

General Stream Adjudications and Eastern River Systems

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Disputes associated with water have enlivened the American legal scene from the nation's early years. This paper considers the usefulness of state court general stream adjudications, proceeding under the immunity waiver of the McCarran Amendment,¹ in addressing water-related problems in the eastern states. It concludes that general stream adjudications are ill-suited to resolve the most pressing of those problems.

Major Water-Related Challenges Facing the East²

There is no convenient distinction between water-related concerns in the East and those in the West. As a general proposition, however, the West lacks sufficient water resources, even under normal precipitation patterns, to support its population and economic activity without extensive human intervention. Congress passed the Reclamation Act of 1902³ to facilitate the reclamation of arid lands in the West through large-scale federal irrigation projects.⁴ The East enjoys more bountiful water resources, though occasional droughts test the region's water management skills. The movement of water from one source to another is a feature of water management in both the East and West.⁵

Population and Water Demand

The East had sixty-nine of the one hundred most populous metropolitan areas in the nation in 2000,⁶ and fifty-seven of the top one hundred metropolitan areas ranked by rate of population growth from 1990 to 2000.⁷ The consumptive demand for water is becoming more concentrated in and around eastern

urban centers. This concentration is occurring against the backdrop of existing uses of water for other purposes.

Population concentrations also trigger non-consumptive demands for water. Stream flow plays a significant role in enhancing and maintaining water quality and habitat in the face of effluent discharge and other disturbances of the stream's ecological condition.⁸ The manner in which effluent is discharged, and its relation to a river's flow, have long been a source of concern.⁹ The increased volume of effluent associated with growth, coinciding with greater demand for consumptive use, makes effluent disposal a persistent problem. In addition, streams and lakes assume added recreational and aesthetic value as urban centers sprawl across the countryside.

Interstate Streams

Interstate streams of consequence are more common in the East than the West. Numerous lawsuits resulted from competing demands for these shared resources,¹⁰ discord over how their flow is managed,¹¹ and disputes over water quality standards applied to them.¹² Some of these disputes over interstate water resources continue to simmer.¹³

Endangered Species Act

Enforcement of the Endangered Species Act¹⁴ in the aquatic context impacted the East decades ago, as illustrated by *Tennessee Valley Authority v. Hill*.¹⁵ Still, the Act has had a more profound effect on water use in the West, due in part to the relative scarcity of water, and in part to a fundamental tenet of the doctrine of prior appropriation allowing

consumption of stream flow until the resource is exhausted.¹⁶ As demand for water increases in the East, and as more species are listed and critical habitat is designated under the Act, pressures will mount in the East as well.¹⁷

Significant Influences on Eastern Water Policies

Riparian Rights Doctrine

Eastern states rely more heavily on some form of the riparian rights doctrine for management of their water resources¹⁸ than do their western counterparts.¹⁹ One would expect the doctrine, at least in its traditional form, to discourage diversions that dewater a stream entirely, as permitted under the prior appropriation doctrine. The traditional form of the doctrine also had what the U.S. Supreme Court described as a “canine element”: “Riparianism, pressed to the limits of its logic, enabled one to play dog-in-the-manger. The shore proprietor could enforce by injunction his bare technical right to have the natural flow of the stream, even if he was getting no substantial benefit from it.”²⁰

Land Ownership

Federally-controlled lands dominate the maps of many western states.²¹ Federal land control is far less pervasive in the East.²² Not every federal enclave, of course, will seek or could justify a federal reserved water right. Where such a reserved water right is asserted, however, it will trouble non-federal water users and regulators in direct correlation to the amount of water sought in comparison to the targeted water supply and existing demand on that supply. Relatively small federal enclaves can present a significant claim, depending upon their geographic and hydrologic setting. Still, the sheer magnitude of federal land holdings in the West strongly suggests that federal water right claims are more likely to be a disruptive factor in that region than in the East.

Navigation

Eastern rivers support a much greater volume of shipping than do western rivers.²³ The Commerce Clause²⁴ bestows on Congress the power to regulate navigational uses of the nation’s navigable streams.

This constitutional provision gives the federal government a “dominant servitude” extending to the entire stream and streambed below the ordinary high water mark.²⁵ The dominant servitude prevails over riverbed interests regardless of the manner in which they were acquired,²⁶ and regardless of the identity of the non-federal owner.²⁷ It extends to non-navigable reaches of navigable streams,²⁸ and to non-navigable tributaries of navigable streams if the federal activity furthers navigation (including flood control).²⁹ Water rights recognized under state law are subject to preemption under the servitude.³⁰ Federal law governs activities affecting the navigable capacity of navigable waters.³¹

Sections 9 and 10 of the Rivers and Harbors Appropriation Act of 1899³² are consistent with this expansive view of the federal government’s navigation servitude. Both sections prevent the construction of dams and other obstructions in navigable waters without the approval of Congress or the Army Corps of Engineers. The Corps has promulgated regulations implementing a broad interpretation of Section 10,³³ and operates numerous navigation-related projects in the East.³⁴ The Corps’ authority to engage in activities pursuant to the navigation servitude is not premised on state approval.³⁵ The Corps regards the primary responsibility for allocating water among competing demands to rest with the states, however, subject to “overriding factors of national concern.”³⁶

