

TRANSFERRING MAINSTEM COLORADO RIVER WATER RIGHTS: THE ARIZONA EXPERIENCE

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I. INTRODUCTION

Arizona's population jumped from 3.5 million in 1988¹ to 6 million in 2006² and demographers predict it will approach 11 million by the year 2030.³ In 2006, Arizona displaced Nevada as the fastest-growing state.⁴ Finding water to support this growth poses a special challenge, particularly in areas along the Colorado River. In these areas, the underground water is hydraulically connected to the river and, therefore, the collection of federal laws known as the "Law of the River" apply to the Colorado River. Because Arizona's portion of Colorado River water is almost completely allocated, the only viable source of Colorado River water available for new uses is the sale, lease, or exchange of existing water rights. Such transfers, often dubbed water marketing, raise significant and controversial

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1. See VALLEY NAT'L BANK OF ARIZ., ARIZONA STATISTICAL REVIEW 7-8 (45th ed. 1989).

2. See POPULATION DIV., U.S. CENSUS BUREAU, ANNUAL ESTIMATES OF THE POPULATION FOR COUNTIES OF ARIZONA: APRIL 1, 2000 TO JULY 1, 2006 (2007), available at <http://www.census.gov/popest/counties/tables/CO-EST2006-01-04.xls>.

3. See Caroline Kennedy, *Arizona's Population Likely to Double by 2030*, ASU INSIGHT, June 6, 2005, available at http://www.asu.edu/news/community/azpopulation_060605.htm.

4. See Sam Roberts, *Arizona Displaces Nevada as Fastest-Growing State*, N.Y. TIMES, Dec. 22, 2006, at A24.

issues. This Article will explore some of these challenges by examining case studies of individual transfers that have occurred or been proposed. As we shall see, the legal constraints are formidable, the transaction costs substantial, and the emotions highly charged.

II. CONGRESSIONALLY APPROVED TRANSFERS OF COLORADO RIVER WATER INVOLVING INDIAN RESERVATIONS

One potential source of Colorado River water for new uses is water allocated to Arizona's Indian communities. If the Indian Community is not currently using the water, it can be transferred without disruption to the local tribal economy. Because the water reserved under the *Winters* doctrine⁵ was allocated for use on the reservation, however, it is unclear whether the community has the unilateral right to transfer the water rights off the reservation.⁶ In some instances, tribes have received Colorado River water by acts of Congress that not only transferred the Colorado River water to the tribe, but also provided specific authority to lease that water back to the non-Indian community, as demonstrated by the following two examples.

A. Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988

When the patient told his psychiatrist "They're out to get me!", the psychiatrist responded, "You're paranoid." The patient replied, "That may be true, but they are still after me." This is how the farmers in Arizona's Wellton-Mohawk Irrigation and Drainage District ("Wellton-Mohawk") feel about water transfers. They fear that "the State of Maricopa" is after their water. And, like our paranoid patient, they may be correct.

In 1976, U.S. Senator Edward Kennedy introduced Senate Bill 3298, the Central Arizona Indian Tribal Water Rights Settlement Act.⁷ The Act would have settled the federal reserved rights claims of a number of Indian tribes, including the Ak-Chin, Fort McDowell, Gila River, Salt River, and Tohono O'odham. The Act proposed what *The Nation* described as a "final, rational and equitable solution."⁸ It would have provided funds for the federal government to purchase, over a ten-year period and at fair market value, all 151 farms in Wellton-Mohawk. Arizona's U.S. Senator Barry Goldwater chided Kennedy for interfering with Arizona's concerns.⁹ The folks in Wellton-Mohawk would have had harsher things to say to

5. *Winters v. United States*, 207 U.S. 564 (1908) (holding that when Congress set aside land for an Indian reservation, it intended to reserve water to irrigate the reservation).

6. See Justice O'Connor's draft opinion in *Wyoming v. United States*, 492 U.S. 406 (1989) (O'Connor, J., draft opinion), reprinted in Andrew C. Mergen & Sylvia F. Liu, *A Misplaced Sensitivity: The Draft Opinions in Wyoming v. United States*, 68 U. COLO. L. REV. 683, 734 (1997).

7. See Editorial, *One Small Step for Indians*, 222 NATION 644, 644 (1976).

8. *Id.*

9. *Id.*

Senator Kennedy. Indeed, Senator Kennedy's name still causes smoke to curl from the ears of Wellton-Mohawk farmers. Kennedy's bill died in committee.¹⁰

The roots of the dispute were established a hundred years before, in 1879, when the U.S. Government established a reservation for the Salt River Pima-Maricopa Indian Community at the confluence of the Salt and Verde Rivers.¹¹ Non-Indian development in Maricopa County grew quickly during the last half of the twentieth century and relied extensively on the Gila, Verde, and Salt Rivers. The Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association (collectively "SRP") provided water to irrigate almost 250,000 acres of land in the valley. Irrigation districts, such as the Roosevelt Water Conservation District and the Roosevelt Irrigation District, depended on the waters of the Gila River and its tributaries. Communities such as Chandler, Glendale, Mesa, Phoenix, Scottsdale, Tempe, and Gilbert also used water from the Gila River system. Left out of this process, however, had been the quantification of the federal reserved water rights of the Indian tribes.

