

## General Stream Adjudications: A Good Public Investment?

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The drive for perfection and certainty lie deep in American culture, but the law of prior appropriation has long made the realization of these goals incomplete for water users in the western United States. To resolve both simple and complex water use disputes, the West — with the exception of California — has primarily followed the law of prior appropriation for over a century and a half. The doctrine has evolved from a customary rule to resolve disputes between rival mining claimants, to a complex system of judicial and administrative irrigation rights,<sup>2</sup> and in the last four decades as a vehicle to change the West from a colonial commodity production economy to a modern urban service and agribusiness one. Today, the doctrine that supported the Reclamation Era is once again adapting to the start of the reallocation and “smart” (smaller) project era, the consequent shrinkage of the irrigation economy and the recognition of “quasi-riparian” Indian and federal reserved water rights to support non-consumptive environmental water use.

### State Efforts to Achieve Certainty

Prior appropriation, however, is not a regime of consistently enforced exclusive entitlements, but a mix of customary practices, right holder forbearance backed in many places by carry-over storage specifically designed to avoid using the law as a risk management scheme. The West has managed to live and prosper with these uncertainties for decades, but it has always been uneasy with this state of affairs and sought to make water rights perfectly certain. Starting with Elwood Mead’s unsuccessful efforts to firm up water rights in Colorado, the western states

have searched for ways to make these rights more certain. They have used administrative allocation, special water courts, and stream adjudications.<sup>3</sup> Until the 1970s, these adjudications were generally small scale, incomplete and limited to tributaries of a main stem and many decrees were stale.

Adjudications were incomplete because until 1952, the western states could not join the federal government in a state adjudication. The McCarran Amendment<sup>4</sup> waived the federal government’s sovereign immunity for “the adjudication of rights to the use water of a river system or other source...” In the 1970s, the scale of adjudications increased because of two important United States Supreme Court decisions that created incentives for the western states to invest in adjudication. In 1971, the U.S. Supreme Court held that a general stream adjudication did not have to include the broadest possible definition of a stream system, tributaries, mainstem and connected ground water.<sup>5</sup> Five years later, the Court held that the waiver of sovereignty immunity included Indian claims and moreover that a prior federal action could be stayed to allow a state court proceeding to adjudicate the claims.<sup>19</sup> Consequently, Arizona, Idaho, Montana and Washington state invested in adjudications of the states’ major rivers. States such as New Mexico and Utah have substantially completed ongoing adjudications.

McCarran Act adjudications have two primary objectives. The first is to increase the security of water rights by eliminating as many of the previously discussed uncertainties as possible. The second objective was to remove the cloud on western water “titles” posed by the doctrines of federal reserved Indian and non-Indian public land

water rights. The Supreme Court has recognized a special class of water rights for tribes and a limited class of public land reservations. These rights are mixed appropriative-riparian rights. They arise by reason of the creation of an Indian reservation or federal land management unit, such as a National Wildlife Refuge, for a water-related purpose.

## Have Adjudications Been Worth the Price?

The ultimate question posed by these adjudications is, have they been worth it? Most are still ongoing; only Idaho's Snake River adjudication and Wyoming's Big Horn adjudication are scheduled to wind up in the next few years. Nonetheless, to many westerners, the answer is of course they are.<sup>6</sup> The value of adjudication is assumed to be a matter of faith and thus there is no need to measure the value by more objective standards such as benefit-cost analysis. For example, after noting that as of 2004 Montana had invested over \$37.5 million in its unfinished general stream, the Upper Clark River Basin Steering Committee reported that the "ongoing adjudication is causing uncertainty for water rights enforcement in basins with old decrees. Because preliminary may not incorporate all of the historic use information in the old decrees, preliminary decrees issued by the Water Court may be in conflict with historic and existing uses."<sup>7</sup> Nonetheless, it recommended that more money be spent to ensure consistent, accurate final decrees.

The merits of this faith-based argument aside, a benefit-cost analysis is not possible. It would have the same flaws that efforts to quantify the value of environmental regulations face; the costs are immediate but the benefits materialize in the future so any number is biased in favor of high costs and low benefits. One might try to compare jurisdictions that have not invested in adjudication with those that have, but the results can range from the sensible to the absurd and irrelevant. One could compare Montana, which, as of 2004, had invested over \$37.5 million of state money in its adjudication, with California with its extensive system of reservoirs, canals and aqueducts and its long tradition of solving water problems by spending money on carry-over storage, but the comparison would be irrelevant because of the vast differences between water uses in the two states.

Despite the impossibility of doing full-scale benefit-cost analysis, as costs mounted and the decades piled up, other states began to cast the cold eye of crude benefit-cost analysis to the cost of general stream adjudications and sought faster, less costly ways of quantifying rights, especially Indian reserved water rights.<sup>8</sup> In 2002, the Washington state Department of Ecology and Office of the Attorney General submitted a report on the Yakima general adjudication, now in its third decade.<sup>9</sup> To speed up the process, it recommended, among other things, a greater role for the Department in making tentative determinations and validating registered water rights. The report also suggested allowing limited special adjudications that would allow the Department to initiate an adjudication that would cover a limited number of issues and would not affect all water users in the basin, although it recognized that this would not qualify as a McCarran Amendment general adjudication.

