

# FOREWORD

Senator Jon Kyl\* & Ryan A. Smith\*\*

This *Arizona Law Review* symposium issue focuses on major water challenges facing Arizona. Given the recent proposal by the Colorado River basin states<sup>1</sup> regarding the operation of the Colorado River, the enactment of the historic Arizona Water Settlements Act, and the rapid population growth that has caused increased demand for water in rural Arizona, this issue presents timely and significant topics for consideration and discussion. The articles included in this edition, authored by practitioners and academics alike, serve to highlight and frame the issues that Arizona must address in dealing with its twenty-first-century water challenges.

Historically, Arizona has resolved its water issues in innovative and forward-thinking ways. Meeting current and future challenges will require similar creativity and foresight. Consequently, Arizona's water history can serve as a helpful guide in developing strategies to meet these challenges.

Arizona faced its first major water challenge as a territory at the turn of the twentieth century. Confronted with frequent droughts and damaging floods, the territory had to find a way to supply a consistent source of water, primarily to sustain the needs of agriculture in central Arizona. As a result, landowners in the Salt River Valley lobbied Congress for the passage of the Reclamation Act of 1902, which provided a way for local groups in the West to borrow money for the construction of water storage and delivery projects.<sup>2</sup> The legislation passed, and one year later, in 1903, the landowners within the Salt River Valley created the Salt River Valley Water Users' Association (the "Association") and secured

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1. The Colorado River Basin states are Arizona, California, Nevada, New Mexico, Utah, Colorado, and Wyoming.

2. Reclamation Act of 1902, ch. 1093, 32 Stat. 388 (1902) (codified as amended in scattered sections of 43 U.S.C.).

federal funding under the Act for the construction of Roosevelt Dam.<sup>3</sup> The dam, which was completed in 1911, created the largest reservoir serving the Phoenix metropolitan area and provided the water storage that central Arizona so desperately needed.<sup>4</sup>

Although the creation of the Association and the construction of Roosevelt Dam were major milestones in Arizona's history, many water challenges still faced the state. Indeed, Arizona's share of Colorado River water remained in dispute.

During the early twentieth century, Arizona and the other Colorado River Basin states feared that California would quickly "appropriate" all of the water in the Colorado River.<sup>5</sup> These fears were not unwarranted "since the law of prior appropriation prevailed in most of the Western States."<sup>6</sup> Under this doctrine, the legal entitlement goes to the first party to put the water to beneficial use.<sup>7</sup> The concerns of the basin states, other than California, were further heightened when the United States Supreme Court held in *Wyoming v. Colorado* that the doctrine of prior appropriation could be given interstate effect.<sup>8</sup> This ruling essentially meant that if California put Colorado River water to beneficial use before Arizona and the other basin states, it would have a senior right to that water.<sup>9</sup>

Arizona's fears were later realized when the Bureau of Reclamation began construction of the Parker Dam on the Colorado River between Arizona and California in 1934.<sup>10</sup> The dam was intended, in part, to divert specified quantities of Colorado River water to the Metropolitan Water District in southern California.<sup>11</sup> Arizona objected to the construction of the dam, arguing that the dam could not be built without its consent.<sup>12</sup> The outrage in Arizona was so great that its Governor, Benjamin Moeur, deployed Arizona's National Guard to block the dam's construction. Governor Moeur's instructions were to report "on any attempt on the part of any person to place any structure on Arizona soil either within the bed of said river [the Colorado] or on the shore."<sup>13</sup> As part of its operations, the Arizona National Guard requisitioned from the town of Parker a ferryboat, which later came to be known as the "Arizona Navy."<sup>14</sup>

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3. ' SRP, The SRP Legacy, <http://www.srpnet.com/about/history/legacy.aspx> (last visited Apr. 1, 2007).

4. See SRP, Roosevelt Dam, <http://www.srpnet.com/water/dams/roosevelt.aspx> (last visited Apr. 1, 2007).

5. *Arizona v. California*, 373 U.S. 546, 555–56 (1963).

6. *Id.* at 555.

7. *Id.*

8. 259 U.S. 419, 470–471 (1922); *Arizona v. California*, 373 U.S. at 555–56 (discussing the holding of *Wyoming v. Colorado*).

9. Margaret Bushman LaBianca, *The Arizona Water Bank and the Law of the River*, 40 ARIZ. L. REV. 659, 662–63 (1998).

10. *United States v. Arizona*, 295 U.S. 174, 179 (1935).

11. See *id.* at 181.

12. *Id.* at 179.

13. MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 258 (1993) (alteration in original).

14. *Id.*

The federal government responded by halting construction on the project and filing suit in the United States Supreme Court to end Arizona's military threats. The Court sided with Arizona, holding that the Parker Dam was illegal as it was not authorized by Congress.<sup>15</sup> Arizona's victory, however, was short-lived—Congress authorized the construction of the Parker Dam in 1935,<sup>16</sup> and construction on the dam was completed shortly thereafter.

Since the deployment of the Arizona Navy, Arizona has limited its fights, both interstate and intrastate, to the courts, the legislature, and the negotiating table. For example, in 1952, Arizona brought an action against California in the United States Supreme Court to determine how much water the Lower Division states of Arizona, California, and Nevada had a legal right to use out of the Colorado River and its tributaries.<sup>17</sup> Arizona argued that, under the Boulder Canyon Project Act of 1928 ("1928 Act"),<sup>18</sup> it was entitled to 2.8 million acre-feet of Colorado River water per year and that Arizona's diversions of its Colorado River tributaries should not count toward its apportionment.<sup>19</sup> Not surprisingly, California maintained that Arizona's use of its Colorado River tributaries should be charged against any apportionment of Colorado River water to Arizona.<sup>20</sup> "The result of California's argument would [have been] much more water for California and much less for Arizona."<sup>21</sup>

The Court agreed with Arizona, holding that in passing the 1928 Act, Congress "intended to and did create its own comprehensive scheme for the apportionment among California, Arizona, and Nevada of the Lower Basin's share of the mainstream waters of the Colorado River, leaving each State its tributaries."<sup>22</sup> Consequently, the Court ruled that Arizona was entitled to 2.8-million-acre-feet per year of Colorado River water and that Arizona's tributary use did not count against the state's annual apportionment.<sup>23</sup>

The decision in *Arizona v. California* was a major victory and set the stage for Arizona's next challenge—how to fully use its 2.8 million acre-feet allocation of Colorado River water.

The answer was the Central Arizona Project ("CAP"), a 336-mile canal designed to bring as much as 2.2 million acre-feet of Colorado River water to a number of cities, tribes, and farms in central and southern Arizona.<sup>24</sup> In 1968,

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15. United States v. Arizona, 295 U.S. at 192.

16. River and Harbor Act of 1935, ch. 841, § 2, 49 Stat. 1028, 1039–40.

17. Arizona v. California, 373 U.S. at 551.

18. 43 U.S.C. § 617 (2000). The 1928 Act apportioned water of the Colorado River mainstem as follows: 2.8 million acre-feet and half of the surplus to Arizona, 4.4 million acre-feet and half of the surplus to California, and 300,000 acre-feet to Nevada. Arizona v. California, 373 U.S. at 562.

19. Arizona v. California, 373 U.S. at 563.

20. *Id.*

21. *Id.*

22. *Id.* at 564–65.

23. *Id.* at 565.

24. See Cent. Ariz. Project, About CAP—FAQ, <http://www.cap-az.com> (follow "faq" hyperlink) (last visited Apr. 1, 2007).

Congress authorized CAP as part of the Colorado River Basin Project Act.<sup>25</sup> This approval, however, came with a price. In order to obtain the California congressional delegation's support for CAP, Arizona agreed it would subordinate its CAP water to California's 4.4 million acre-feet entitlement.<sup>26</sup> As a practical matter, this means that in the event of a shortage, California would get its 4.4 million acre-feet before Arizona would receive any of its CAP allocation. But for this painful yet necessary compromise, CAP would probably never have been authorized.<sup>27</sup>

Construction of the project began in 1973 and was substantially completed in 1994.<sup>28</sup> CAP now manages the single largest renewable water supply in Arizona, serving approximately 1.8 million people in the state.<sup>29</sup>

Prior to and during CAP's construction, Arizona faced another seemingly unsolvable problem. Arizona was dangerously depleting its groundwater supplies. By the 1960s, total water used exceeded supplies by approximately 2.2 million acre-feet per year.<sup>30</sup> The problem was so severe that parts of Pinal and Maricopa Counties began to subside as the water below was pumped out and aquifers collapsed.<sup>31</sup> Arizona Senator Carl Hayden warned at the time that "the survival of our dear state is at stake."<sup>32</sup> These problems were exacerbated by increasing claims by Arizona's Indian tribes, as well as Arizona's unprecedented growth and corresponding demand for water.