Hydropower Production

Hydropower production impacts the flow of significant rivers across the nation. The Federal Energy Regulatory Commission (FERC) regulates more than 1,600 hydropower projects utilizing more than 2,600 dams.³⁷ Of the 103 projects involving dams and powerhouses for which FERC licenses will expire between January 1, 2004 and December 31, 2009, 54 are located in eastern states.³⁸ The Federal Power Act³⁹ preempts certain state regulatory requirements pertaining to stream flow.⁴⁰

In addition to hydroelectric facilities licensed by FERC, the Army Corps of Engineers generates hydropower at 78 existing federal dams,⁴¹ more than half of which are located in eastern states.⁴² The Tennessee Valley Authority maintains 29 conventional hydroelectric dams on the Tennessee River system.⁴³

Flood Control

The Corps of Engineers manages 383 major lakes and reservoirs for flood control purposes,⁴⁴ many of which are in the East.⁴⁵ The Corps also regulates the flood control function of numerous non-Corps projects.⁴⁶ Many of these are located in the East.⁴⁷ An important element of flood control management for reservoirs is that storage space dedicated to flood control must be kept available to accommodate future floods.⁴⁸ Releases to evacuate flood storage may occur when other demands for the water would dictate preservation of storage.

Shortcomings of General Stream Adjudications

“Water right adjudications traditionally have been within the ambit of state court expertise.”⁴⁹ Large-scale water rights litigation has not been restricted to state courts, however, and did not originate with the passage of the McCarran Amendment.⁵⁰ Non-comprehensive adjudications in either state or federal court ultimately proved unsatisfactory. As one court observed, “the nature of traditional civil litigation made joinder of the hundreds or thousands of claimants to a river system extremely cumbersome and inefficient, while less comprehensive adjudications were of little value.”⁵¹ The lack of value stemmed from at least two basic drawbacks. First, so-called “private suits” did not bind non-parties as a general rule.⁵² Their outcome gave no assurance of finality. Second, until enactment of the McCarran Amendment, the United States could not be compelled to litigate the federal-law based water right claims it held in its own behalf or in its trustee capacity.⁵³ “The McCarran Amendment was enacted out of the concern that without the participation of the United States, state adjudications, intended to adjudicate the interlocking rights of all users, would be left unable to adjudicate the rights of any.”⁵⁴

The Amendment reflected federal policy against piecemeal adjudication of water rights, and recognition of the availability of comprehensive state systems for such adjudications.⁵⁵ The statute waives sovereign immunity for two activities in state court: “the adjudication of rights to the use of water of a river system or other source,”⁵⁶ and “the administration of such rights.”⁵⁷ Rights may be

administered under the waiver of the Amendment only if they were adjudicated in a proceeding satisfying the Amendment’s standards for general stream adjudications.⁵⁸

Difficulties Associated with Reliance on State Agencies

State administrative agencies play a significant role in state general stream adjudications, investigating and making an initial determination relating to the hundreds or thousands of claims filed.⁵⁹ There seems to be a presumption that such administrative support gives state courts a clear advantage over their federal counterparts.⁶⁰ In practice, however, that benefit can be illusive.

Agency staff may lack experience in evaluating water right claims at the outset of the process, at least in states without a history of ongoing adjudications. Such agencies normally perform a host of functions that have little to do with analyzing claims. Executing the agency’s adjudication function requires knowledge of technical fields as well as an understanding of the legal context of the work. From the claimant’s standpoint, inexperienced agency personnel represent a serious litigation risk.

Another (and related) source of difficulty has been the level of state funding for agency adjudication support. Several examples illustrate the point. A Washington task force estimated in 2003 that adjudication of all basins within that state would require decades if its recommendations were implemented, or “centuries if we retain current law and funding levels.”⁶¹ In the previous year, the Arizona Department of Water Resources advised the court in a general stream adjudication that it not only was unable to add staff to perform assigned functions, but had lost nearly a quarter of its general fund staff positions from fiscal year 1990 to fiscal year 2003 due to budget cuts.⁶² The agency informed the court that it had no funds to cover the per diem cost of adjudication work, and that its ability to commit resources to the adjudication was impacted by its other statutory responsibilities.⁶³ It concluded its report with the tepid assurance that “[w]ithin its capabilities, the Department is firmly committed to providing technical assistance to the Court.”⁶⁴

More recently, the court in a New Mexico general stream adjudication issued an order to show cause to

the Office of the State Engineer why the adjudication should not be dismissed without prejudice for failure to prosecute, and “why the State Engineer does not have adequate resources and has not made a firm financial commitment to this Court to complete the adjudication of water rights in the San Juan River Basin within a reasonable period of time.”⁶⁵

A final, and extreme, example of the difficulty associated with funding of adjudications is South Dakota’s abandoned adjudication of claims to the Missouri River and its tributaries. The suit was dismissed without prejudice⁶⁶ after the state ceased funding the litigation.⁶⁷

The McCarran Amendment did not waive the United States’ sovereign immunity from payment of filing fees,⁶⁸ further aggravating the funding picture for adjudications. Courts are justifiably hesitant to interfere in the legislative appropriation process to secure additional agency support for adjudications.⁶⁹ At the same time, they share some responsibility for the progress of the adjudications, and cannot allow these cases to languish indefinitely.

Despite the importance a claimant attaches to an individual water right, agency staff may not be inclined to (and in fact may be unable to) devote much time to analyzing any but the largest claims. An alternative to careful study is simplifying assumptions. Little is simple when it comes to water right claims and hydrology, though, and such assumptions compromise the accuracy of the resulting decree.