In the 1970s, SRP filed the first general stream adjudication for the Gila River system.¹² Eventually, four such adjudications were consolidated to determine all rights to surface water of the Gila River Watershed, which includes the Salt, Verde, and San Pedro Rivers.¹³ Under the prior appropriation doctrine of first-in-time is first-in-right, the first person to divert water from a river and put that water to a beneficial use obtains the senior rights.¹⁴ Under the federal reserved rights doctrine, however, tribes have rights to sufficient water to irrigate the "practicably irrigable acreage" on their reservation with a priority date fixed by the date of the reservation's establishment, and these rights exist *regardless* of whether the tribes have ever diverted the water and put it to a beneficial use.¹⁵

The Pima-Maricopa reservation, lying at the delta of two very fertile rivers, contained a large amount of irrigable land. If and when an adjudication court ever decreed how much water would be required to irrigate these lands, it was likely to be an immense quantity. Every drop of that water would come from

10. Many different sources of water could be used to settle Indian reserved rights claims, but Wellton-Mohawk has often served as the target because it pumps groundwater not to grow crops but to lower the water table to prevent waterlogging. In the 1960s, the release of this highly saline groundwater into the Colorado River created an international dispute with Mexico and farmers in the Mexicali region. See MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 463–64 (1993).

11. See Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, § 2(a)(4), 102 Stat. 2549, 2549 [hereinafter Settlement Act].

12. Overview of Arizona's General Stream Adjudications (2001), <http://www.supreme.state.az.us/wm/bulletin/Overview.htm> (follow "How did these adjudications start?" hyperlink).

13. In 1981, the Arizona Supreme Court consolidated the adjudications into one proceeding: *In re General Adjudication of All Rights to Use Water in the Gila River System and Source. Id.*; see also, e.g., *United States v. Superior Court*, 697 P.2d 658, 664 (Ariz. 1985) (noting that the Arizona Supreme Court had consolidated the adjudications).

14. See DAVID H. GETCHES, *WATER LAW: IN A NUTSHELL* 74–75 (3d ed. 1997).

15. See *Arizona v. California*, 373 U.S. 546, 600–01 (1963); *Winters v. United States*, 207 U.S. 564, 576–77 (1908).

the non-Indian water users who, therefore, had a substantial interest in settling the Pima-Maricopa claims by finding an alternative source of water for the Indians. As U.S. Senator John Rhodes stated in hearings concerning the Settlement Act, the Indian claims had “thrown a cloud of question over the continuing development of the communities and the lands that lie in the watershed of the Salt and Verde Rivers in Maricopa County, AZ.”¹⁶ If a court upheld the Indian claims, Representative Rhodes observed that “the loss to the non-Indian community of Maricopa County would be enormous.”¹⁷

The congressional hearings and reports on the Settlement Act are a case study in effective lobbying by a state’s delegation to secure a very favorable bill. A lineup of Arizona politicians, from mayors to U.S. senators, testified about how valuable this bill would be, not to Arizona interests, but to the federal government. Representative Rhodes raised the prospect that the United States government might be liable for the losses the non-Indian community would suffer if a court upheld the Indian claims, on a theory of detrimental reliance, because the federal government did not stop non-Indians from developing projects that relied on Salt and Verde River water.¹⁸

In the Settlement Act, Congress ratified an agreement that the non-federal parties had worked out over several years in the 1980s. Litigation over the water rights of the Pima-Maricopa Community (“the Community”) would be dismissed; all claims of the Community to water from the Gila River system would be waived; and the non-Indians would transfer 32,000 acre-feet of water to the Community.¹⁹ The Settlement Act provided that the Secretary of the Interior would purchase rights to 22,000 acre-feet of water from the mainstem of the Colorado River from willing irrigation districts. The most obvious source of water for the Secretary to acquire was from Wellton-Mohawk. Thus, Wellton-Mohawk was dragged into the negotiations. Before a joint hearing of the Senate Committee on Indian Affairs and the House Committee on Interior and Insular Affairs, Clyde Gould, the General Manager of Wellton-Mohawk, testified that the district was “vehemently opposed” to the Settlement Act.²⁰ But in the end, the farmers voted to sell 22,000 acre-feet of water even though this proposal was “a very, very controversial subject and there was less than unanimous agreement.”²¹ In return, Wellton-Mohawk received important concessions from the federal government. One was relief from the Reclamation Reform Act of 1982, which imposed acreage limitations and full-cost pricing provisions in reclamation projects.²² The second

16. *Settlement of the Water Claims of the Salt River Pima-Maricopa Indian Community in Maricopa County, Arizona: Joint Hearing on S. 2153 and H.R. 4102 Before the S. Select Comm. on Indian Affairs and the H. Comm. on Interior and Insular Affairs* [hereinafter *Hearings*], 100th Cong. 57 (1988) (statement of Rep. John J. Rhodes III).

17. *Id.* at 58.

18. *Id.*

19. See Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, §§ 2, 10, 102 Stat. 2549, 2550, 2556–58.

20. *Hearings*, *supra* note 16, at 90 (statement of Clyde L. Gould, General Manager, Wellton-Mohawk Irrigation and Drainage District).