Again, Arizona responded by taking an innovative and forward-thinking approach to groundwater management. Until the 1980s, Arizona followed the doctrine of reasonable use, which allows landowners to withdraw from and use on their land as much groundwater as they can put to reasonable and beneficial use.<sup>33</sup> The Arizona State Legislature significantly changed this by enacting the 1980 Groundwater Management Act (the "Groundwater Code"),<sup>34</sup> which was largely aimed at mitigating groundwater overdraft and settling the competing demands of agriculture, mining, and municipal use.<sup>35</sup>

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25. Pub. L. No. 90-537, § 301, 82 Stat. 885, 887-88 (1968) (codified as amended at 43 U.S.C. § 1521).

26. 43 U.S.C. § 1521(b); see also Robert Jerome Glennon, *Coattails of the Past: Using and Financing the Central Arizona Project*, 27 ARIZ. ST. L.J. 677, 711 (1995).

27. Glennon, *supra* note 26, at 677.

28. Bureau of Reclamation, U.S. Dep't of the Interior, Colorado River Basin Project—Central Arizona Project, <http://www.usbr.gov/dataweb/html/crbpcap.html> (last visited Apr. 1, 2007).

29. *Id.*

30. REISNER, *supra* note 13, at 260.

31. *Id.*

32. *Id.*

33. See *Howard v. Perrin*, 76 P. 460 (Ariz. Terr. 1904), *aff'd*, 200 U.S. 71 (1906).

34. ARIZ. REV. STAT. ANN. §§ 45-401 to -704 (2006).

35. For a further discussion on this issue, see Jon Kyl, *The 1980 Arizona Groundwater Management Act: From Inception to Current Constitutional Challenge*, 53 U. COLO. L. REV. 471, 473-81 (1982).

The Groundwater Code created the Arizona Department of Water Resources (“ADWR”), in part, to administer and enforce the code.<sup>36</sup> Second, it established four Active Management Areas (“AMAs”)<sup>37</sup> where groundwater use is based on an intricate system of withdrawal rights and permits.<sup>38</sup> Third, the code mandated various conservation measures for groundwater users through a series of “management plans” for each AMA.<sup>39</sup> Fourth, the new law required every developer to demonstrate an assured water supply for the next 100 years before the developer could record plats or sell parcels within an AMA.<sup>40</sup> Finally, the code prohibited any new agricultural irrigation in the AMAs.<sup>41</sup>

The code has been hailed as the “most comprehensive [groundwater management system] of any state in the American West”<sup>42</sup> and continues to be the bedrock of Arizona’s groundwater management.

The next challenge Arizona faced was somewhat ironic. As Professor Robert Glennon described it, “[f]or a half a century, Arizona fought to obtain rights to Colorado River water and a delivery system to transport water to central and southern Arizona farms, cities and towns. Now that the Central Arizona Project is in place, the State finds itself unable to use a substantial portion of the water that it fought so hard to obtain.”<sup>43</sup> In 1996, Arizona continued the tradition of forward-thinking by creating the Arizona Water Banking Authority (the “Bank”) to store Arizona’s unused Colorado River water.

The Bank works by paying the delivery and storage costs to bring Arizona’s unused Colorado River water into central and southern Arizona through CAP.<sup>44</sup> The Bank’s water is either stored in underground storage facilities (“USFs”) or groundwater savings facilities (“GSFs”), where CAP water is used in lieu of pumping groundwater.<sup>45</sup> Water stored by the Bank can be provided to CAP municipal and industrial users in times of shortage or disruptions of CAP’s operations.<sup>46</sup> The Bank also can assist in settling Indian water claims.<sup>47</sup>

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36. Michael J. Pearce, *Water Law*, in 1 ARIZONA ENVIRONMENTAL LAW MANUAL § 3.2.4.2 (Nicholas J. Wallwork ed., 1999).

37. There are currently five AMAs: Prescott, Phoenix, Pinal, Tucson, and Santa Cruz. See ARIZ. REV. STAT. ANN. §§ 45-411, 45-411.03.

38. See, e.g., ARIZ. REV. STAT. ANN. § 45-451; Pearce, *supra* note 36.

39. ARIZ. REV. STAT. ANN. § 45-563; Pearce, *supra* note 36.

40. ARIZ. REV. STAT. ANN. § 45-576; Pearce, *supra* note 36.

41. ARIZ. REV. STAT. ANN. § 45-452; Pearce, *supra* note 36.

42. Robert Emmet Clark, *Arizona Enacts Groundwater Management Law*, 13 WATER L. NEWSLETTER (Rocky Mtn. Mineral L. Found., Boulder, Colo.), No. 3, 1980, at 1.