Enormity of Proceedings

The success of general stream adjudications is threatened by the sheer magnitude of the cases.⁷⁰ Adjudications in the East may not be appreciably smaller. One court interpreted the comprehensiveness requirement of the McCarran Amendment⁷¹ as mandating joinder of riparian owners in an eastern state recognizing the riparian rights doctrine.⁷² Fortunately the Amendment does not require adjudication of an entire interstate stream system, only that portion of such a system located within the state undertaking the adjudication.⁷³ Of course, the outcome of a state court adjudication of rights to an interstate stream will not govern beyond that state’s borders.⁷⁴

The magnitude of general stream adjudications means that they are extremely time-consuming. The lapse of time exacts a toll on the claimants’ ability

to marshal the facts. A generation has passed since some of the larger adjudications began.⁷⁵ In the meantime memories have faded, witnesses have expired, and documents have been lost. Improved technology will aid in presenting the remaining evidence more effectively, but the lost resources may be irreplaceable.

Omission of Critical Interests

It may seem paradoxical, in light of the foregoing discussion, to contend that the focus of general stream adjudications excludes critical interests in stream systems. If one agrees that “[c]ertainty of rights is particularly important with respect to water rights”⁷⁶ regardless of whether one is in the East or the West, one must acknowledge the limited reward available from an adjudication.

The McCarran Amendment’s waiver of sovereign immunity is limited to a determination of rights to the use of water.⁷⁷ It does not authorize a state court to decide compliance with federal law apart from the law governing federal reserved water rights.⁷⁸ For example, the decree in a state court adjudication cannot foreclose enforcement of federal environmental law and any resulting impact on the exercise of a water right. This is a sobering fact. The Clean Water Act “applies to virtually all surface waters in the country.”⁷⁹ The Supreme Court has observed that while sections 101(g)⁸⁰ and 510(2)⁸¹ of the Act “preserve the authority of each State to allocate water quantity as between users; they do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation.”⁸² Thus, the adjudication of competing claims will not protect water right holders from the impact of pollution regulation, an impact that may differ in severity from one stream reach to the next and without regard to relative rights to water. Similarly, the Endangered Species Act’s ramifications for any specific stream depend on whether federally-listed species are present, and whether critical habitat has been designated encompassing the stream or its surroundings.⁸³

General stream adjudications are not an appropriate forum to resolve disputes over interpretation and enforcement of federal contracts,⁸⁴ or for damages resulting from a breach of such contracts or alleged takings.⁸⁵ The prevalence of federal flood control, navigation and hydropower projects in the East

suggests that this type of dispute may be as significant as disputes with other water right holders.

Conclusion

General stream adjudications may be unavoidable in stream systems targeted by substantial federal water right claims. In other watersheds, adjudications' cost, duration, and limited scope of issues addressed, at a minimum demand caution in deciding whether to undertake them. The inability of adjudications to resolve potentially important areas of dispute facing the East suggests that they simply may not be worth the effort.

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Notes

1. 43 U.S.C. § 666.
2. For purposes of this chapter, the eastern states include all states except Alaska, Hawaii, and the 17 states served by the Bureau of Reclamation (Washington, Oregon, California, Nevada, Idaho, Arizona, Utah, Montana, Wyoming, Colorado, New Mexico, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas). See <http://www.usbr.gov/daweb/html/maps.html>. The western states, for purposes of this discussion, include these same 17 states.
3. Public Act No. 161, 32 Stat. 388 (1902).
4. *Orff v. United States*, ___ U.S. ___, 125 S. Ct. 2606, 2608 (2005). For an account of the history of irrigation in the

West, see generally *California v. United States*, 438 U.S. 645 (1978).

5. U.S. Environmental Protection Agency, Memorandum from Ann R. Klee and Benjamin H. Grumbles to Regional Administrators at 3 (Aug. 5, 2005), available at http://www.epa.gov/ogc/documents/water_transfers.pdf.
6. Census 2000 PHC-T-3, Ranking Tables for Metropolitan Areas: 1990 and 2000, Table 3: Metropolitan Areas Ranked by Population: 2000.
7. Census 2000 PHC-T-3, Ranking Tables for Metropolitan Areas: 1990 and 2000, Table 5: Metropolitan Areas Ranked by Percent Population Change: 1990 to 2000.
8. See 40 C.F.R. § 131.12(a)(1) (2004) ("The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementing methods shall, at a minimum, be consistent with the following: (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."); 40 C.F.R. § 131.13 (2004) ("States may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances. Such policies are subject to EPA review and approval."). In its *Water Quality Standards Handbook* ch. 5 at 5-5 (2d ed. Aug. 1994), the U.S. Environmental Protection Agency defined a "mixing zone" as "an allocated impact zone where acute and chronic water quality criteria can be exceeded as long as a number of protections are maintained . . ." It continued: "Water quality standards should protect water quality for designated uses in critical low-flow situations. . . . Most States have adopted specific low-flow requirements for streams and rivers to protect designated uses against the effects of toxics. . . . Because dynamic waste load models do not generally use specific steady-state design flows but accomplish the same effect by factoring in the probability of occurrence of stream flows based on the historical flow record, only steady-state conditions will be discussed here. Clearly, if the criteria are implemented using inadequate design flows, the resulting toxics controls would not be fully effective because the resulting ambient concentrations would exceed EPA's criteria." *Id.* at 5-9 – 5-10. In 40 C.F.R. § 125.58(dd) (2004), the EPA defined "zone of initial dilution" or "ZID" as "the region of initial mixing surrounding or adjacent to the end of the out-fall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards." Finally, the Court ruled in *PUD No. 1 v. Washington Dept. of Ecology*, 511 U.S. 700 (1994), that the Clean Water Act authorized a state, through its § 401 certification process, to condition a permit for a hydroelectric project on maintenance of a minimum instream flow to preserve fish habitat.
9. See, e.g., *New York v. New Jersey*, 256 U.S. 296, 300, 302, 304-05 (1921).
10. E.g., *Virginia v. Maryland*, 540 U.S. 56 (2003); *New Jersey v. New York*, 283 U.S. 336 (1931); *Connecticut v. Massachusetts*, 282 U.S. 660 (1931).