21. *Id.*

22. *Id.* at 91.

was that the federal government would write off the remainder of the district's repayment obligation to the federal government for the cost of the construction project that delivered Colorado River water to the district.²³

The Settlement Act quantified the "Community's total water rights at 122,400 acre-feet per year (including groundwater pumped on the reservation)."²⁴ The water was obtained under existing court decrees and a series of exchanges.²⁵ Non-Indian interests contributed 32,000 acre-feet of water, the federal government purchased the 22,000 acre-feet from Wellton-Mohawk and contributed \$47 million to a Community trust fund to rehabilitate the reservation's existing irrigation system, to design and construct additional facilities, "and to defray certain CAP operation, maintenance and replacement charges."²⁶ The total federal obligation penciled out at more than \$57 million.²⁷ The Settlement Act also authorized the Secretary to approve a 99-year lease of 13,300 acre-feet of CAP water by the Pima-Maricopa Community to cities in the Phoenix metropolitan area for \$16 million.²⁸

While the bill made its way through Congress without objection, the Executive branch did raise objections. James Ziglar, Assistant Secretary for Water and Science in the Department of the Interior, testified that the administration strongly opposed the legislation and threatened that President Reagan would veto it.²⁹ Mr. Ziglar objected that the federal government was shouldering a disproportionate share of the financial burden of the settlement including an \$11 million contribution for right-of-way payments, which worked out to between \$35,000 and \$75,000 an acre, when the Bureau of Reclamation paid between \$330 and \$3,700 an acre for rights-of-way for the CAP project.³⁰ Mr. Ziglar also observed that the relationship between the state contribution and federal contribution seemed skewed because the cities characterized the \$16 million paid for the 99-year leases of 13,300 acre-feet of water as a contribution.³¹ To the Executive branch, "[i]t sound[ed] like a bargain for a consideration."³²

The Department of Justice also weighed in against the Settlement Act. Acting Assistant Attorney General, Thomas Boyd, objected that the level of federal funding far exceeded the exposure of the United States in the pending

23. See Salt River Pima-Maricopa Indian Community Water Rights Settlement Act § 7(b). Wellton-Mohawk also asked for, but did not ultimately receive, an explicit guarantee that would prohibit any further transfers of Wellton-Mohawk water without the explicit consent of the board of directors.

24. H.R. REP. NO. 100-495, at 5 (1988).

25. *Id.*

26. *Id.* at 5, 8.

27. *Id.* at 5.

28. *Id.* at 10.

29. See *Hearings, supra* note 16, at 61 (statement of James W. Ziglar, Assistant Secretary for Water and Science, Department of the Interior).

30. *Id.*

31. *Id.*

32. *Id.* at 62. Without focusing on the congressional testimony in any more detail, these kinds of subsidies have historically been built into reclamation projects and other water settlements. See MARC REISNER, *CADILLAC DESERT passim* (1986).

litigation. Essentially, the United States was securing substitute water supplies for the existing non-Indian water users who might be affected by a successful *Winters* claim. Despite these Executive branch complaints, the bill easily passed the House and Senate.

Even Congressman George Miller, a notorious critic of Bureau of Reclamation projects,³³ supported the legislation. He thought that the Settlement Act would avoid expensive and complicated lawsuits that would cost the federal government a substantial amount of money. Meanwhile, as these lawsuits slowly made their way through the court system, the Community would be without the “water and financial resources necessary to . . . promote self-determination and economic self-sufficiency.”³⁴

The Settlement Act is typical of many settlements of Indian reserved rights claims. It involves a complicated, multi-sided arrangement, greased with a substantial dollop of federal dollars. But the bitterness has lingered, as Wellton-Mohawk farmers have long memories about the loss of 22,000 acre-feet of water. In 2005, Charles Slocum, the current manager of Wellton-Mohawk, spoke bitterly, not only of Senator Kennedy but also of the

great State of Maricopa’s desire to come and plunder Wellton-Mohawk’s water. It has not gone without notice to the farmers in [Wellton-Mohawk], that return flows or other unused water in the mainstem of the Colorado River goes not to farmers and communities along the river, but to the Central Arizona Water Conservation District for reallocation.³⁵

B. Ak-Chin Water Rights Settlement Acts

The Ak-Chin Indian Reservation was established in 1912 for the Pima and Tohono O’odham Indians. Located about thirty miles south of Phoenix, the community traditionally met its needs with groundwater from beneath the reservation.³⁶ However, non-Indian agricultural development, spurred by the federal government’s need for cotton and other commodities during the Second World War, vastly increased the amount of groundwater pumped causing a dramatic decline in the water table under the reservation. In 1978, Congress enacted the Ak-Chin Water Settlement Act, which required the federal government to provide an interim supply of water beginning in 1984, and a permanent supply not later than 2003. In 1984, Congress amended the law to settle the outstanding claims of the Ak-Chin Indian Community, provide a permanent water supply to be delivered through the CAP, provide funds for water conservation, and importantly,

33. See, e.g., Dean E. Murphy, *Water Contract Renewals Stir Debate Between Environmentalists and Farmers in California*, N.Y. TIMES, Dec. 15, 2004, at A22.

34. GEORGE MILLER, SUPPLEMENTAL VIEWS, H.R. REP. NO. 199-868, at 30–31 (1988).

35. Interview with Charlie Slocum and Gary Langford, Wellton-Mohawk Irrigation and Drainage District, in Wellton, Ariz. (Dec. 15, 2003).

36. See BONNIE G. COLBY, JOHN E. THORSON & SARAH BRITTON, NEGOTIATING TRIBAL WATER RIGHTS: FULFILLING PROMISES IN THE ARID WEST 112 (2005).

allow water not needed for the Ak-Chin to be available for allocation to other water users in Central Arizona.³⁷

In 1992, Congress amended the 1984 settlement to authorize the Ak-Chin Indian Community to lease portions of its CAP water within the Central Arizona Water Conservation District (“CAWCD”), which consists of Maricopa, Pinal, and Pima Counties, but limited the term of any lease to 100 years.³⁸ The 1992 legislation also expressly sanctioned a lease between the Ak-Chin and the Del Webb Corporation, which provided a water supply for a large development, Anthem, north of Phoenix.³⁹ The 1992 legislation allowed the Ak-Chin to extend and renew leases of its settlement water for off-reservation use, thus allowing leases of 100 years subject to renewal.