In general, the problems with a benefit-cost analysis suggest that one can only ask some hard questions such as (1) have the adjudications fulfilled their intended objectives, (2) do all users need adjudicated rights, and (3) how well have the adjudications dealt with the most significant challenges to modern water management that have materialized in the past decades. The last question is relevant because the assertion of large quantities of *Winters* rights materialized as the proponents of adjudication expected, but adjudications took place against three major, less anticipated changed conditions.

In the remainder of this article, I focus on whether the adjudications have fulfilled their intended objectives and how well the adjudications have dealt with three significant challenges to modern water management that have materialized in the past decades. My basic conclusions are (1) the adjudications, with the help of the United States Supreme Court, have succeeded in cabining, or tightly circumscribing, the extent of non-Indian federal reserved rights for public lands, (2) the adjudications have allowed Indian tribes to obtain congressional water rights settlements that give them much more economic and ecological benefits than they would have obtained had they pursued their claims to a final decree, (3) the adjudications will provide some help as the states adjust to the end of the Reclamation Era and the new risks of global climate change, but (4) the adjudications have not

been able to deal effectively with federal regulatory water rights arising under the Clean Water and Endangered Species Acts, although the risks of disruption from the enforcement of these statutes has diminished considerably since the George W. Bush Administration took office.

## Changed Conditions

The current general adjudications are premised on the assumption that water management consists primarily of the enforcement of priorities. Priority enforcement is an important component of modern water management, but it is not the only one. Modern water management is a moving not a static target, especially as we move from the Reclamation to the post-Reclamation era. Specifically, the collective state decisions to pursue general adjudications assumed (1) that the West's historic, variable climate cycles would not significantly change in amplitude, (2) that federal and state governments would continue to back-stop water rights by the construction of carry-over storage, (3) that the primary use of water would be irrigated agriculture, (4) that cities and non-consumptive users such as hydroelectric facilities could share the rest with comparatively little friction, and (5) that the main competitors for the water traditionally shared among the triad of irrigation, municipal and industrial use and hydropower generation would be Indian tribes. All of these assumptions have been severely eroded in the past four decades.

Since the adjudications began, the West has undergone many interrelated changes. First, the Reclamation era has ended. Supply augmentation is no longer the primary objective of federal and state water policy. As the 2005 California water Plan Update dryly observed, "[S]tate and federal projects have not expanded as originally expected, in fact, diversions have been reduced in recognition of environmental needs."<sup>10</sup> Second, the West's variable climate is likely to become more variable due to global warming. Third, fish are gaining more power as a proxy for environmental values.

### The End of the Reclamation Era

The progressive conservation vision of large, multiple-purpose dams, located through regional planning, dominated water policy until the late

1960s until the environmental movement shattered it. The environmental movement built on earlier calls for greater federal fiscal restraint to undermine the doubtful case for dams as catalysts of regional development. The failure of the 1944 Pick-Sloan Plan to deliver irrigation benefits to the Upper Missouri Basin is a case in point.<sup>11</sup> Throughout the world, many dams have underperformed and have produced unacceptably high, ignored social costs. Rivers have been transformed from free-flowing into regulated rivers. As a result, there are growing threats to the ecological integrity of watersheds worldwide.

The environmental movement changed our perception of the earth and the value of the unmodified riverine landscapes,<sup>12</sup> and as a result, we now value free flowing rivers, their connected corridors and the ecosystem services that they provide. Today, the focus is on the management and the reoperation of existing dams and less environmentally destructive water storage options. For example, the influential 2000 Report of the World Commission on Dams<sup>13</sup> recommended a more rigorous assessment of proposed new dams and that much attention be focused on the reoperation of existing dams and irrigation systems and on the promotion of more sustainable water storage and use technologies.

Ironically, the end of the river basin development era means that in the future the competition for water resources will become more rather than less intense. Rapidly growing cities are competing with irrigated agriculture for limited supplies, and environmental interests are competing with all major consumptive uses as well as the hydroelectric power industry for increased in-stream flows or more "natural" hydrologic regimes.<sup>14</sup> The possibility that global warming will alter traditional snow pack and run off patterns adds an additional element of uncertainty to the competition. In many areas, runoffs may occur earlier in the year and increased evaporation will decrease available supplies and base flows during periods of peak summer demand.<sup>15</sup>

Future competition will be extremely messy because the end of the Reclamation Era has dramatically shrunk federal power and influence. The two major water agencies, the Bureau of Reclamation and Corps of Engineers, are increasingly assuming a more passive role in water conflicts because they have little to bring to the table. For example, in 2003 Secretary of the Interior Gale Norton unveiled the Department's new water strategy, *Water 2025*.<sup>16</sup>

Formally, the plan announced that the Department would concentrate its resources on ten hot spots in the West, but the underlying message was that the western states could not expect the Department to build new projects or to supply much in the way of policy leadership. The Bureau, of course, still has considerable leverage on the Colorado River and in the operation of specific reservoirs.

