laws and the Clean Water Act took similar approaches in addressing their respective challenges. As explained above, both delivered major federal investments in important water infrastructure. Both recognized state primacy in water allocation and provided important roles for state laws and institutions. And both specified key national priorities—such as the farm acreage limits of the Reclamation program and the point source pollution controls under the Clean Water Act—that would override any conflicting state law.

The unexpected similarities of the 1902 Reclamation Act and the Clean Water Act extend to some of the circumstances surrounding their enactment. In considering both pieces of legislation, Congress faced serious questions about whether it was appropriate to expand the federal government's involvement with water. In the early 1900s, the push for federal support of western irrigation was met with concerns over whether building water projects was an appropriate federal role, and whether a federal water development program would interfere with state water allocation authority and water rights.¹³⁵ In the early 1970s, many sharply criticized the proposed amendments to the Federal Water Pollution Control Act under the rationale that Congress should leave water allocation and regulation to state control.¹³⁶

PUD No. 1 of Jefferson Cnty. v. Wash. Dep't of Ecology, 511 U.S. 700, 719 (1994).

¹³⁵ DONALD J. PISANI, *TO RECLAIM A DIVIDED WEST: WATER, LAW, AND PUBLIC POLICY 1848–1902*, at 306 (1st ed. 1992) (noting “strong opposition” to a federal Reclamation program by three senators “who opposed the creation of any bureau that might threaten state administrative control over water”); *id.* at 309 (identifying specific concerns of Rocky Mountain states and their allies over any federal program to build and operate water projects).

¹³⁶ See Oliver A. Houck, *TMDLs: The Resurrection of Water Quality Standards-Based Regulation Under the Clean Water Act*, 27 ENVTL. L. REP. 10329, 10332–35 (1997)

Given these strongly expressed concerns about the role of the federal government in water development and regulation, what led to the enactment of these statutes? In both cases, Congress perceived a problem of national importance that, as a practical matter, local or state governments were unlikely to resolve. With the 1902 Reclamation Act, Congress brought federal resources to bear in building major water projects to store and deliver water for irrigation—a challenge that had proved too great for the private sector and even state governments in most areas of the nineteenth century West.¹³⁷ A federal irrigation program for the West came to be viewed as a national imperative, even an obligation, providing necessary support for regional development where the U.S. government had sought to draw settlers.¹³⁸ As for the Clean Water Act, the “environmental decade” of the 1970s saw a groundswell of pressure for national action to combat the growing problem of water pollution—a matter that Congress first addressed in 1948, but had largely left to the states.¹³⁹ While many states, along with industrial and business interests, argued against federal limits on water pollution, the Clean Water Act showed that Congress saw water quality as a national priority that only national action could address.¹⁴⁰

Thus, the 1902 Reclamation Act and 1972 Clean Water Act became the law of the land despite strong concerns that they would bring too much federal involvement in water matters that the states

(providing extensive quotes from opponents of a greater federal role in water quality regulation).

¹³⁷ PISANI, *supra* note 135, at 104–18 (describing the general failure of large-scale private irrigation enterprises); *id.* at 251–65 (describing the failure of the federal Carey Act, which sought to promote development of irrigation projects supported by the western states).

¹³⁸ *See id.* at 318–25 (describing arguments in favor of the 1902 Reclamation Act by legislative proponents and President Roosevelt).

¹³⁹ Houck, *supra* note 136, at 10331–32 (noting the push for federal water quality protection and summarizing the 1948 Federal Water Pollution Control Act and 1965 Water Quality Act).

¹⁴⁰ For example, the acting chair of a congressional committee lashed out at critics of federal water quality legislation at a 1971 hearing on the subject:

We left it to the States, year after year, and we didn't get a single thing but a bunch of nursery rhymes as to the Constitution, and we didn't get any clean water until the Federal Government insisted upon it and made some dollars available to the State for that use.