Although the Ak-Chin Indian Community settled its federal reserved rights claims to groundwater in 1978, the Secretary of the Interior did not deliver on the government’s obligations under the initial settlement agreement. That led, in 1984, to a subsequent agreement by which the community would receive CAP water in exchange for the tribe forfeiting reserved rights claims to groundwater.⁴⁰

The 1978 legislation guaranteed the Ak-Chin Indian Community an interim supply of 85,000 acre-feet of groundwater to be replaced within twenty-five years with a permanent supply. In 1984, the revisions made the interim supply permanent, and provided that 50,000 acre-feet would be Gila Project water.⁴¹ The 1984 revisions provided \$9.4 million to two districts within the Gila Project for irrigation system improvements, relieved the districts of all remaining repayment obligations, and removed the ownership limitations and full cost pricing provisions of federal reclamation law.⁴² The 1984 act also authorized \$18.4 million to the Ak-Chin Community for economic development and general community purposes.⁴³

The 1984 amendments provided the Ak-Chin Indian Community with \$15 million for interim water needs, another \$28.7 million for economic development and loan forgiveness programs, and moved up the permanent supply deadline to 1988. The Ak-Chin Indian community waived any claims it might have against the government for failing its trust responsibility and agreed to an overall reduction in the amount of its permanent water entitlement.⁴⁴ Under the revised settlement, the total amount of water provided to the Ak-Chin Indian Community

37. *Id.* at 112–14.

38. *See* Ak-Chin Water Use Amendments of 1992, Pub. L. No. 102-497, § 10, 106 Stat. 3255, 3258 (1992).

39. COLBY ET AL., *supra* note 36, at 114–15.

40. *See* Act of Oct. 19, 1984, Pub. L. No. 98-530, 98 Stat. 2698; Ak-Chin Settlement Act, Pub. L. No. 95-328, 92 Stat. 409 (1978); Debbie Shosteck, *Beyond Reserved Rights: Tribal Control Over Groundwater Resources in a Cold Winters Climate*, 28 COLUM. J. ENVTL. L. 325, 366–67 (2003). For more on Indian settlements, see Robert Jerome Glennon, *Coattails of the Past: Using and Financing the Central Arizona Project*, 27 ARIZ. ST. L.J. 677, 735 n.433 (1995).

41. *See* Act of Oct. 19, 1984 § 2(f).

42. *Id.* § 2(g).

43. *Id.* § 3(a).

44. For discussion, see COLBY ET AL., *supra* note 36, at 114.

varies between 75,000 and 85,000 acre-feet, depending on precipitation levels each year.

The important point, for present purposes, is that a portion of this water will come from a reallocation of 50,000 acre-feet of Colorado River water that was an unused portion of a 300,000 acre-feet allocation held by the Yuma Mesa Division of the Gila Project.⁴⁵ The Yuma Mesa Division includes three separate irrigation districts: North Gila Valley Irrigation District, Yuma Irrigation District, and Yuma Mesa Irrigation and Drainage District. The incentive for the irrigation districts to relinquish this water was a \$9 million grant for irrigation improvements and an additional \$17 million in loan forgiveness programs. The fact that the water was unused sets a precedent that tribes may seize on should they try to market off-reservation, unexercised federal reserved rights, which is a very controversial subject.⁴⁶

The State of Arizona opposed the transfer of water from the Gila Project to the Ak-Chin reservation. The state took the position that any unused water should be reallocated to CAP as the next junior appropriator.⁴⁷ This was the first—but certainly not the last—time that the state would oppose transferring mainstem Colorado River water. In 2004, the Bureau of Reclamation and the Yuma Mesa Irrigation District reached an agreement to allow the Bureau to purchase water from the district to deal with anticipated shortages given the serious drought conditions. The Arizona Department of Water Resources (“ADWR”) threatened to sue the Bureau of Reclamation if the agency went through with the deal, which led the Bureau to withdraw its offer.⁴⁸ ADWR’s position is that the allotment, even though it involves senior water rights along the river, ultimately is under the control of the State of Arizona.⁴⁹ Any water unused by a senior contractor reverts to the State. Notes for CAWCD support the same general idea, but on a different legal theory. CAWCD argues that, since CAP is entitled to utilize any of Arizona’s Lower Basin apportionment that is not consumed by other Arizona contractors, it can claim water not used by other water users.⁵⁰

III. MARKET BASED TRANSFERS OF NON-FEDERAL RIGHTS

Colorado River water is unique in Arizona, and perhaps unique to the entire West, in that it is, in the final analysis, controlled by federal law.⁵¹ The “Law of the River,” as it is often called, is based on a series of federal laws specific to

45. *Id.*

46. See JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, *LEGAL CONTROL OF WATER RESOURCES* 974–76 (4th ed. 2006).

47. COLBY ET AL., *supra* note 36, at 114.

48. See Harold Maxwell, *Battle over Colorado River Water Rights Comes to Yuma*, YUMA SUN, Aug. 10, 2004, available at <http://www.yumasun.com/onset?id=9405&template=article.html>.

49. See INDIAN FIRING TECHNICAL COMM., ARIZONA WATER BANKING AUTHORITY, WATER RESOURCES ANALYSIS 2 (2003) available at http://www.awba.state.az.us/annc/Indian_Firing_Study_Comm (follow “Water Resources Analysis—November 2003” hyperlink).

50. *See id.*

51. *See generally* SAX ET AL., *supra* note 46, at 799–835.

the Colorado River, coupled with a series of United States Supreme Court decrees⁵² that enjoin the Secretary of the Interior and the States of the Lower Division (Arizona, California, and Nevada) to a precise allocation of the water passing through Hoover Dam at the foot of Lake Mead.