11. E.g., *North Dakota v. Minnesota*, 263 U.S. 365 (1923) (dispute over effect of straightening of river originating in Minnesota); *Alabama v. U.S. Army Corps of Eng'rs*, 424 F.3d 1117 (11th Cir. 2005), petition for cert. filed, 74 U.S.L.W. 3517 (U.S. March 6, 2006) (No. 05-1138) (dispute over operation of Corps reservoir in the Apalachicola-Chatahoochee-Flint River Basin); *Georgia v. U.S. Army Corps of Eng'rs*, 302 F.3d 1242 (11th Cir. 2002) (same); *Alabama v. U.S. Army Corps of Eng'rs*, Case No. CV-90-BE-01331-E (N.D. Ala. filed June 29, 1990) (same, and in addition, dispute over operation of Corps reservoirs in the Alabama-Coosa-Tallapoosa River Basin) *In re Operation of Missouri River Sys. Litig.*, 421 F.3d 618 (8th Cir. 2005), petitions for cert. filed, 74 U.S.L.W. 3308 (U.S. Nov. 14, 2005) (No. 05-611) & 74 U.S.L.W. 3324 (U.S. Nov. 14, 2005) (No. 05-631) (dispute over operation of Corps reservoirs on Missouri River, which flows from western states to an eastern state); *South Dakota v. Ubbelohde*, 330 F.3d 1014 (8th Cir. 2003), cert. denied, 541 U.S. 987 (2004) (same).

12. E.g., *Arkansas v. Oklahoma*, ___ U.S. ___, 126 S. Ct. 1428 (2006) (motion for leave to file bill of complaint denied) (dispute over alleged contamination of interstate stream system due to waste disposal by poultry industry); *Arkansas v. Oklahoma*, 503 U.S. 91 (1992) (dispute over approval of discharge into river flowing from an eastern state to a western state); *In re Operation of Missouri River Sys. Litig.*, 418 F.3d 915 (8th Cir. 2005), cert. denied, 74 U.S.L.W. 3530 (U.S. March 20, 2006) (No. 05-628) (dispute over whether the Corps must comply with North Dakota water quality standards in operating reservoir on Missouri River, which flows from western states to an eastern state). The U.S. General Accounting Office reported: "Evidence of variability in water quality standards, monitoring practices, assessment methods, and delisting methods is perhaps most clearly illustrated when examining waters that cross state boundaries or serve as a boundary between states. Interstate waters often lie in areas with similar ecological conditions. Yet because of varying approaches by states in identifying impairments, situations have arisen frequently in which one state designates a body of water as impaired while another state does not, or in which one state designates a body of water as impaired for a certain pollutant while another state finds it impaired for a different pollutant. EPA and the states have identified numerous inconsistencies of this kind." U.S. General Accounting Office, *Water Quality: Inconsistent State Approaches Complicate Nation's Efforts to Identify Its Most Polluted Waters*, Report No. GAO-02-186 at 16-17 (Jan. 2002). This report gives examples of such inconsistencies. *Id.* at 17-19.

13. See, e.g., *Alabama v. U.S. Army Corps of Eng'rs*, supra n.11; *Hood ex rel. Mississippi v. City of Memphis*, Civil Action No. 2:05CV32-D-B (N.D. Miss. filed Feb. 1, 2005) (suit for damages, declaratory relief and injunction for allegedly unreasonable withdrawal of ground water from interstate aquifer).

14. 16 U.S.C. § 1531 et seq.

15. 437 U.S. 153 (1978).

16. See, e.g., *Pima Farms Co. v. Proctor*, 245 P. 369, 371

(*Ariz.* 1926); 1 Samuel C. Wiel, *Water Rights In The Western States* §§ 300 & 301 (3d ed. 1911).

17. See, e.g., *Maine v. Norton*, 257 F. Supp. 2d 357, 374-75 (D. Me. 2003) (The state's challenge to the listing of the Atlantic salmon posed the question whether listing of the species unconstitutionally interfered with the state's sovereign interest in managing its own natural resources).

18. According to Professor Joseph W. Dellapenna, no state utilizes a "pure" form of the riparian rights doctrine, but in nearly half of the eastern states the common law of riparian rights continues to be the basic law governing allocation of water. Joseph W. Dellapenna, *The Law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 *U. Ark. Little Rock L. Rev.* 9, 11 (2002) ("Dellapenna"). The Supreme Court summarized the essence of the riparian rights doctrine as follows: "The law followed the principle of equality which requires that the corpus of flowing water become no one's property and that, aside from rather limited use for domestic and agricultural purposes by those above, each riparian owner has the right to have the water flow down to him in its natural volume and channels unimpaired in quality. The riparian system does not permit water to be reduced to possession so as to become property which may be carried away from the stream for commercial or nonriparian purposes. In working out details of this egalitarian concept, the several states made many variations, each seeking to provide incentives for development of its natural advantages." *United States v. Gerlach Live Stock Co.*, 339 U.S. 725, 745 (1950). About half of the eastern states have enacted administrative permit systems Professor Dellapenna characterizes as "regulated riparianism." Dellapenna, *supra* at 31. Those require that a prospective water user secure a permit before initiating a withdrawal, which requires the regulating agency to determine in advance the reasonableness of the proposed use. *Id.* at 34.