Water Pollution Control Legislation—1971: Hearings on H.R. 11895 and H.R. 11896 Before the H. Comm. on Public Works, 92d Cong. 273 (1971) (statement of Rep. Robert E. Jones, Member, H. Comm. on Public Works).

regarded as their business. Nonetheless, Congress acted to tackle major national problems that were too important and too challenging to leave unaddressed by the states. In adopting these laws, Congress preserved significant roles for state governments and state laws, but also established key national policies for water development and environmental protection and backed those policies with a serious investment of federal dollars. Thus, these landmark laws—representing two distinctly different waves of federal water policy—have common themes in their origin stories and their approaches. The next Part suggests that Congress could return to this approach as the West faces increasingly serious water management challenges in an era of over-allocation and climate change.

III

SERIOUS PROBLEMS, EXPENSIVE SOLUTIONS: WHY THE WEST COULD USE A THIRD WAVE

Given the usual fear and loathing surrounding the federal government's involvement in water issues, one might expect to find little demand for new federal legislation or spending on water resource matters. The passage of the WRRDA in 2014,¹⁴¹ which astonishingly won nearly unanimous approval in Congress, suggests otherwise. Skeptics might argue that the WRRDA focused on navigation, flood control, and other core Corps functions and had little to do with water supply issues or the West. But that is not an entirely accurate picture, because the WRRDA does include important provisions relating to water supply, largely focused on the West.¹⁴² Beyond the WRRDA, however, the likely demand for new

¹⁴¹ See *supra* notes 1–6 and accompanying text.

¹⁴² Section 1046 of the WRRDA, titled “Reservoir Operations and Water Supply,” requires the Corps to assess “management practices, priorities, and authorized purposes at Corps of Engineers reservoirs in arid regions to determine the effects of such practices, priorities, and purposes on water supply during periods of drought”; as part of this assessment, the Corps must “identify actions that can be carried out within the scope of existing authorities of the Secretary to increase project flexibility for the purpose of mitigating drought impacts.” Pub. L. No. 113-121, § 1046(a), 128 Stat. 1193, 1251 (2014). This section also prohibits the Corps from charging a fee over the next ten years for contracts to receive “surplus” water from Upper Missouri mainstem reservoirs. *Id.* § 1046(c), 128 Stat. at 1254. For background on the purposes of this provision, which relates to energy development in North Dakota, see Davidson, *supra* note 81, at 15–17.

Perhaps most remarkably, Section 4008, titled “Rural Western Water,” authorizes the Corps to provide “design and construction assistance for water-related environmental infrastructure and resource protection and development in Idaho, Montana, rural Nevada,

federal involvement in western water is apparent from a bill that Congress enacted in 2009, from recent activity on Capitol Hill, and from the looming, enormous challenges facing western river basins and water managers. This Part briefly examines some of these factors that suggest interest in new federal water initiatives and considers their implications for future federal water policy.

A. *The 2009 Public Lands (and Water) Bill*

When Congress passed the giant Omnibus Public Land Management Act of 2009,¹⁴³ it included numerous provisions dealing with water in the West. These provisions are diverse, and some do not fit neatly into a single category, but on the whole they reflect an emphasis on three areas: (1) authorizing new water projects,¹⁴⁴ more than a dozen in all, such as the Tumalo Irrigation District Water Conservation Project in Oregon,¹⁴⁵ the Eastern New Mexico Rural Water Supply System Project,¹⁴⁶ and the Riverside-Corona Feeder Project in California's Bunker Hill Groundwater Basin;¹⁴⁷ (2) authorizing and funding environmental restoration programs of a more or less collaborative nature, including endangered fish recovery programs in the Upper Colorado and San Juan River Basins,¹⁴⁸ the "Lower Colorado River Multi-Species Conservation Program,"¹⁴⁹ and a program to restore flows and salmon to the San Joaquin River under the terms of a court-approved settlement;¹⁵⁰ and (3) supporting tribal

New Mexico, rural Utah, and Wyoming," which may include "water supply and related facilities," and "surface water resource protection and development." *Id.* § 4008, 128 Stat. at 1316. A similar authorization in the Water Resources Development Act of 1999 had been limited to Montana and rural Nevada. Pub. L. No. 106-53, § 595, 113 Stat. 269, 383 (1999). Congress also authorized a Rural Water Supply program within Reclamation in 2006. *See* Benson, *supra* note 85, at 162–63.