Within the states, water is allocated by one of three methods: (1) to the holder of a “present perfected right” acknowledged in the United States Supreme Court decree;⁵³ (2) to the holder of a contract, issued by the United States Bureau of Reclamation under Section 5 of the Boulder Canyon Project Act of 1928;⁵⁴ or (3) to the holder of a subcontract from a Section 5 contract holder. If water is extracted from the river, either by direct diversion or through wells constructed within the “accounting surface” of the streamside aquifer,⁵⁵ the diverter must hold one of these rights or will be subject to restraint by the Bureau of Reclamation for illegally diverting Colorado River water.

Within Arizona, the Bureau of Reclamation has established a hierarchy, or priority, of water rights to administer diversions from the river on a first-in-time-first-in-right basis.⁵⁶ Priority 1 consists of present perfected rights established

52. In a significant step in the evolution of the Law of the River, the United States Supreme Court recently requested that the parties to *Arizona v. California* prepare a decree consolidating all of the various decrees stemming from the Court’s opinion in 1963 resolving the allocation of water among the States of the Lower Division. That consolidated decree has now been approved by the Court, and supersedes, but does not change, the various interim decrees that it replaces. The consolidated decree is found at *Arizona v. California*, 126 S. Ct. 1543 (2006) (mem.).

53. These “present perfected rights” are listed individually, by state and location of use, in the decrees issued by the United States Supreme Court, and are now all listed in the consolidated decree described in note 52, *supra*, which will be referred to herein simply as the “decree.”

54. 43 U.S.C. §§ 617–617t (2000). Section 5 is found at 43 U.S.C. §§ 617d.

55. The accounting surface is an imaginary horizontal plane passing through the stream side aquifer at the level of the river. It has been developed by the Bureau of Reclamation to serve as a line of demarcation where water extracted from a well will either deplete the flow of underground water to the river, or will be replaced with water from the river. The final development and implementation of the accounting surface concept is not yet complete, but in many areas, the effect of a pumping well on the quantity of water in the mainstream is acknowledged, and such wells are either operating under a contract or a present perfected right. See SANDRA J. OWEN-JOYCE, RICHARD P. WILSON, MICHAEL C. CARPENTER & JAMES B. FINK, U.S. GEOLOGICAL SURVEY, REPORT 00-4085, METHOD TO IDENTIFY WELLS THAT YIELD WATER THAT WILL BE REPLACED BY WATER FROM THE COLORADO RIVER DOWNSTREAM FROM LAGUNA DAM IN ARIZONA AND CALIFORNIA (2000), available at <http://az.water.usgs.gov/pubs/pdfs/WRIR%2000-4085%20WEB.pdf>; BUREAU OF RECLAMATION, U.S. DEP’T OF THE INTERIOR, SUMMARY DESCRIPTION OF ACCOUNTING FOR WATER USE IN THE YUMA AREA BEGINNING WITH CALENDAR YEAR 2003, at ii (2006).

56. Bureau of Reclamation, U.S. Dep’t of the Interior, Water Priorities Within the State of Arizona, <http://www.usbr.gov/lc/region/g4000/contracts/entitlements.html> (follow “Arizona Priorities” hyperlink) (last visited Apr. 23, 2007). This priority schedule is being set forth in Section 5 contracts issued by the Bureau of Reclamation in recent years. See, e.g., Contract with Cibola Valley Irrigation and Drainage District for the Delivery of Colorado River Water, Bureau of Reclamation Contract No. 2-07-30-W0028, Amendment No. 1 (Sept. 2, 1992) (on file with author and Bureau of Reclamation).

by the decree. Priority 2 is for federal enclaves and reserved water rights established or effective before September 30, 1968;⁵⁷ Priority 3 is comprised of the Section 5 contracts issued before September 30, 1968. Priority 4 is a complex priority, consisting of (i) Section 5 contracts issued after September 30, 1968 (in a total amount not to exceed 164,652 acre-feet of annual diversions) and (ii) Contract No. 14-06-W-245 issued to the Central Arizona Water Conservation District. Priority 5 is for water within Arizona's 2.8 million acre-foot allocation under the decree, but not currently being used by a right holder; Priority 6 is for Arizona's share of any surplus allocation released by the Secretary of the Interior pursuant to the power vested in the Secretary by Article II(B)(2) of the decree. Although not obvious from this list, the most valuable non-federal rights on the river are either the present perfected rights established by the decree, or the Section 5 contracts at Priority 4 or higher.⁵⁸

Most of the present perfected rights and Section 5 contracts issued before 1968 were for agricultural purposes along the river corridor, and many of the Priority 4 contracts were issued to irrigation districts formed for the specific purpose of obtaining such contracts and diverting water for agricultural use. As Arizona has developed, land along the Colorado River has become increasingly attractive for municipal and industrial ("M&I") development and, because almost all of Arizona's share of Colorado River water has been allocated, the demand for new development has created a concomitant demand to buy water from agricultural uses and convert it to M&I. The demand for these market-based transfers has come much more quickly than the institutional structure to implement them and, despite the frequent reference to ag-to-urban transfers as the solution to the West's water problems, effecting a true market-based private sector transfer is a challenge.

A. Transferring Section 5 Contract Rights

To effect a market-based transfer of Colorado River water rights that are currently held under a Section 5 contract, one must find a willing buyer and a willing seller who are prepared to endure significant legal costs and lengthy delays

57. September 30, 1968 is the effective date of the Colorado River Basin Project Act of 1968, which authorized the construction of the Central Arizona Project. The date is important in many respects, as it serves as another line of demarcation between rights that are senior to, co-equal with, or junior to the rights of the Central Arizona Water Conservation District, which holds the Section 5 contract for the diversions of the Central Arizona Project.