The net result of the shift to reallocation is to increase the need for water transfers, especially from existing to new uses, to meet new demands caused by continued population growth and the rise of new societal values, primarily environmental protection. Most modern transfers will move water relatively short distances. They will not be massive interregional and international schemes that were often proposed by visionary engineers and politicians in the past. Nonetheless, many of these transfers will be extremely controversial because they threaten to disrupt established economic and cultural patterns, stress ecosystems<sup>17</sup> and raise long-standing fears about the monopolization of water.<sup>18</sup> In general, states have either *de jure* delegated water planning responsibility to lower levels of government or *de facto* to the federal government.

### Global Warming

Evidence continues to mount that the earth's climate is warming and that this warming can distort "normal water allocation" patterns. The precise impacts on specific basins and sub-basins are still difficult to predict because the climate change models suggest that the impacts of climate change will vary greatly among the earth's regions. Any watershed or river basin prediction must deal with high levels of hydrologic, economic and political uncertainty. However, the general risks that arid areas face can be stated with some confidence, although the geographic and temporal scale of the change is uncertain. The biggest risk is that there will be increased precipitation, but this precipitation may actually exacerbate efforts to provide reliable water supplies.<sup>19</sup>

More precipitation may fall as winter rain rather than snow, and thus the snowpacks may melt earlier as warmer average temperatures mean that spring runoffs will come earlier and evaporate faster. California is the first to expressly incorporate global climate change into its planning. The 2005 California State Water Plan Update notes that a 2.1°C change, well within most general circulation

models, could result in a 52 percent reduction in the April- July snowpack runoff.<sup>20</sup> Among the first adverse environmental impacts would be the loss of cool water on which salmon depend.

### Back to Eden: Fish Power and River Restoration

The third changed condition is the growing pressure to improve or restore degraded aquatic ecosystems. The World Commission of Dams reported that dams inundate large areas and kill terrestrial plants and displace animals. In addition, reservoirs may account from 1 percent to 28 percent of all green house gas emissions. Large dams "compromise the dynamic aspects of rivers that is fundamental to maintaining the character of aquatic ecosystems."<sup>21</sup> A series of influential studies in the United States, Europe and the Middle East<sup>22</sup> has recently led to the radical idea of managing river systems to maximize ecological functions. The newly developing science of conservation biology furnishes the scientific underpinnings for new management paradigms. Conservation biology posits that all river systems — modified and "natural" — must be seen as dynamic, ever-changing functioning ecosystems which serve a variety of functions from the maintenance of consumptive uses to the provision of valuable ecosystem services. The current focus is on river restoration because so many large systems have been modified.<sup>23</sup> In the United States, large-scale environmental river management usually occurs in the shadow of the Endangered Species Act.

### General Adjudication and Change Adaptation

The above changes impact all western states so they will have to adapt regardless of the status of adjudications. Adjudications may marginally help the states adapt to the end of the Reclamation Era and to global climate change, although the doctrine of prior appropriation has shown a remarkable ability to adapt without the quantification provided by general adjudications. The question of how general adjudications will impact demands for environmental base flows is more complicated. In brief, adjudications will help the western states adapt to the end of the Reclamation Era and global climate change. The states' best current strategy to respond to both these conditions is the reallocation

of agricultural use to both urban and environmental uses through water transfers. Irrigated agriculture's rights are *de facto* being used as reservoirs for continued urban growth and, to a lesser degree, as source of supply for environmental flows. In theory, the firmer the property right, the less the transaction costs of transfer.<sup>24</sup>

The more relevant question is whether lowered transaction costs are worth the investment in general adjudications? In modern water practice, the threat of enforcement is generally more important than the actual enforcement because it often encourages water users to cooperate either to reduce the risk of enforcement to as close to zero as possible or to share more equitably the burdens of shortages. The formation of the Southern Nevada Water Authority to find regional solutions to supplement Nevada's limited Colorado River priority and to allow Las Vegas to continue to sprawl is an example of the incentives that enforcement threats can provide. Adjudication increases the risk of enforcement and thus it may spur new innovative water use patterns.

This said, the fact that priority is more bluff than substance does not undermine the need for consistent and fair allocation rules, but it does call into question the reliance on enforcement of accurately decreed priorities to allocate water in temporary and chronic shortages. Most water users are "repeat users" and thus they have incentives to share rather than stand on their rights — at least if Indian reserved water rights are not involved. This is especially true on larger rather than smaller streams. Thus, it is not surprising that states have taken extraordinary steps to ensure that the rule is never applied in practice and that federal, state and local water distribution agencies find alternative ways to ameliorate the rule when droughts occur.

## Cabining Reserved Rights

In addition to firming up appropriative rights, general adjudications accepted the argument that all federal Indian and non-Indian federal reserved rights should be quantified. The hope, of course, was that quantification would mean that the rights would be entitled to modest quantities of water. Like performers in stylized Kabuki Theater, Indian tribes asserted claims to vast amounts of water on the West's over appropriated rivers. The federal government also appeared to claim water for various

categories of land withdrawals such as wilderness areas, national parks and wildlife refuges. The specter of federal regulatory water rights arose while the adjudications were in progress and presented an unanticipated challenge. In general, the adjudications have curbed non-Indian reserved rights due in large part to a Supreme Court decision that severely limited them and the subsequent unwillingness of the Court to police hostile state court decisions. Indian tribes, in contrast, have been able to use general adjudications to negotiate federal settlements that have given them far more "wet water" and leverage than they could ever have obtained had their rights been simply adjudicated.