¹⁴³ Pub. L. No. 111-11, 123 Stat. 991 (2009).

¹⁴⁴ Congress also addressed existing water projects, however, through an "Aging Infrastructure" provision dealing with inspections and maintenance of older Reclamation project facilities, for purposes of protecting public safety. *Id.* §§ 9601–9605, 123 Stat. at 1346–49.

¹⁴⁵ *Id.* § 9101, 123 Stat. at 1298.

¹⁴⁶ *Id.* § 9103, 123 Stat. at 1300–03.

¹⁴⁷ *Id.* § 9112, 123 Stat. at 1318–19.

¹⁴⁸ *Id.* § 9107, 123 Stat. at 1309–10. The Upper Colorado and San Juan endangered fish programs were the original Recovery Implementation Programs, or RIPs, designed to balance the habitat needs of endangered fish with water use and development activities. For an explanation of these and other RIPs, see Benson, *supra* note 44, at 505–23.

¹⁴⁹ *Id.* §§ 9401–9404, 123 Stat. at 1327–29. For a brief explanation of this program on the Lower Colorado River, see Benson, *supra* note 44, at 502–04.

¹⁵⁰ *Id.* §§ 10001–10203, 123 Stat. at 1349–67.

water settlements by approving the Navajo Nation settlement in New Mexico¹⁵¹ and the Duck Valley Reservation settlement in Idaho,¹⁵² and by establishing a new Reclamation Water Settlements Fund to help ensure that future funding would be available for approved tribal water settlements.¹⁵³ This 2009 bill also included the SECURE Water Act, by which Congress authorized a grant program for purposes such as conserving water, promoting markets, and providing habitats for imperiled species;¹⁵⁴ it further directed Reclamation to study the potential impacts of climate change on water resources in the West and to develop strategies for mitigating those impacts.¹⁵⁵

B. Recent Congressional Activity

The 113th Congress saw several requests for new federal authority and funding to address water-related challenges in the West. Drought relief has been a top priority, as the House and Senate passed competing and sharply divergent bills to address problems in parched California.¹⁵⁶ While California has grabbed the headlines, other drought relief legislation has also been introduced, including a measure specifically for New Mexico,¹⁵⁷ a bill to reauthorize Reclamation's drought relief program for all the western states,¹⁵⁸ and a "Water in the 21st Century Act" that would promote drought preparedness and resilience through a variety of new and expanded programs.¹⁵⁹ Another legislative push has involved the Klamath River

¹⁵¹ *Id.* §§ 10601–10704, 123 Stat. at 1379–1405.

¹⁵² *Id.* §§ 10801–10809, 123 Stat. at 1405–14.

¹⁵³ *Id.* § 10501, 123 Stat. at 1375–79. Although money from this fund is not technically limited to tribal water settlements, the statute prioritizes certain tribal settlements in New Mexico, Montana, and Arizona. *Id.* § 10501(c)(2)–(3), 123 Stat. at 1376.

¹⁵⁴ The statute authorized the Interior Secretary to provide grants and make cooperative agreements with "any eligible applicant to assist the eligible applicant in planning, designing, or constructing any improvement" for a range of purposes. *Id.* § 9504(a)(1), 123 Stat. at 1334.

¹⁵⁵ *Id.* § 9503(b), 123 Stat. at 1332–33.

¹⁵⁶ A Congressional Research Service report provides a useful summary of the two bills and their vastly disparate provisions. PERVAZE A. SHEIKH, BETSY A. CODY & CHARLES V. STERN, CONG. RESEARCH SERV., FEDERAL RESPONSE TO DROUGHT IN CALIFORNIA: AN ANALYSIS OF S. 2198 AND H.R. 3964 (July 17, 2014). House and Senate negotiators were unable to agree on California drought legislation in the 113th Congress, but the two sides have not given up efforts to find a compromise. Debra Kahn & Nick Juliano, *Drought Bill Negotiations 'Hot and Heavy'—Feinstein*, E&E DAILY (Jan. 8, 2015).