58. In securing passage of the Colorado River Basin Project Act of 1968, Arizona agreed to subordinate the water to be diverted by the Central Arizona Project to the existing Section 5 contracts and present perfected rights in California. 43 U.S.C. § 1521(b). This means that in times of shortage on the river, Priority 4 water rights are subject to curtailment, although the extent and details of such curtailment are not yet certain. Nevertheless, Priority 4 contracts are generally considered to be perpetual, certain water rights for municipal and industrial development, and are regarded by the Arizona Department of Water Resources as sufficient to support a determination of Assured or Adequate Water Supply under state law if accompanied by a drought response plan. *See* ARIZ. REV. STAT. ANN. §§ 45-108, 45-576 (2006), and rules adopted thereunder, ARIZ. ADMIN. CODE R12-15-717(D)(3) (2006).

to effect the transfer. Willing sellers are often constrained, in one way or another, from simply transferring the water to the buyer, particularly if the transfer involves a change in place of use, point of diversion, or both. Because the seller is constrained, the buyer's contract must necessarily be contingent on the seller's ultimate ability to transfer. To accomplish the goal, both buyer and seller must agree to cooperate over a long period of time, and work together to resolve issues that cannot always be foreseen at the initial contract stage. Thus, the contract must include a significant dose of goodwill and reasonableness terminology that can be read, at least at times, as nothing more than an agreement to agree. There are no forms for such contracts idling on law firm shelves: instead, each must be custom drafted to meet the needs of the particular transaction, which can heavily depend on the exact type of water right being transferred.

The second reality of a market-based transfer is the dual bureaucracy of the state (ADWR) and the federal (Bureau of Reclamation) administration of Colorado River water. Despite the fact that diversion and use of Colorado River water is largely regulated under federal law, the Bureau of Reclamation generally looks to ADWR to determine the intrastate allocation of Colorado River water, and Arizona has reinforced this federal deference by state legislation.⁵⁹ Colorado River water cannot be transferred without the consent of both the ADWR and the Bureau of Reclamation, and each agency has its own requirements for processing a request to transfer. Although both processes can proceed simultaneously, there are many chicken-and-egg issues that arise, requiring adaptive management of the process throughout its course.

The third reality of the market-based transfer is that many, many eyes will be upon the proposed transfer throughout its course and there are many levels upon which the transaction can fail. For example, there is the fundamental question about exactly how much water the buyer is buying. Colorado River contracts fall into two quantification categories: so-called "diversion" contracts and "consumptive use" contracts. A diversion contract limits the amount of water that the holder can divert from the river, with the understanding that not all of the water will be consumptively used. That is, some of the water diverted will return to the river system as either measured or estimated "return flow." The Bureau of Reclamation carefully monitors both measured and estimated return flow, because it administers the interstate allocation of the river based on each state's consumptive use. If you buy 100 acre-feet of agricultural water that is currently being used under a diversion contract, you will face the issue of how much water the buyer is entitled to consumptively use. Consumptive use contracts, by contrast, regulate both the diversion and return flow aspects of the use, and require the holder to return a certain amount of water to the system. The M&I purchaser must consider the nature of the seller's rights and the dichotomy of diversion versus consumptive use contracts carefully in constructing a market-based transfer.

Another difficult issue arises when the seller's water is held under subcontract from an entity, usually an irrigation district, that holds the Section 5 contract from the Bureau of Reclamation. In order to effect the transfer, the seller must obtain the consent of the district, because the district must agree to modify its

59. See ARIZ. REV. STAT. ANN. § 45-107.

Section 5 contract accordingly. If the buyer intends to move the water to an M&I use outside the district, local politics can come into play, with many in the district trying to keep the water within district boundaries to enhance the local economy. Emotions can run high on this issue, particularly if the proposed transfer will take the water away from the local area, and even more so if the proposed transfer will take the water away from the river corridor. Some districts have already faced this issue, and the results are inconsistent. However the transaction may be structured, if the seller's water is held under subcontract, the parties must evaluate their ability to persuade the Section 5 contract holder to approve the transfer.

Assuming that the buyer and seller: (1) have agreed on a price, (2) understand the quantification issue and know how much water is being bought and sold, (3) are reasonably confident that they can obtain the approval of the Section 5 contract holder, if that is required, and (4) have managed to reduce all of the above to a written contract, the administrative portion of the transfer can commence. The first step is to prepare an application to ADWR requesting ADWR's recommendation to the Bureau of Reclamation to approve the transfer. ADWR has a comprehensive policy document that governs this process, which lists the elements that a transfer application must address before ADWR will consider the request for recommendation.⁶⁰ Completing this application is an instructive exercise in itself, and the lawyer drafting the purchase and sale agreement should be well versed in the policy before the contract is finalized.

It is also advisable to notify the Bureau of Reclamation early in the process that a transfer is being considered. The Bureau of Reclamation's regional office in Boulder City, Nevada has a very competent staff that administers the Section 5 contracts, and they can be very helpful in guiding the process. Ultimately, it is the Bureau of Reclamation's approval of a new Section 5 contract to the buyer that marks the finish line of the entire process, and keeping the Bureau of Reclamation fully apprised of the matter certainly helps expedite their work. The Bureau of Reclamation can also assist in working with the current Section 5 holder (if that entity is different than the seller) to modify that holder's contract according to the amount transferred, if necessary.