19. The riparian rights doctrine never applied in Arizona, for example, see *Boquillas Cattle Co. v. Curtis*, 213 U.S. 339 (1909), and has been eroded in other western states. E.g., *Pleasant Valley Canal Co. v. Borrer*, 72 Cal. Rptr. 2d 1, 8-9 (Cal. Ct. App. 1998); *In re Deadman Creek Drainage Basin*, 694 P.2d 1071, 1074-77 (Wash. 1985).

20. *United States v. Gerlach Live Stock Co.*, supra, 339 U.S. at 751; see also *In re Determination of Rights to Waters of Long Valley Creek Stream Sys.*, 599 P.2d 656, 666-67 & nn.10-12 (Cal. 1979).

21. The U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service collectively manage more than a quarter of the area of all western states other than Kansas, Nebraska, North Dakota, Oklahoma, South Dakota and Texas. U.S. General Accounting Office, *Land Ownership: Information on the Acreage, Management, and Use of Federal and Other Lands*, Report No. GAO/RCED-96-40 at 21-22 (March 1996) ("Report No. GAO/RCED-96-40"). The United States, as Trustee for individual Indians and for Indian tribes, holds in trust more than 5% of the land within the following states: Arizona (at more than 25%); Montana; New Mexico; South Dakota; Utah and Washington. *Id.* at 38. The Department of Defense

- owns more than 2% of the land within the following states: Arizona (having the highest percentage at 4.97%); California; Nevada; New Mexico; Utah and Washington. Dept. of Defense, Office of the Deputy Under Secretary of Defense, Base Structure Report, Fiscal Year 2003 Baseline, ch. VII (“Base Structure Report”); percentages computed using total state acreage from Report No. GAO/RCED-96-40 at 20-22.
22. The U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service collectively manage more than 5% of the area of only ten eastern states, including New Hampshire (having the highest percentage at 12.39%), Florida, Michigan, Arkansas, Virginia, West Virginia, Minnesota, Vermont, North Carolina and Wisconsin. Report No. GAO/RCED-96-40 at 20-22. The United States, as Trustee for individual Indians and for Indian tribes, holds in trust more than .5% of the land within only three eastern states: Minnesota (having the highest percentage at 1.4%); Maine; and Wisconsin. *Id.* at 38; percentages computed using total state acreage from *id.* at 20-22. The Department of Defense owns more than .5% of the land within eleven eastern states: Florida (having the highest percentage at 1.74%); Alabama; Georgia; Indiana; Kentucky; Maryland; New Jersey; North Carolina; South Carolina; Tennessee and Virginia. Base Structure Report, ch. VII; percentages computed using total state acreage from Report No. GAO/RCED-96-40 at 20-22.
23. Only one of the top 20 inland U.S. ports for 2003 was in a western state, i.e. Oklahoma. See U.S. Army Corps of Eng’rs, Waterborne Commerce Statistics Center, Top 20 U.S. Inland Ports ranked by CY 2003 Trip Ton-Miles (available at <http://www.iwr.usace.army.mil/ndc/wcsc/pdf/inlandport03f.pdf>). “Inland ports” for purposes of this ranking “are ports that are located on rivers and do not handle deep draft ship traffic.” *Id.* n.1.
24. U.S. CONST. art. 1, § 8, cl. 3.
25. *United States v. Cherokee Nation*, 480 U.S. 700, 703-04 (1987).
26. *Id.* at 704 n.3.
27. *Id.* at 706-07 (rejecting a Tribe’s claim for compensation to its interest in a streambed due to navigation-related improvements); *Montana v. United States*, 450 U.S. 544, 551 (1981) (noting that even streambeds of navigable streams acquired by a state under the equal footing doctrine are subject to the navigation power of the United States). Congress can relinquish its navigation servitude in a particular instance if it does so “in unmistakable terms.” *United States v. Cherokee Nation*, *supra*, 480 U.S. at 707.
28. *Oklahoma ex rel. Phillips v. Guy F. Atkinson Co.*, 313 U.S. 508, 523 (1941).
29. *United States v. Grand River Dam Auth.*, 363 U.S. 229, 232 (1960).
30. *United States v. Twin City Power Co.*, 350 U.S. 222, 227 (1956); *Federal Power Comm’n v. Niagara Mohawk Power Corp.*, 347 U.S. 239, 249 (1954).
31. See *Wyandotte Transp. Co. v. United States*, 389 U.S. 191, 201 (1967).
32. Codified as amended at 33 U.S.C. §§ 401 & 403.
33. E.g., 33 C.F.R. Part 322 (2004); 33 C.F.R. § 320.4 (2004); *United States v. Members of Estate of Boothby*, 16 F.3d 19, 23 (1st Cir. 1994) (33 C.F.R. § 320.4 is rationally related to the goals of 33 U.S.C. § 403).
34. See 33 C.F.R. § 222.5 App. E (2004).
35. See *Turner v. Kings River Conservation Dist.*, 360 F.2d 184, 198 (9th Cir. 1966); *Anderson v. Seeman*, 252 F.2d 321, 323-25 (5th Cir.), cert. denied, 358 U.S. 820 (1958).
36. See U.S. Army Corps of Eng’rs, Regulatory Guidance Letter 85-06 at 3 (May 2, 1985) (available at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rgls/rgl85-06.htm>); see also 33 C.F.R. § 320.4(j)(4) (2004). In the context of the Reclamation Act, the Supreme Court has made clear that the United States is not obliged to deliver water on conditions imposed by the state, notwithstanding the Act’s directive to proceed in conformity with state and territorial law discussed *infra* at n.40. *Arizona v. California*, 373 U.S. 546, 585-86 (1963); *Ivanhoe Irrigation Dist. v. McCracken*, 357 U.S. 275, 291-92 (1958).
37. Federal Energy Regulatory Commission 2004 Annual Report at 6; see <http://www.ferc.gov/about/strat-docs/fy04-an-rpt.pdf>.
38. *Id.* at 38-40.
39. Codified as amended at 16 U.S.C. § 791a et seq.
40. *California v. F.E.R.C.*, 495 U.S. 490, 506-07 (1990) (Federal Power Act preempted state minimum instream flow requirements established to protect fish). The Court contrasted the Federal Power Act with the Reclamation Act of 1902, Public Act No. 161, § 8, 32 Stat. 388, 390 (1902) (codified in relevant part as 43 U.S.C. § 383), which directed the Secretary of the Interior to proceed in conformity with state and territorial law relating to the control, appropriation, use or distribution of water used in irrigation. *California v. F.E.R.C.*, *supra*, 495 U.S. at 503-05. See also *First Iowa Hydro-Elec. Coop. v. Federal Power Comm’n*, 328 U.S. 152, 181-82 (1946) (the Act preempted state law requirement that water to be diverted be returned to the source river at the nearest practicable place).
41. Office of Management & Budget, OMB Program Assessment Rating Tool (PART) Capital Assets & Service Acquisition Programs, Corps Hydropower, FY 2004 Budget at 3.
42. See 33 C.F.R. § 222.5 App. E (2004).
43. See <http://www.tva.gov/power/hydrofax.htm>.
44. See U.S. Army Corps of Eng’rs Civil Works Program Statistics at 2 (Jan. 31, 2003) available at <http://www.usace.army.mil/inet/functions/cw/cecwb/GWiz03.htm>.
45. See 33 C.F.R. § 222.5 App. E (2004); U.S. Army Corps of Eng’rs, Annual Report Fiscal Year 2003 of the Secretary of the Army on Civil Works Activities (1 October 2002 – 30 September 2003) App. A at A-1 – A-26.
46. See 33 C.F.R. Part 208 & §§ 222.5(j)-(k) (2004).
47. See 33 C.F.R. § 208.11(e) (2004); U.S. Army Corps of Eng’rs, Annual Report Fiscal Year 2003 of the Secretary of the Army on Civil Works Activities (1 October 2002 – 30