¹⁵⁷ New Mexico Drought Relief Act of 2014, S. 2470, 113th Cong. (2014).

¹⁵⁸ S. 659, 113th Cong. (2013).

¹⁵⁹ Water in the 21st Century Act, H.R. 5363, S. 2771, 113th Cong. (2014).

Basin in Oregon and California, where diverse players have negotiated a series of agreements to resolve that basin's longstanding conflicts over water for irrigation, wildlife refuges, and fisheries;¹⁶⁰ Oregon's senators have introduced a bill to provide authority and funding to implement these agreements,¹⁶¹ at an expected federal cost of \$500 million.¹⁶² On a third front, the Western Governors Association and the Native American Rights Fund submitted joint written testimony¹⁶³ to a Senate appropriations subcommittee regarding federal funding for negotiating and implementing tribal water settlements; the testimony concluded by stating that failure to provide sufficient funding for this purpose "will only increase federal costs, perpetuate hardship to tribes, and prolong resolution of conflicts between reserved water rights and state-created water rights. This, in turn, could potentially disrupt established economies and hinder effective state and regional water planning and development."¹⁶⁴ These events show that the West still seeks federal action and federal money to help resolve its biggest (and most expensive) water problems.

C. Future Water Supply Shortfalls

Looking ahead, the American West will see water management challenges even greater and more fundamental than the big ones it faces today. Perhaps the most famous and most difficult of these challenges is the looming shortfall of water supplies in the Colorado River Basin.¹⁶⁵ According to a 2012 study by Reclamation, the gap

¹⁶⁰ For a thorough and thoughtful analysis of Klamath River Basin water issues, see HOLLY DOREMUS & A. DAN TARLOCK, *WATER WAR IN THE KLAMATH BASIN* (2008).

¹⁶¹ Klamath Basin Water Recovery and Economic Restoration Act of 2014, S. 2379, 113th Cong. (2014).

¹⁶² At a hearing on the Senate bill, an aide to former Oregon governor John Kitzhaber stated that the negotiated agreements had helped bring stability to the basin, but that "this stability will not last unless Congress acts now to authorize federal participation in these agreements The basin has done its part to overcome conflict, now it is time for Congress to do the same and pass S. 2379." *California/Oregon/Klamath Basin*, 2090 W. STATES WATER COUNCIL (May 23, 2014), available at <http://www.westernstateswater.org/wp-content/uploads/2012/11/NEWS-2090.pdf> (quoting Richard Whitman, Natural Resources Policy Director to Governor Kitzhaber, at a hearing of the Senate Energy and Natural Resources Committee, Water and Power Subcommittee, June 3, 2014).

¹⁶³ *Senate Appropriations/Indian Water Rights*, 2088 W. STATES WATER COUNCIL (May 23, 2014), available at <http://www.westernstateswater.org/wp-content/uploads/2012/11/NEWS-2088.pdf>.

¹⁶⁴ *Id.*

¹⁶⁵ The water woes of the Colorado River Basin brought a front-page story in *The New York Times*, indicating the national significance of the problem. See Michael Wines,

between water supply and demand in the basin will grow to an annual average of 3.2 million acre-feet (MAF) by 2060.¹⁶⁶ That projection is daunting enough, but the actual shortfall is quite likely to be worse, given that the 3.2 MAF average probably underestimates the impact of climate change.¹⁶⁷ And the Colorado River Basin is not alone in facing a major gap between water supply and demand. Another Reclamation study estimated that the Lower Rio Grande Basin would face an average annual water supply shortfall of around two-thirds of a million acre-feet by 2060.¹⁶⁸ Nor are such challenges limited to the Southwest. For example, irrigation water shortages in northern Montana's Milk River Basin, which already average 71,000 acre-feet annually, may worsen by approximately 50% by 2050 due to changes in runoff and increases in crop water demands.¹⁶⁹ In addition, the Milk River Basin may see increasing stress on water supplies because of environmental, recreational, and tribal water demands.¹⁷⁰

What do these legislative efforts and predicted shortfalls portend for the future role of the federal government in western water matters? Most fundamentally, they suggest that—general principles or philosophies aside—there is still significant interest in federal assistance (namely, money) to help address stubborn water supply problems, especially ones involving expensive infrastructure or restoration projects. That interest is likely to grow over time, as climate change and population growth combine to make these problems more frequent and more severe. Thus, pressure may build over time for greater federal investment—and hence involvement—in water solutions.