Underlying all of the bureaucracy involved in effecting the transfer is the notion that the "right" to use Colorado River contract water is more a privilege than a right, allocated by both state and federal governments, to deserving citizens who will put the water to beneficial use. Selling this privilege involves, for better or worse, the exercise of discretion by both the state and federal entities in determining whether the new use is consistent with both state and federal water management policy. Although it is tempting, in a purely market-based transfer, to try to limit or circumvent this exercise of administrative discretion, the would-be buyer and seller, and particularly their respective attorneys, will be well advised to understand the policies underlying allocation of Colorado River water before they embark on what they may initially think is purely a business transaction.

60. Substantive Policy Statement, Ariz. Dep't of Water Res., Policy and Procedures for Transferring an Entitlement of Colorado River Water (May 24, 2004), available at http://www.azwater.gov/dwr/Content/Find_by_Program/Colorado_River_Management/CRTTransPol.pdf.

B. Purchasing Present Perfected Rights

Present perfected rights (“PPRs”) are rights to use Colorado River water that were acquired (“perfected”) in a manner other than the issuance of a Section 5 contract. Notwithstanding the fact that these rights were generally acquired by prior appropriation under state law before the passage of the Boulder Canyon Project Act of 1928 (and the entire Section 5 contracting authority), there remains an open question whether the exercise of these rights is permissible without a confirming Section 5 contract. The Bureau of Reclamation policies indicate that any Colorado River diversion must be authorized by a Section 5 contract, and any diversion without such a contract would be subject to injunction. Yet the authority to enjoin stems from the United States Supreme Court’s interpretation of the Secretary’s powers under the Boulder Canyon Project Act of 1928, which interpretation is embodied in the decree, the very document that confirms the existence of the PPR.⁶¹ One could argue that the exercise of the PPR is independent of the Boulder Canyon Project Act of 1928 and does not require a contract.

Nevertheless, anyone making significant financial investments in developments that depend on Colorado River water would prefer to have the Bureau of Reclamation’s advance approval of the water use, thereby eliminating any uncertainty with respect to the long term use. That approval can be acquired by obtaining a Section 5 contract; however, the Bureau of Reclamation is not always willing to issue a Section 5 contract for a PPR, because of many underlying issues.

For example, many PPRs are listed in the decree as (in a hypothetical example) 100 acres in the Northwest $\frac{1}{4}$ of Section 18, Twp. 18 North, Range 21 West. Unfortunately, the Northwest $\frac{1}{4}$ contains 160 acres, and it is impossible to determine, from the face of the decree, where the 100 acres of irrigated land is supposed to be. Even if you can prove, with reasonable historic evidence, that the same 100 acres has consistently been under cultivation since before 1928, you can expect the Bureau of Reclamation to hesitate before issuing a Section 5 contract for that 100 acres if anyone else owns land within that quarter section. Furthermore, even if you own all of the land in the quarter section, you can expect the Bureau of Reclamation to hesitate if you are splitting the PPR away from its original decree format. Indeed, you can expect the Bureau of Reclamation to hesitate for almost any market-based transaction that involves a change in the basic nature of the PPR, and that hesitation can translate into significant discomfort for a buyer investing millions of dollars on the strength of a PPR.

Furthermore, a purchaser of a PPR is probably in the market to acquire the right in order to convert it from agricultural use to M&I. Again, you can expect the Bureau of Reclamation to hesitate. At the moment, the Bureau of Reclamation has not finalized a decision on whether PPRs are convertible. And if you desire to move a PPR from its original land base to a new place of use and/or point of diversion, you can expect even more uncertainty. Even though PPRs represent the

61. Arizona v. California, 126 S. Ct. 1543 (2006) (mem.) (acknowledging PPRs in, for example, section (I)(C) of the appendix).

best documented, decreed water rights in the State of Arizona, their usefulness for ag-to-urban conversion is uncertain given Bureau of Reclamation policy.

The plain fact is that PPRs are too valuable to remain in this state of suspended animation. Something needs to be done to open the market for these PPRs and allow them to be used for market-based transfers. To the extent that land ownership clouds the title to the PPR, the Bureau of Reclamation should allow the proponent to initiate an *in rem* court proceeding to quiet title to the PPR rights and vest them in certain land bases. The Bureau of Reclamation should be prepared to accept such an *in rem* judgment as a final determination of the right to exercise the PPR. Further, to the extent that PPRs are sought for conversion to M&I, the Bureau of Reclamation should adopt policies and procedures for such conversion that allow the market to determine the appropriate use of the water right. Finally, to the extent that the market supports transfer of the PPR to a new place of use or point of diversion, policies should be adopted at both the state and federal level to accommodate such transfers.

Such significant policy changes will not occur overnight, and they may not even occur within this decade. But the process should at least start in this decade, and it should start with the agency that is responsible for Arizona's allocation of Colorado River water. That agency is the Arizona Department of Water Resources, which has the expertise and experience in dealing with these issues to engage the Bureau of Reclamation in a meaningful intergovernmental process to clarify the use of PPRs in the State of Arizona. To the extent that Arizona's water management issues will be solved by ag-to-urban transfers initiated by the market, PPRs will necessarily play an important role.