## Indian Claims: The Federal Slot Machine Keeps Ringing

Indians have fared well in the adjudication process because Indian tribal rights have survived the Supreme Court's erosion of tribal sovereignty and have long represented a serious cloud on western water titles such as they are because of the amount of water that can be claimed. Before the Supreme Court narrowed the scope of public land reserved rights, it adopted practicable irrigable acreage as the tribal standard.<sup>25</sup> The Court came close to replacing the standard with one much more favorable to standard,<sup>26</sup> but PIA remains the law. PIA is the basis for many liberal tribal claims because the Court has adopted conclusions of special masters that PIA does not require a positive benefit-cost analysis and tribes are not limited to farming methods in use at the time that the reservation was created.<sup>27</sup> Nonetheless, tribal rights remain largely inchoate as the federal government funded Indian irrigation projects at much lower rates compared to non-Indian projects under the Reclamation Act of 1902.

Balanced against the PIA standard is the fact that federal reserved rights may be adjudicated in state courts.<sup>28</sup> State courts must apply federal law, but courts have considerable discretion to shape the law.<sup>29</sup> Arizona rejected PIA and substituted a home land sustainability standard,<sup>30</sup> but the impact of the new standard on tribal claims remains unclear. As discussed in the next section, the Supreme Court has imposed another potential barrier on *Winters* rights, but the tribes have been unable to avoid the limitation. Non-Indian reserved rights are limited to the minimum amount necessary to prevent the frustration of the primary objectives of the

withdrawal. Arizona has rejected this standard as inapplicable to Indian reservations<sup>31</sup> and the Ninth Circuit downgraded the standard to a guideline.<sup>32</sup>

In practice, general stream adjudications have served as a catalyst for a number of major negotiated settlements that have given Indians wet water and removed barriers to off-reservation uses. Westerners insisted that *Winters* rights were for on reservation irrigation and could not be used off the reservation. Some settlements have been separate from adjudications, but others have been entered final decrees. The settlements have generally required the tribes to trade the full potential *Winters* right for a lesser amount of wet rights sweetened by cash and other benefits that a judicial decree cannot grant. Tribes have often received two major benefits: the provision of water to the reservation at federal or state rate payer expense and the ability to turn surplus water into cash by leasing it to non-Indian users.<sup>33</sup>

The recent Nez Pez and Gila settlements illustrate how the adjudications stimulated favorable settlements. Idaho's adjudication created a less than favorable legal climate for the Nez Perce tribe, but a favorable Congressional settlement was enacted in 2004.<sup>34</sup> The settlement went far beyond the quantification of tribal water rights and resolved federal land uses and put in place new management initiatives to improve the public land and tribal watershed. Under the settlement, the federal government as trustee for the tribe filed instream flow claims to all the water in the Snake, Salmon and Clearwater basins to support tribal treaty fishing rights. The settlement gave the tribes 50,000 acre feet per year for on reservation use. Among the other monetary and management benefits are \$23 million for the construction of an on-reservation water system, a \$10.1 million payment for the tribe's contracting for uncontracted storage space in the Payette River system and a federal-state-tribal cooperative program to improve instream flows and fish habitat and passage in the Salmon and Clearwater Basins.<sup>35</sup> The Gila River Indian Community, along with other tribes, received the largest water rights settlement in history. In brief, the tribes obtained 47 percent of the Central Arizona Project (CAP) allocation originally dedicated to Phoenix and Tucson and the power to lease water back to the cities. The Gila received 197,500 acre feet of CAP water which it can devote to the revival of reservation farming or lease to cities.<sup>36</sup>

### Non-Indian Federal Reserved Rights

In contrast to the tribe's success in using negotiated settlements to avoid the risks of a full-scale adjudication, the federal land management agencies have not fared well. The states have been able to draw on the long tradition of deference to state water law and hostility to any form of federal preemption backed by the Supreme Court's apparent lack of interest on policing state adjudications. The enforcement of the Endangered Species Act is an exception, but from the Klamath to the Rio Grande, the states have been able to blunt its preemptive effect.

In the initial settlement of the West, the federal government did not assert an interest in the waters attached to the public domain. In theory, almost all western water rights should derive from the federal government's riparian rights incident to the public domain. However, settlement preceded the federal government's efforts to assert federal water rights during the Progressive Conservation Era.<sup>37</sup> Instead, Congress validated the claims of those who illegally entered the public domain and put public water to use, and this forbearance allowed the western states to development the theory that the federal government severed water from the public lands and thus the states had the exclusive power to allocate and manage western waters. The Supreme Court accepted this flawed logic in 1935. It was not until the 1962 decision *Arizona v. California*<sup>38</sup> that the Supreme Court has recognized that the federal government can claim federal reserved rights to fulfill the purposes of a public land withdrawal. By this time, state hostility to the idea of federal water rights had become ingrained in the region's political consciousness.