September 2003) App. A at A-27 – A-29.

48. See 33 C.F.R. § 208.11(d)(9)(i); U.S. Army Corps of Eng'rs, Eng'r Manual 1110-2-3600, Management of Water Control Systems, 2-2(d)(2) & (e)(2) at 2-6 – 2-7 (Nov. 30, 1987) (available at <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-2-3600/toc.htm>) & 33 C.F.R. § 222.5(h)(3) (2004).

49. *United States v. City of Las Cruces*, 289 F.3d 1170, 1190 (10th Cir. 2002).

50. See, e.g., *United States v. Truckee-Carson Irrigation Dist.*, 649 F.2d 1286, 1289, 1291 (9th Cir. 1981), amended, 666 F.2d 351 (9th Cir. 1982), aff'd in part and rev'd in part sub nom. *Nevada v. United States*, 463 U.S. 110 (1983) (United States filed equitable water adjudication in 1913 seeking to name as defendants all water users on the Truckee River in Nevada); *San Carlos Apache Tribe v. United States*, 272 F. Supp. 2d 860, 868-69 (D. Ariz. 2003), aff'd in part, 417 F.3d 1091 (9th Cir. 2005), and aff'd in part, No. 03-16874, 2005 U.S. App. LEXIS 16731 (9th Cir. Aug. 9, 2005) (unpublished) (action filed by the United States, and settled in 1935 by a decree known as the "Globe Equity Decree," named irrigation districts, canal companies, individual upstream farmers, cities and towns, and mining operations to determine rights of water users along the Upper Gila River); *Salt Lake City v. Anderson*, 148 P.2d 346, 347 (Utah 1944) (Salt Lake City and others filed an action against approximately 2,430 defendants who claimed rights to water from streams and springs tributary to Utah Lake, seeking an adjudication).

51. *United States v. Oregon*, 44 F.3d 758, 763-64 (9th Cir. 1994) (footnote omitted).