43. Glennon, *supra* note 26, at 679. Glennon notes that CAP water was underutilized in the 1990s because of its high cost, a downturn in the agriculture economy, and a lack of municipal and industrial demand. *Id.* at 683–85.

44. ARIZ. REV. STAT. ANN. §§ 45-2401, 45-2423. The Bank pays the Central Arizona Water Conservation District (“CAWCD”) to deliver the water and pays underground storage facility operators such as the CAWCD and Salt River Project to store the banked water.

45. ARIZ. REV. STAT. ANN. § 45-2423(B)(7).

46. ARIZ. REV. STAT. ANN. § 45-2401.

One particularly creative aspect of the Bank is its ability to contract with Nevada and California to store Colorado River water in Arizona on their behalf.<sup>48</sup> In consideration, the contracting state pays for the cost of storing and later recovering the stored water and provides additional funds to Arizona that may be used to develop alternative water supplies.<sup>49</sup> The ability of the Bank to enter into such agreements is not only financially beneficial to the state, but also fortifies Arizona's relationship with its Lower Division neighbors as they address the difficult question of how to manage the Colorado River.

These relationships have proven to be essential as Arizona works with the other basin states in managing the Colorado River. Indeed, over the last several years, Arizona has been actively negotiating with the other basin states on how to allocate shortages among Arizona, Nevada, and California, as well as how to operate Lakes Powell and Mead. From Arizona's perspective, a major factor in the negotiations is the possibility that the ongoing drought in the Colorado River basin will force Arizona to face a shortage given its junior priority among the Lower Division states.<sup>50</sup>

Fortunately, Arizona recently reached an historic compromise with the other Colorado River basin states regarding key aspects of the operation of the Colorado River. The proposed interim solution, which would last through 2025, recommends conjunctive operating criteria for the two reservoirs that specify releases from Lake Powell at varying levels.<sup>51</sup> The proposal, if implemented by the Secretary of the Interior,<sup>52</sup> would minimize the length and severity of any shortages imposed on Arizona and decrease the likelihood that the Upper Basin would have to curtail its water use. The compromise also proposes systemwide augmentation by the U.S. Bureau of Reclamation to benefit the system as a whole.<sup>53</sup> If implemented, this interim solution would likely avoid years of costly litigation among the basin states and provide a window for the states to address the Colorado River supply issues on a longer-term basis.

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47. ARIZ. REV. STAT. ANN. § 45-2401(G)(4); *see also* ARIZ. WATER BANKING AUTH., ANNUAL REPORT 2005, at 4 (2006), *available at* [http://www.awba.state.az.us/pubs/2005\\_Annual\\_Report\\_Final.pdf](http://www.awba.state.az.us/pubs/2005_Annual_Report_Final.pdf).

48. ARIZ. REV. STAT. ANN. § 45-2471.

49. *See* ARIZ. WATER BANKING AUTH., ANNUAL PLAN OF OPERATION 2005, at 4 (2004), *available at* [http://www.awba.state.az.us/pubs/Final\\_2005\\_plan\\_of\\_operation.doc](http://www.awba.state.az.us/pubs/Final_2005_plan_of_operation.doc).

50. *See* U.S. Bureau of Reclamation, *supra* note 28.

51. Letter from the States of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming, Governor's Representatives on Colorado River Operations, to Gale A. Norton, Secretary of the Interior (Feb. 3, 2006) [hereinafter Letter to Gail A. Norton], *available at* <http://www.cwcb.state.co.us/watersupply/pubs/020306TransLetterSecNortonSigned.pdf>

52. The seven Colorado River Basin states submitted their proposal as part of the environmental impact statement (EIS) for the proposed reservoir. *See* Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions, 70 Fed. Reg. 57,322 (Sept. 30, 2005).

53. Letter to Gail A. Norton, *supra* note 51.

Notwithstanding all of Arizona's past successes, the state still has many challenges to overcome, notably the resolution of its outstanding Indian water claims and the increasing demand on decreasing water supplies in rural Arizona.

Over the last several decades, Arizona has focused its attention on settling its outstanding Indian water claims. Most of the claimed rights have very early priority dates and, thus, create intense competition between tribes and non-Indian water users for a limited resource.<sup>54</sup> The negotiations, in many cases, last decades and involve competing interests from the federal government, tribes, and public and private water users within Arizona.