Colorado River Drought Forces a Painful Reckoning for States, N.Y. TIMES, Jan. 6, 2014, at A1.

¹⁶⁶ U.S. DEP'T OF INTERIOR BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY: EXECUTIVE SUMMARY 9 (2012).

¹⁶⁷ This is true because the study analyzed four scenarios for future water supply in the basin, but only one of those four accounted for the impacts of climate change. *Id.* at 6–7 (summarizing the four water supply scenarios, and noting that lower flows were expected under the scenario accounting for climate change).

¹⁶⁸ U.S. DEP'T OF INTERIOR BUREAU OF RECLAMATION, EXECUTIVE SUMMARY: LOWER RIO GRANDE BASIN STUDY ES-4 (2013). One of the study's more disturbing projections is that climate change could decrease the reliable annual yield of the Falcon-Amistad Reservoir system on the Rio Grande by about 40%. *Id.* at ES-12.

¹⁶⁹ U.S. DEP'T OF INTERIOR BUREAU OF RECLAMATION, ST. MARY RIVER AND MILK RIVER BASINS STUDY SUMMARY REPORT 10–12 (2012).

¹⁷⁰ *Id.* at 12–13. Further, construction of a new reservoir in the Canadian portion of this international river basin would allow increased irrigation in Canada and exacerbate shortages in Montana. *Id.* at 13.

If and when Congress gets serious about addressing twenty-first century water resource challenges, what might be the elements of a new generation of federal water policy? The specifics are difficult to predict, as they may depend on factors such as the location and severity of droughts, legal conflicts over water shortages, and congressional attitudes toward spending. But given Congress' track record on water, recent demands for federal legislation and spending, and the growing water challenges facing the West, one can anticipate the general principles and broad outlines of a potential "third wave" of water policy at the federal level.¹⁷¹

First, any new federal water policy will need to focus primarily on a small number of key problems that implicate important federal interests and that are unlikely to be resolved successfully without federal involvement and investment. Addressing water needs in Indian Country is one obvious priority, and tribal water settlements have become the preferred vehicle for doing so; ensuring that future settlements have the requisite funding may be crucial to the success of negotiations. Aquatic ecosystems (especially for purposes of fish habitat) are another federal priority, as expressed in the Clean Water Act, the ESA, and various basin-specific measures such as the San Joaquin provisions in the 2009 public lands bill.¹⁷² Environmental restoration has been a particular priority in basins where native fish populations have been hit hard by the construction and operation of federal water projects, as illustrated by the Central Valley Project Improvement Act¹⁷³ and by bipartisan congressional support for endangered fish programs in the Upper Colorado and San Juan basins. This last point suggests a third area—review of federal water project operations—that could be an important focus of federal water policy in the twenty-first century. The WRRDA directed the Corps to develop plans for operational reviews of its projects;¹⁷⁴ the SECURE Water Act suggested that Reclamation should consider revising project operations as a climate change adaptation strategy.¹⁷⁵

¹⁷¹ Readers interested in more specific policy proposals should consider the ideas offered by the professor and former Interior Solicitor John Leshy in a concise 2009 article. John Leshy, *Notes on a Progressive National Water Policy*, 3 HARV. L. & POL'Y REV. 133 (2009).

¹⁷² For a summary of several of the basin-specific measures, see Benson, *supra* note 85, at 153–58.

¹⁷³ Pub. L. No. 102-575, tit. XXXIV, 106 Stat. 4706, 4706–31 (1992).

¹⁷⁴ See *supra* note 142.