52. *Pacific Live Stock Co. v. Lewis*, 241 U.S. 440, 449 (1916) ("In such a [comprehensive] proceeding the rights of the several claimants are so closely related that the presence of all is essential to the accomplishment of its purposes, and it hardly needs statement that these cannot be attained by mere private suits in which only a few of the claimants are present, for only their rights as between themselves could be determined. As against other claimants and the public the determination would amount to nothing."); *Sierra Club v. Andrus*, 487 F. Supp. 443, 451 (D.D.C. 1980), aff'd on other grounds, 659 F.2d 203 (D.C. Cir. 1981) ("[U]nless the United States voluntarily joins the Utah [general stream adjudication] proceeding or is joined pursuant to the McCarran Act, 43 U.S.C. § 666 (1976), the proceeding cannot have any legal effect upon the federal reserved water rights which plaintiff allege exist in the subject water courses."); *In re Determination of Rights to Waters of Long Valley Creek Stream Sys.*, supra, 599 P.2d at 660-61; *Pleasant Valley Canal Co. v. Borrer*, 72 Cal. Rptr. 2d 1, 17-18 (Cal. Ct. App. 1998); but see *United States v. Truckee-Carson Irrigation Dist.*, 71 F.R.D. 10, 14, 15 (D. Nev. 1975) (case permitted to proceed as a class action where the rights of all water right certificate holders receiving water from the district were fixed in relation to each other, and the United States and tribe sought to diminish the rights of all certificate holders to a common water supply; the parties conceded this was not a general stream adjudication).

53. See *United States v. District Court in and for Eagle County*, 401 U.S. 520, 522-24 (1971).

54. *United States v. City of Las Cruces*, supra, 289 F.3d at 1191.

55. *Colorado River Water Conservation Dist. v. United States*, 424 U.S. 800, 819 (1976).

56. 43 U.S.C. § 666(1).

57. 43 U.S.C. § 666(2).

58. *South Delta Water Agency v. United States*, 767 F.2d 531, 541 (9th Cir. 1985); *Wyoming v. United States*, 933 F. Supp. 1030, 1035-36 (D. Wyo. 1996). Administration of water rights decreed in a prior general stream adjudication to which the United States was not a party may give rise to a conflict between the adjudicated rights and the rights of the United States. In that event the Government may preserve the issue before the state court and, if necessary, present it to the Supreme Court for consideration. *United States v. District Court in and for Water Div. No. 5*, 401 U.S. 527, 529-30 (1971); *United States v. District Court in and for Eagle County*, supra, 401 U.S. at 525-26. The Ninth Circuit has ruled that while the McCarran Amendment leaves state and federal courts with concurrent jurisdiction to adjudicate water rights, the forum performing such an adjudication retains exclusive jurisdiction to administer its decree. See *State Eng'r v. South Fork Band*, 339 F.3d 804, 813-14 (9th Cir. 2003).

59. See *United States v. Oregon*, supra, 44 F.3d at 767.

60. See, e.g., *United States v. Gila Valley Irrigation Dist.*, Nos. 90-16720 & 90-16721, 1992 U.S. App. LEXIS 13776 at *4-5 (9th Cir. April 3, 1992).

61. *Water Disputes Task Force, A Report to the Washington State Legislature at 14 n.26* (Dec. 2003), available at http://www.atg.wa.gov/pubs/water_rights/task_force_report.pdf.

62. *Department of Water Resources Report Concerning the Preparation of New and Updated Hydrographic Survey Reports and Related Matters at 2* (Aug. 2, 2002), *In re General Adjudication of All Rights to Use Water in Little Colorado River Sys. & Source*, Cause No. CV-6417, Super. Ct. of Ariz., Apache County.

63. *Id.* at 3.

64. *Id.* at 35.

65. *Order (A) To Show Cause Why This Action Should Not Be Dismissed Without Prejudice for Failure of Prosecution and (B) Referring Issue to Special Master 1* (filed Jan. 3, 2005), *State ex rel. State Eng'r v. United States*, Cause No. CV 75-184, State of New Mexico, San Juan County, 11th Jud. Dist. Ct. ("San Juan Adjudication"). Apparently satisfied with the State's representations to the special master about commitment of resources, the court elected not to dismiss the case "because the State is now ready, willing and able to proceed with the adjudication of the case subfiles in a deliberate and timely manner." *Order Following Show Cause Hearing* (filed April 25, 2005).

66. *In re General Adjudication of All Rights to Use Water & Water Rights on Missouri River Sys.*, State of S. Dakota, Cause No. CIV. 80-100, Cir. Ct., 6th Jud. Cir., State of S. Da-