The state has done an exceptional job of resolving many of its Indian water rights claims. To date, Arizona has settled the claims of the Ak-Chin Tribe; Tohono O'odham Nation (within the Tucson AMA); Salt River Pima-Maricopa Indian Community; Fort McDowell Yavapai Nation; San Carlos Apache Tribe (Salt River settlement); Yavapai-Prescott Indian Tribe; Zuni Tribe; and Gila River Indian Community.<sup>55</sup>

In 2004, Congress passed the Arizona Water Settlements Act,<sup>56</sup> which is the largest and most comprehensive settlement in Arizona's history. The Act settles expensive and lengthy litigation concerning the Gila River Indian Community's rights to Gila River water and other water supplies, and the claims of the Tohono O'odham Nation for damages from groundwater pumping in southern Arizona.<sup>57</sup> It represents the efforts of years of negotiation between the two tribes, the state of Arizona, the federal government, and a large number of water users within the state.

The settlement further demonstrates Arizona's foresight by setting aside water and money for future Indian water settlements. Under the settlement, 67,300 acre-feet of CAP water per year is available to "resolve Indian water claims in Arizona, and may be allocated by the Secretary to Arizona Indian Tribes in fulfillment of future Arizona Indian water rights settlement agreements approved by an Act of Congress."<sup>58</sup> The settlement also establishes a \$250-million fund for future Arizona Indian water settlements.<sup>59</sup> The CAP water and the money set aside

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54. Under *Winters v. United States*, the Supreme Court held that when the federal government established Indian reservations, it implicitly reserved sufficient water to fulfill the reservation's purpose. 207 U.S. 564, 576-77 (1908). The priority date of these federally reserved rights is the date the reservation was established. *Cappaert v. United States*, 426 U.S. 128, 138 (1976). Because many of the Indian reservations in Arizona were created prior to, or relatively early in, Arizona's statehood, many Arizona tribes have claimed water rights senior to most, if not all, of the non-Indian users in Arizona. See BONNIE G. COLBY, JOHN E. THORSON & SARAH BRITTON, *NEGOTIATING TRIBAL WATER RIGHTS FULFILLING PROMISES IN THE ARID WEST* 10 (2005).

55. COLBY ET AL., *supra* note 54, at xxiii, 171.

56. Pub. L. No. 108-451, 118 Stat. 3478 (2004).

57. *Id.*

58. *Id.* § 104(a)(1)(B)(i), 118 Stat. 3478, 3487.

59. *Id.* § 107(f)(2)(D)(vi), 118 Stat. 3478, 3494.

in the Act will go a long way in settling the remaining unresolved Arizona Indian claims.<sup>60</sup>

Another daunting challenge still facing Arizona is the use and regulation of water in rural Arizona. Areas of growth outside of AMAs, such as in Payson, Flagstaff, Mohave County, communities along the Verde River, and areas in southern Arizona, as well as areas within the Prescott AMA, have placed tremendous pressure on Arizona's rural water supply. Arizona has responded to this challenge in at least two significant ways. First, in 2005, the Arizona State Legislature created the Rural Water Legislative Study Committee, which is charged, among other things, with: (1) evaluating information related to rural water supplies and water use; (2) reviewing options for developing alternative rural water supplies; and (3) identifying the resources needed to enhance available supplies and infrastructure needs in rural Arizona.<sup>61</sup>

In addition, the Arizona Governor's office created the State Wide Advisory Group, which is chaired by the director of the Arizona Department of Water Resources. The newly formed entity is comprised of over 50 representatives across the state and is developing a proposal for the management of rural water supplies.

It is unclear at this point how the remaining Indian water settlements and rural water-supply demands will be resolved. If history is any guide, however, Arizona will approach these issues in the same resourceful manner that has served the state so well in the past.

While much remains to be accomplished, Arizona has made great strides toward solving its most complicated problems relating to water through creative thinking and foresight. Indeed, it has enacted a far-reaching groundwater management code, settled some of its largest Indian water claims, and reached an historic compromise on some of the major issues involving the Colorado River. The articles that follow contribute to that creativity and innovation as Arizona addresses its next series of challenges.

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60. The unresolved Indian claims in Arizona include: the White Mountain Apache Tribe; the San Carlos Apache Tribe (Gila River); the Navajo Nation; the Hopi Tribe; the Camp Verde Yavapai-Apache Nation; the Tonto Apache; the Havasupai Tribe; the Hualapai Nation; the Kaibab Paiute Tribe; the San Juan Southern Paiute Tribe; Tohono O'odham Nation (Sif Oidak District); and the Pascua Yaqui Tribe.

61. 2005 Ariz. Sess. Laws, ch. 281, § 1.