The legacy of the state's claim to exclusive control is powerful. In *United States v. New Mexico*, the Supreme Court made it easy to express this hostility by severely limiting the federal government's power to assert non-Indian federal reserved water rights.<sup>39</sup> Non-Indian federal reserved rights are limited to the minimum amount of water necessary to accomplish the primary purposes of the reservation. In cases involving claims for a wilderness area in a national forest, the Court reasoned that the 1897 Forest Service Organic Act limited national forests to "securing favorable conditions of water flows" for downstream irrigators and cities and "a continuous supply of timber. . . ." This standard has severely limited the amount of water that the federal government can claim for national parks, wilderness areas and wildlife refuges.

*New Mexico* permitted the United States to obtain reserved rights for some national parks and monuments,<sup>40</sup> but, in general, federal land management agencies have been unable to find a way around the decision, especially in hostile states such as Idaho. Idaho developed a substantial anti-federal reserved rights jurisprudence based on the court's "reading" of history.<sup>41</sup> It also backtracked from its earlier precedent-setting decision recognizing instream flows and held a diversion is necessary to perfect a water right except for livestock watering and state-held instream flow rights.

After *New Mexico*, the Forest Service asserted that the Multiple Use Sustained Yield Act created reserved rights, but state courts uniformly rejected this claim.<sup>42</sup> The Forest Service also tried to assert reserved rights for sediment transport to preserve the hydrologic integrity of a stream. A federal district court agreed that stream integrity was a favorable condition, but held that the flows were not necessary to support this hydrologic function.<sup>43</sup> Thus, the primary federal instream strategy is to file for a state appropriative right and present this claim in a general adjudication.

The federal government has in fact filed many public land claims as well as instream flow claims under state law. In *New Mexico*, the western states argued that state law and the regulatory authority of the federal government provided an adequate, alternative avenue for the federal government to obtain the necessary water to support public land withdrawals. The promise has often proved illusory. In Colorado and Idaho, the Forest Service encountered a Catch 22: state instream flow rights can only be held by a state agency.<sup>44</sup> To obtain an instream flow, the Forest Service had to petition the Colorado Water Conservation Board to file for one.<sup>45</sup> Reserved rights were obtained for the Gunnison and Rio Grande National Forests in Colorado after the United States agreed to subordinate most of its claims to all existing state rights with a pre-1999 priority date and to other conditions to protect exist users.<sup>46</sup>

Secretary of the Interior Bruce Babbitt (1992-2000) was successful in overcoming *New Mexico*. He secured several important reserved rights through negotiation and the creation of hybrid federal-state rights. Utah right holders agreed to recognize an unquantified reserved right on the Virgin River above Zion's National Park.<sup>47</sup> A federal non-reserved right was created for the Great Sand Dunes National Park

in Colorado. The federal government appropriated surface and ground water under Colorado state law, but the National Park Service is the holder of the right and the right is defined by federal law, unappropriated surface and ground water necessary to protect the Dunes ecosystem.<sup>48</sup>

### **Alternative Federal Rights: Federal Regulatory Water Rights**

Alternative federal water rights claims have met with limited success. Starting in the 1950s, the Forest Service conditioned permits to construct diversion, transportation and storage facilities on public lands to require that sufficient water be left in streams to sustain fish during low-water periods. Either water had to be released from the reservoir or it had to bypass a diversion facility. In the 1990s, these "bypass flows" generated a great deal of controversy, and in the end a federal task force rejected the long held position of the Forest Service that they had the authority to impose these flows before and after the passage of the Federal Land Policy and Management Act over the strong dissents of Elizabeth Ann Rieke, David Getches, and Richard Roos-Collins.<sup>49</sup> One of the arguments against their recognition was "the relative priorities of right of use of water [sic] that have or will be established in the McCarran adjudications are meaningless. Simply put, for most national forests there would be no purpose in the assertion of federal reserved rights by the United States if it could control the use of water through land use conditions."

Several of the federal environmental statutes, most notably the Endangered Species Act and the Clean Water Act, have the potential to require state water right holders to limit their uses. Federal environmental mandates have sometimes been classified as federal regulatory water rights to signal this underappreciated attribute. However, these are not rights in any traditional sense because they are ad hoc and episodic. Thus, they are difficult, if not impossible, to fit into adjudications. In some cases, complaints were filed against federal agencies or the statutes were enforced as adjudications ground on. This happened in the Klamath Basin when the Bureau of Reclamation shut down the headgates of the Klamath project to protect endangered fish during the drought summer of 2001.<sup>50</sup> However, since 2001, the Bureau of Reclamation has prepared long-term operating plans that preserve the status

quo. When the U.S. Court of Appeals, Tenth Circuit, held that New Mexico had to release water in the Rio Grande to preserve the silvery minnow, Congress quickly reversed the decision.