- kota, Hughes County, Order of Dismissal (Oct. 5, 1983). For a description of the scale of this ill-fated undertaking, see *In re General Adjudication of All Rights to Use Water & Water Rights on Missouri River, State of S. Dakota*, 531 F. Supp. 449, 451 (D.S.D. 1982).
67. Rocky Mtn. Min. L. Found., *Water L. Newsletter*, Vol. XVI, No. 3 at 8-9 (1983).
68. *United States v. Idaho ex rel. Director, Idaho Dept. of Water Res.*, 508 U.S. 1, 8-9 (1993).
69. See *Hillis v. State Dept. of Ecology*, 932 P.2d 139, 147-48 (Wash. 1997). A general fund appropriation is, of course, not the only funding option. The Montana Legislature imposed substantial biennial “water adjudication fees” on claimants in that state’s water adjudication program, except those claimants asserting federal water rights, or tribal reserved and aboriginal claims to water. 2005 Mont. Laws ch. 288, § 5. Beginning July 1, 2005 and ending June 30, 2015, it allocated to the Department of Natural Resources and Conservation and the water court up to \$2.6 million per fiscal year (plus an inflation factor) from the water adjudication account for the sole purpose of funding the water adjudication program *Id.* § 7(2)(a). For the period beginning July 1, 2015 and ending June 30, 2020, the Legislature allocated to the Department and the water court up to \$1 million per fiscal year (plus an inflation factor) from the account for the same restricted purpose. *Id.* § 7(2)(b). These allocations are subject to appropriation by the Legislature. *Id.* § 7(2)(c). The water adjudication fees are not contemplated as the sole source of funding for the adjudications. If at least \$2 million is not appropriated for each fiscal year from state sources other than the water adjudication account to fund the state’s water adjudication program, the 2005 act is void. *Id.* § 15.
70. Nearly 87,000 claims were filed in Arizona’s Gila River General Stream Adjudication. See <http://www.supreme.state.az.us/wm/bulletin/Overview.htm#6>. In Washington, the claims registry sports more than 165,000 claims, see <http://www.ecy.wa.gov/programs/wr/rights/adjhome.html#background>, of which more than 4,000 pertain to the Yakima River Basin Surface Water Adjudication. Water Disputes Task Force, A Report to the Washington State Legislature *supra* at 7. The Snake River Basin Adjudication in Idaho may adjudicate as many as 185,000 claims. See <http://www.idwr.state.id.us/water/srba/history.htm>.
71. See, e.g., *Dugan v. Rank*, 372 U.S. 609, 618-19 (1963); *Miller v. Jennings*, 243 F.2d 157, 159-60 (5th Cir.), cert. denied, 355 U.S. 827 (1957).
72. *Seacoast Water Comm’n v. City of Portsmouth*, 203 A.2d 649, 656 (N.H. 1964).
73. *United States v. District Court in and for Eagle County*, *supra*, 401 U.S. at 523.
74. See *Connecticut v. Massachusetts*, *supra*, 282 U.S. at 670; *Kansas v. Colorado*, 206 U.S. 46, 95 (1907); 28 U.S.C. § 1251(a).
75. Arizona’s Gila River General Stream Adjudication was filed in 1974. See <http://www.supreme.state.az.us/wm/bulletin/Overview.htm#6>. The Yakima River Basin Surface Water Adjudication began in 1977. Water Disputes Task Force, A Report to the Washington State Legislature *supra* at 7. The Snake River Basin Adjudication was filed in 1987. See <http://www.idwr.state.id.us/water/srba/history.htm>. The Montana Legislature attempted to address this problem by requiring that all claims in that state’s adjudication program be examined by June 30, 2015, and establishing periodic benchmarks that must be met as a precondition for assessment of water adjudication fees. 2005 Mont. Laws ch. 288, § 2(4).
76. *Arizona v. California*, 460 U.S. 605, 620 (1983).
77. *In re Application for Water Rights of United States*, 101 P.3d 1072, 1079 (Colo. 2004).
78. See *id.* at 1080.
79. *International Paper Co. v. Ouellette*, 479 U.S. 481, 486 (1987) (footnote omitted).
80. 33 U.S.C. § 1251(g).
81. 33 U.S.C. § 1370(2).
82. *PUD No. 1 v. Washington Dept. of Ecology*, *supra*, 511 U.S. at 720.
83. *Cf. Klamath Water Users Protective Ass’n v. Patterson*, 204 F.3d 1206, 1213 (9th Cir.), cert. denied, 531 U.S. 812 (2000) (Bureau of Reclamation had authority to direct dam operations to comply with the ESA; the requirements of ESA override water rights of irrigators). See also *National Wildlife Fed’n v. National Marine Fisheries Service*, 422 F.3d 782 (9th Cir. 2005) (*per curiam*), and following remand, *National Wildlife Fed’n v. National Marine Fisheries Service*, No. CV 01-640-RE, 2005 U.S. Dist. LEXIS 39509 (D. Or. Dec. 29, 2005); *Order Granting Motion for Injunctive Relief Following Remand, Pacific Coast Fed’n of Fishermen’s Ass’ns v. U.S. Bureau of Reclamation*, Civ. No. C02-2006 SBA (N.D. Cal. March 27, 2006).
84. *In re General Determination of All Rights to Use of Water, Both Surface and Underground, Within Drainage Area of Uintah Basin*, Nos. 20040270 & 20040334, 2006 Utah LEXIS 26 at **30, 43-44, 59-60 (Utah March 24, 2006); *In re General Adjudication of All Rights to Use Water in Big Horn River Sys. & All Other Sources*, 85 P.3d 981, 988 (Wyo. 2003); but see *In re Determination of Rights to Use Surface Waters of Yakima River Drainage Basin*, 674 P.2d 160, 163 (Wash. 1983) (“It is clear under Washington law that persons receiving water under contract with water distribution entities are owners of water rights.” The court did not address whether it viewed this rule as converting disputes over federal contracts into water right disputes.). Controversies over contract interpretation and enforcement can be resolved in suits pending simultaneously with general stream adjudications. *In re General Adjudication of All Rights to Use Water in Big Horn River Sys. & All Other Sources*, *supra*, 85 P.3d at 988; *Klamath Water Users Protective Ass’n v. Patterson*, *supra*, 204 F.3d at 1214 n.3.
85. *Sumner Peck Ranch, Inc. v. Bureau of Reclamation*, 823 F. Supp. 715, 749 (E.D. Cal. 1993); *Hage v. United States*, 51 Fed. Cl. 570, 574-76 (2002); *Store Safe Redlands Assoc. v. United States*, 35 Fed. Cl. 726, 732 (1996).