¹⁷⁵ Changes to reservoir operating guidelines were one of several potential strategies that Congress directed Reclamation to consider in addressing the potential water impacts

Congress could go further by requiring Reclamation to develop new, long-term project operating plans, as it did explicitly for Glen Canyon Dam in the Grand Canyon Protection Act.¹⁷⁶

Second, significant federal funding will be an essential component to provide financial assistance and incentives for addressing targeted problems. At a time when Congress is generally tight-fisted about discretionary spending, this element may seem like a difficult sell. But the near-unanimous enactment of the WRRDA, despite its eight-figure price tag, shows that even deficit hawks can be persuaded to vote for serious water-related investments if the rationale and demand are sufficiently strong. Some of the most compelling cases will involve negotiated settlement agreements—like the current Klamath Basin package¹⁷⁷ or tribal water settlements—that promise to resolve lengthy and costly litigation, eliminate uncertainty, and address problems in a way that key interests can accept . . . so long as the federal government bears much of the financial cost. The Reclamation Water Settlements Fund—created by Congress in 2009 in an effort to guarantee future funding for specified tribal water settlements by setting aside some money that would otherwise flow to the Reclamation Fund¹⁷⁸—shows the importance of assuring funding for such measures and suggests one source of potential federal dollars.

Third, the new federal water policy must continue to respect the strong interests of states in allocating and managing water resources, while ensuring that federal priorities are respected and protected. Striking this balance is delicate and requires more than the standard statutory “savings clause” purporting to preserve state authorities and state-law water rights,¹⁷⁹ as such declarations do not necessarily carry a great deal of weight.¹⁸⁰ While any federal water initiative is sure to draw opposition on principle, a new program could prove politically

of climate change in the West. See Reed D. Benson, *Federal Water Law and the “Double Whammy”: How the Bureau of Reclamation Can Help the West Adapt to Drought and Climate Change*, 39 *ECOLOGY L.Q.* 1049, 1058–61 (2012).

¹⁷⁶ Pub. L. No. 102-575, tit. XVIII, 106 Stat. at 4669–73.

¹⁷⁷ See *supra* notes 160–62 and accompanying text.

¹⁷⁸ Pub. L. No. 111-11, § 10501, 123 Stat. 991, 1375 (2009) (codified as amended at 43 U.S.C. § 407 (2012)).

¹⁷⁹ Section 8 of the 1902 Reclamation Act, 43 U.S.C. § 383, is a famous state-law savings clause, and the Clean Water Act contains two such clauses in sections 101(g) and 510. See *supra* notes 126–27 and accompanying text.

¹⁸⁰ See Benson, *supra* note 10, at 295 (noting that Supreme Court interpretations of such clauses have varied).

acceptable if it involves a clearly defined and legitimate federal interest, reserves meaningful roles for state laws and institutions, and provides enough money to convince pragmatists that the benefits would outweigh the baggage.

Finally, new federal water policy for the West must directly address the serious problem of over-allocation facing many major river basins, especially in the southern half of the region.¹⁸¹ Over-allocation is a problem that has become painfully evident in California,¹⁸² where the water needs of salmon, other endangered species, and wildlife refuges have conflicted with irrigation demands, especially as the ongoing drought has cut available supplies.¹⁸³ It is increasingly clear on the Rio Grande, where 2014 saw new litigation filed by Texas against New Mexico under the 1938 Compact,¹⁸⁴ as well as a new ESA lawsuit seeking greater flows, enough to sustain the last wild population of endangered silvery minnows.¹⁸⁵ And it is inescapable in the Colorado River Basin, where current reservoir levels have reached historic lows,¹⁸⁶ demands will likely be much

¹⁸¹ The major basins in the northern half of the West—the Missouri and Columbia basins—have their own serious and intractable issues, many of which relate to operational priorities for federal water projects. Sandra Zellmer identified many of the big issues on the Missouri in a 2004 article. *See generally* Sandra B. Zellmer, *A New Corps of Discovery for Missouri River Management*, 83 NEB. L. REV. 305 (2004). That same year, a controversy over water withdrawals prompted the National Research Council to produce a report on Columbia River management that provided an overview of many of the issues posed by declining salmon populations in the basin. NAT'L RESEARCH COUNCIL, *MANAGING THE COLUMBIA RIVER: INSTREAM FLOWS, WATER WITHDRAWALS, AND SALMON SURVIVAL* (2004).