One state, Idaho, has been able to incorporate the ESA into its general adjudication. To “address” federal public land and Indian claims, the basin’s major water users formed a federal coalition. In 1998, the Fifth Judicial District Court ordered that all federal and tribal claims be mediated. Mediation produced a “Term Sheet” in 2004.<sup>51</sup> The ESA was addressed in two ways. First, an earlier agreement to protect power and fish flows<sup>52</sup> was incorporated into the adjudication decree. The Swan Falls agreement is implemented by willing yearly water rights leases. To cabin future enforcement of the ESA, the plan is to have the two federal agencies, the Fish and Wildlife Service and National Marine Fisheries Service, issue 30 year Biological Opinions that will provide incidental take authorization for all public and private actions. However, the agreement recognizes that the ESA precludes complete certainty:

The Mediator’s term Sheet provides that, to the maximum extent practicable, the United States shall be responsible for managing water acquired or rented pursuant to the agreement to needs of all species covered by the agreement, and in a manner that will not result in the violation of any permit, applicable water quality rule and regulation or other requirements of the Clean Water Act, and in a manner a manner that will not cause jeopardy to others species in Idaho or result in significant adverse impacts to recreational users of waters of the Snake River or its tributaries within the state of Idaho.<sup>53</sup>

The Nez Perce settlement in Idaho also includes numerous fish conservation provisions that will facilitate compliance with ESA mandates. A joint tribal-federal-state agreement will free up 200,000 acre feet of Dworkshak Reservoir water for salmon conservation and a \$50 million water and fisheries trust fund will be established.

## Conclusion

McCarran Amendment adjudications seek to achieve perpetual certainty perfect harmony among

water users. A leading Italian anti-Fascist diplomat better described the objective of water dispute management. He characterized his objective in negotiating a Post World War I treaty between Italy and the newly created Yugoslavia as “that the causes of discontent should be equally divided between the two nations.”<sup>54</sup> Contrary to the hopes of the proponents of general adjudications, most have not proceeded to the entry of a final decree in a reasonable period of time and at a reasonable cost. Instead, the proceedings have morphed into a variety of alternative dispute resolution processes. Increasingly, the states have turned to negotiated settlements, backed by federal dollars, to achieve their objectives. In short, the experience to date suggests that general adjudications will function as one of several management instruments rather than the primary instrument as the western states struggle to cope with continued urbanization, the pressures to maintain and restore degraded watersheds and global climate change.