¹⁸² A recent study of water rights and water supplies in California concluded that the state has already allocated about *five times* more water than its rivers actually carry in an average year. Theodore E. Grantham & Joshua H. Viers, *100 Years of California's Water Rights System: Patterns, Trends and Uncertainty*, 9 ENVTL. RES. LETTERS 1 (2014) (comparing the face value of existing appropriative water rights with mean annual runoff in California). The study also concluded that 16 of the state's 27 major rivers had water allocations exceeding mean annual runoff; the most over-allocated was the heavily irrigated San Joaquin River Basin, with existing water rights 861% greater than average flow. *Id.* at 5.

¹⁸³ California's water problems have produced several legislative proposals in the current Congress, including both the dueling Central Valley drought bills and a major package for the Klamath. *See supra* notes 156, 160–62 and accompanying text.

¹⁸⁴ Michael Haederle, *Texas, New Mexico Tangle Over Water*, L.A. TIMES (Jan. 25, 2013), <http://articles.latimes.com/2013/jan/25/nation/la-na-texas-water-20130126>.

¹⁸⁵ Scott Streater, *Rio Grande: Enviro Sue Obama Admin over Low Flows, Threats to Species*, E&E DAILY (July 24, 2014), available at http://www.eenews.net/login?r=%2Fspecial_reports%2Fdrought_2012%2Fstories%2F1060003448.

¹⁸⁶ Press Release, U.S. Dep't of Interior Bureau of Reclamation, *Lake Mead Levels Drop to Historic Lows* (July 8, 2014), available at <http://www.usbr.gov/newsroom/news>

greater than average supplies by mid-century,¹⁸⁷ and a recent study of groundwater overdraft suggests that pumping of aquifers in the basin already far exceeds sustainable levels.¹⁸⁸ Moreover, a recent GAO study concludes that future water shortages will not be limited to a few famously overworked western river basins.¹⁸⁹ Over-allocation is a big, important problem of national significance, solutions to which are likely to be expensive and politically difficult . . . in short, exactly the kind of problem that calls out for federal assistance.

CONCLUSION

The twentieth century saw two distinct waves of federal water policy—water project development and environmental protection—as Congress tackled massive challenges that exceeded the capabilities of the private sector and the states. Both waves brought a combination of federal money and federal requirements, while respecting the key role of states in water allocation and management. Congress should return to this formula in addressing the serious and widespread over-allocation of water supplies in the western United States, a problem that climate change will only exacerbate. It is the West’s great water challenge of the twenty-first century, and Congress can help ensure an effective response by crafting a third wave of federal water policy.

release/detail.cfm?RecordID=47409 (noting that the water level in Lake Mead had fallen lower than at any point since the reservoir began filling in the 1930s).

¹⁸⁷ See *supra* notes 166–67 and accompanying text.

¹⁸⁸ See Press Release, Nat’l Aeronautics and Space Admin., Satellite Study Reveals Parched U.S. West Using Up Underground Water (July 24, 2014), *available at* <http://www.nasa.gov/press/2014/july/satellite-study-reveals-parched-us-west-using-up-underground-water/> (describing groundwater overdrafts in the Colorado River Basin over a ten-year period, with groundwater losses in that time exceeding the volume of Lake Mead). “The extent of groundwater loss may pose a greater threat to the water supply of the western United States than previously thought.” *Id.*

¹⁸⁹ U.S. GOV’T ACCOUNTABILITY OFFICE, FRESHWATER: SUPPLY CONCERNS CONTINUE, AND UNCERTAINTIES COMPLICATE PLANNING 28 (2014) (“State water managers continue to expect widespread freshwater shortages in the future, according to our survey Specifically, 40 of 50 state water managers responding to our 2013 survey expected shortages in some portion of their states under average conditions in the next 10 years.”). Of the seventeen western states from the Great Plains to the West Coast, only two expected no shortages under average conditions over the next decade, whereas twelve states expected “regional” shortages. See *id.* at 29.