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## Notes

1. I am indebted to John E. Thorson, Special Master, Arizona General Stream Adjudication, 1990- 2000, for sharing his vast knowledge of general stream adjudications with me.
2. Evolution has been a central characteristic of prior appropriation. In his great treatise, written during the Conservation Era, Samuel Wiel wrote that the law of prior appropriation was undergoing a transition from “a possessory system, arising as a possessory right upon the public domain . . . to a ‘particular use’ basis, acquired by actual use, measured by beneficial use, and lost by nonuse without regard to intention to abandon or relinquishment of possession. . . .” *1 Water Rights In The Western States* 299 (3rd ed. 1911).
3. Irrigated acreage in the United States increased rapidly between 1950-1970. Water withdrawals for irrigation peaked in 1980 at 150 billion gallons per day, declined to 137 billion gallons per day and have remained relatively constant since then. Water Consumption Comparisons (Residential, Agricultural, and Commercial), available at <http://asuwlink.uwyo.edu/~mthomas/>. Irrigated acreage increased by 4.7 million acres from 1990-2000, but declined 0.6 % in the western states while it surged in the southeast, especially in Florida, Arkansas and Mississippi. Steven Evett, Dennis Carman and Dale Bucks, Expansion of Irrigation in the Mid South United States: Water Allocation and Research Issues, in International Conference on Irrigation and Drainage, *Water For A Sustainable World- Limited Supplies And Expanding Demand* 247 (2003). World wide, between 15-35% of all irrigation withdrawals, including large areas of the West, may not be sustainable, World Business Council, *Facts And Trends: Water* 3 (Aug. 2005), available at [www.wbcsd.org](http://www.wbcsd.org).
4. 43 U.S.C. s 666(a) (2005). See Thorson et al., Dividing Western Waters, 8 *Water Law Review* 355 (2005). *supra* note 3 at 452-459 for a history of the Amendment.
5. Colorado River Water Conservation Dist. v. United States, 424 U.S. 800 (1976). *Arizona v. San Carlos Apache Tribe*, 463 U.S. 545 (1981) extended Colorado River’s dubious holding to states which had disclaimed all rights to Indian lands. See also *United States v. Oregon*, 44 F.3d 758 (9th Cir. 1994), cert. denied, sub. nom. *Klamath Tribe v. Oregon*, 516 U.S. 943 (1995).
6. See Senate Resolution 183, 108th Cong., 1st Sess., Commemorating 50 Years of Adjudication under the McCarran Amendment of Rights to Use Water which “commends Western States that maintain comprehensive systems for the quantification of rights to use water for all beneficial purposes . . . .” Compare S. Rep. 108- 389, 108th Cong., 2d Sess. 2 (2004) (“the general stream adjudication process has proven itself to be an unwieldy, expensive and, above all, slow method for resolving competing claims to water in a stream or watershed.”).
7. White Paper on the Montana Water Rights Adjudication Issued by the Upper Clark River Basin Steering Committee 7, March 2, 2004. The report endorses the completion of the adjudication because the current uncertainty “threatens the livelihoods of farmers and ranchers.”
8. See John E. Thorson, Clarifying State Water Rights and Adjudications, 2001 Conference, University of Colorado Natural Resources Law Center.
9. Washington State Department of Ecology and Office of the Attorney General, Streamlining the Water Rights General Adjudication Procedures, Pub. No. 02-11-019 (Dec. 2002), available at <http://www.ecy.wa.gov/biblio/0211019>.
10. Department of Water Resources, *California Water Plan Update Bulletin* 160- 05 1- 1 (Apr. 2005).
11. John E. Thorson, *River of Promise, River of Peril: The Politics of Managing the Missouri River* (1994).
12. Gilbert White, Reflections on Changing Perceptions of the Earth, 19 *Annual Review of Energy And The Environment* (1994).
13. World Commission on Dams, *Dams and Development: A New Framework for Development* (2000).
14. See ICUN, *Flow: The Essentials Of Environmental Flows* (Megan Dyson, Ger Bergkamp and John Scalon eds. 2003).
15. *Office of Technology Assessment, Preparing For An Uncertain Future: Summary* 32 (1993). Subsequent scenarios based on new research and modeling are consistent with this basic prediction.
16. U.S. Department of Interior, *Water 2025: Preventing Crises and Conflict in the West*, available at [www.doi.gov/water2005](http://www.doi.gov/water2005).
17. The California rice industry in the Central Valley illustrates the third party problem. In the past decade, the rice industry has become an “eco-friendly” industry by combining rice farming with the maintenance of a large amount of bird habitat. However, rice growers only use about 70% of their state water entitlements and sell some of the surplus water to southern California. Environmentalists are concerned that further transfers, which would require land fallowing, could jeopardize the existing wildlife habitat. Seth Hettena, State’s Rice Farmers Evolve From Foe to Friend, Associated Press, Dec. 12, 2003.
18. *Water Heist: How Corporations Are Cashing In On California’s Water*, available at [www.citizen.org/california/water/heist](http://www.citizen.org/california/water/heist).
19. See A. Dan Tarlock, We Are All Water Lawyers Now: Water Law’s Potential But Limited Impact on Urban Growth Management, in *Wet Growth: Should water Law Control Land Use?* (Craig Anthony (Tony) Arnold ed. 2005).
20. California Water Plan Update Bulletin, *supra* note 10, at 4-27.
21. *Dams and Development*, *supra* note 13, at 77-78.
22. See *National Research Council, Water for the Future: The West Bank and Gaza Strip, Israel and Jordan* (1999).
23. See A. Dan Tarlock, Slouching Toward Eden: The Eco-Pragmatic Challenges of Ecosystem Revival, 87 *Minn. L. Rev.* 1173 (2003).
24. The major study of the transaction costs of transferring water rights, Larry Macdonnell et al., *The Water Transfer Process As A Management Option For Meeting Changing Water Demand*, Vol. I, 68 (1990), suggests that theory must be tempered by empirical evidence. Colorado invested heavily in the adjudication of the state’s water rights but has the highest transfer costs among the western states.
25. *Arizona v. California*, 373 U.S. 546 (1963).
26. *In re General Adjudication of All Rights to Use Water in the Big Horn River system*, 753 P.2d 76 (Wyo. 1988), *aff’d* by an equally divided court sub.nom. *Wyoming v. United*

- States, 492 U.S. 406 (1989).
27. *Arizona v. California*, 460 U.S. 695 (1983). The Supreme Court subsequently held that non-Indian reserved rights were limited to the “primary purpose” of a land withdrawal. See note 39, *infra*. This standard potentially applies to Indian water rights, but the Supreme Court has not limited Indian water rights as they have non-Indian federal reserved rights.
28. *Colorado River Conservation Dist. v. United States*, 424 U.S. 800 (1976).
29. Daniel McCool, *Native Waters: Contemporary Indian Water Settlements And The Second Treaty Era* (2002).
30. *In re General Adjudication of All Rights to Use Water in the Gila River System*, 35 P.2d 68 (Ariz. 2001).
31. *In re General Adjudication of All Rights to Use Water in the Gila River System and Source*, 35 P.3d 68 (Ariz. 2001).
32. *United States v. Adair*, 723 F.2d 1394 (1983). However, Professor Judith Royster reports, *Indian Water Rights Report*, 8 ABA Water Resources Committee Newsletter, No. 4, p. 2, Aug. 2005, that the Ninth Circuit recently applied the primary-secondary standard to a Washington state reservation and then deleted the section from the final opinion in *Skokomish Indian Tribe v. United States*, 401 F.3d 798 (9th Cir. 2005).
33. See *A. Dan Tarlock, James N. Corbridge, Jr. & David H. Getches, Water Resource Management: A Casebook In Law And Public Policy* 898-902 (5th ed.2002) for a summary of settlements as of 2000.
34. *Snake River Water Rights Act of 2004*, Pub. L. No. 108-447, 118 Stat. 2809 (2004).
35. The full agreement is explained in S. Rep. 108-389, A Bill to Direct the Secretary of the Interior and the Heads of Other Federal Agencies to Carry Out an Agreement Resolving Major Issues Relating to the Adjudication of Water Rights in the Snake River Basin, Idaho, and for Other Purposes, 108th Cong., 2nd Sess., Oct. 7, 2004.
36. *Arizona Water Rights Settlement Act*, Pub. L. No. 108-451, 118 Stat. 3478 (2004).
37. See Donald J. Pisani, *Water and American Government: the Reclamation Bureau, National Water Policy, and the West, 1902- 1935*, 32-50 (2002).
38. 373 U.S. 546 (1963), decree entered, 376 U.S. 340 (1964).
39. *United States v. New Mexico*, 438 U.S. 696 (1978). In denying a federal reserved right for a wildlife refuge in the Snake River, the court brushed aside the question of whether water was necessary to fulfill the primary purpose of waterfowl conservation: “The reclamation projects . . . assured that there would be sufficient water to maintain the islands without a federal reserved right . . . The only way that this reality fails is if there is a catastrophic drought or other natural disaster that threatens to dry up the river. . . . It is inconceivable that President Roosevelt in 1937, in the context of the dust bowl years intended to give preference to waterfowl, or other migratory birds, over people.” *United States v. Idaho*, 23 P.3d 128-29 (Idaho 2001).
40. The Park Service obtained a reserved right to the Black Canyon National Monument in Colorado in 1978. It did not file an application to quantify the right until 2001 and then in 2003, as is the practice of the Bush II administration, agreed to a much more limited right than it initially claimed. It relinquished its peak and shoulder flow claims. Environmental groups have challenged the decision. See *United States v. Colorado State Engineer*, 103 P.3d 1072 (Colo. 2004)(water court proceedings stayed while federal court determines whether United States abused its discretion in claim relinquishment).
41. E.g., *United States v. Idaho*, 23 P.3d 117 (Idaho 2001)(“inconceivable” that President Franklin D. Roosevelt would give preference to waterfowl over irrigation when he created wildlife refuge in the Snake River island in 1937, in the midst of the dust bowl); *Potlach v. United States*, 12 P.3d 1260 (Idaho 2000)(Reserved rights do not attach to wilderness areas; Wilderness Act does not protect watersheds because Senator Frank Church, D-Idaho, would have never voted for Act because recognition of such rights would cripple economic growth in Idaho). Wyoming has a similar tradition. *In re General Adjudication of All Rights to Use Water in the Big Horn River System (Big Horn III)*, 835 P.2d 273 (Wyo. 1992).
42. *United States v. City and County of Denver*, 656 P.2d 1 (Colo. 1982); *United States v. City of Challis*, 988 P.2d 1199 (Idaho 1999).
43. *In re Matter of the Amended Applications of the United States for Reserved Rights in the Platte River*, No. W-8439-76 (Feb. 12, 1993). See Rice, *Colorado Water Court Denies Reserved Rights Claims for Channel Maintenance*, 4 RIVERS 146 (1993)(no longer published).
44. Lois G. Witte, *Still No Water for the Woods*, ALI-ABA Federal Public Lands Conference, Salt Lake City, Utah, October 19, 2001 available at <http://cweb.state.co.us/isf/Programs/Docs/witte.htm>, last visited June 17, 2005.
45. See letter from Colorado Attorney General Ken Salazar (now United States Senator) to Lyle Laverty, Regional Forester objecting to forest management plan that contemplated independent application for state instream flow right. [http://www.ago.state.co.us/press\\_detail.cfm?pressID=595](http://www.ago.state.co.us/press_detail.cfm?pressID=595).
46. Findings of Fact, Conclusions of Law, and Judgment and Decree, Concerning Application for Water Rights of the United States of America, Colorado District Court, Water Division No. 3, Case No. 81-CW-183 (Mar. 30, 2000).
47. *A. Dan Tarlock, Law of Water Rights and Resources* § 9.53 (1988 with annual updates).
48. Public Law No. 106-530, s 9(b)(2)(B), 114 Stat. 2527 (2000). See John D. Leshey, *Water Rights for New Federal Land Conservation Programs: A Turn-of-the Century Evaluation*, 4 *U. Den. Water L. Rev.* 271,285-86 (2001).
49. Report of the By-Pass Flow Task Force, available at <http://www.fs.fed.us/land/water/bypass11.html>.
50. *Klamath Water Rights Users Protective Association v. Patterson*, 204 F.3d 1206 (9th Cir. 2000), cert. denied, 121 S. Ct. 44 (2000).
51. Statement of Roger D. Ling, On Behalf of Federal Claims Coalition for the U.S. Senate Indian Affairs Committee, July 20, 2004.
52. Swan Falls Agreement.
53. Statement of Roger D. Ling, *supra* note 51 at 3-4.
54. *Count Carlo Sforza, Italy and the Italians* 86 (1949).