IV. BUREAU OF RECLAMATION AND WORKGROUP FOLLOWING PROPOSALS

In the early 2000s, a number of factors coalesced to put pressure on the Bureau of Reclamation to find more water in the Colorado River system. In particular, the State of Arizona urged the Bureau to reopen the Yuma Desalination Plant ("YDP").⁶² Originally constructed in the early 1990s and operated briefly but then mothballed,⁶³ this plant has the capacity to treat each year approximately 100,000 acre-feet of saline waste water from Wellton-Mohawk.⁶⁴ Instead, this water has been dumped into the Main Outlet Drain Extension ("MODE") where it has flowed into Mexico and created the Cienega de Santa Clara wetlands.⁶⁵ Because the United States does not receive credit for this water under the Mexico-United States Water Treaty, Arizona argues the water should be

62. See Robert Glennon & Jennifer Pitt, *Our Water Future Needs Creativity*, ARIZ. REPUBLIC, May 10, 2004, at B7.

63. See Shaun McKinnon, *Experiments May Help Wring More Water from Colo. River*, ARIZ. REPUBLIC, Sep. 27, 2006, at 1.

64. Colorado River Basin Salinity Control Project—Desalting Complex Unit, www.usbr.gov/dataweb/html/yumadesalt.html (last visited Dec. 7, 2006).

65. See Sharon Megdal, *Should Yuma Desalter Operate? Varied, Complex Issues Are Raised*, ARIZ. WATER RESOURCE, May–June 2004, at 11, available at <http://cals.arizona.edu/AZWATER/awr/awr-pdfs/2004.may.june.awr.newsletter.pdf>; Colorado River Basin Salinity Control Project, *supra* note 64.

recaptured to deal with deepening drought conditions.⁶⁶ Operation of the plant, it was thought, would maximize U.S. water use by eliminating the bypasses to the MODE canal.

In February 2003, Secretary of the Interior Gale Norton sent a report to Congress that requested funding for two programs.⁶⁷ The first would bring the YDP to an operational state by making necessary repairs and improvements. The second, which surprised most observers, proposed to reduce existing water use via forbearance agreements. Secretary Norton compared the potential funding requirements for each approach and noted that it would cost more money to rehabilitate the YDP than it would to purchase water through forbearance agreements with farmers. The forbearance proposal generated instant and heated opposition from important members of Congress. Congress ultimately directed the Bureau to move ahead with the reopening of the plant.⁶⁸

In September 2005, the Bureau began a public process to obtain reactions to various methods to replace the bypass flow from Wellton-Mohawk.⁶⁹ The Bureau's website suggested that one of the options the Bureau was considering was forbearance. If as little as 20,000 acres of land (which is less than 2% of the irrigated acreage along the Lower Colorado River) were fallowed, that would provide more than adequate water to replace the entire amount of water bypassed into the MODE canal. Once again, the cost estimates for forbearance were substantially less than the cost to rehabilitate the YDP.⁷⁰

The year 2005 saw the release of a remarkable document, a report titled *Balancing Water Needs on the Lower Colorado River: Recommendations of the Yuma Desalting Plant/Cienega de Santa Clara Workgroup*.⁷¹ The report was the brainchild of the general manager of CAWCD, David S. ("Sid") Wilson, who convened representatives of the major stakeholders interested in the operation of the Yuma Desalting Plant, including federal representatives, State of Arizona agencies, municipal interests, irrigation district interests, and the environmental community, collectively known as the Workgroup.⁷² The members of the Workgroup participated not as representatives of their respective employers or

66. See TOM CARR, ARIZ. DEP'T OF WATER RES., *THE YUMA DESALINIZATION PLANT: AN ARIZONA PERSPECTIVE* (2002).

67. BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, *REPORT TO THE CONGRESS BY THE SECRETARY OF THE INTERIOR* (2003) (on file with author).

68. See Energy and Water Development Appropriations Act of 2005, Pub. L. No. 108-447, 118 Stat. 2809, 2824 (2004); H.R. REP. NO. 108-554, at 69 (2004).

69. Letter from Robert W. Johnson, Regional Dir., Bureau of Reclamation, to Interested Parties (Sept. 22, 2005).

70. See Bureau of Reclamation: Lower Colorado Region—Bypass Flow Replacement Methods, <http://www.usbr.gov/lc/region/programs/bypass/alternatives.html> (last visited Apr. 14, 2007).

71. *BALANCING WATER NEEDS ON THE LOWER COLORADO RIVER: RECOMMENDATIONS OF THE YUMA DESALTING PLANT/CIENEGA DE SANTA CLARA WORKGROUP* (2005) [hereinafter *WORKGROUP REPORT*], available at <http://cals.arizona.edu/AZWATER/publications/YDP%20report%20042205.pdf>.

72. For a list of members, see *id.* at 1.

agencies but as individuals.⁷³ The report is a remarkable reflection on what can be achieved when people come to a task with an open mind. Until this report, there was an absolute deadlock between the environmental community, concerned that the operation of YDP would result in dewatering the Cienega de Santa Clara,⁷⁴ and State of Arizona water users concerned about recovering this 100,000 acre-feet. The Workgroup decided that any solution would need to be consistent with three fundamental objectives: reducing or eliminating the risks of shortage to Lower Basin water users associated with the MODE canal water; maintaining the wildlife habitat and ecosystem values of the Cienega de Santa Clara; and assuring compliance with Minute 242 concerning the United States's commitments to the country of Mexico.⁷⁵

The recommendations of the Workgroup involve a combination of elements rather than a single magic silver bullet. Solutions include short-term measures, long-term measures, and an action plan for the federal agencies for implementing both sets of recommendations.⁷⁶ Components include water supply measures; conservation measures; municipal and industrial water supply measures; changes to legal requirements and impact mitigation measures; and infrastructure improvements.⁷⁷ Of particular note to the transfer of Colorado River water rights are the conservation measures which include land fallowing and forbearance options and water rights purchases and retirements.⁷⁸ The former is temporary and the latter a permanent change in water rights.

The key conceptual tradeoffs were a willingness on the part of the environmental community to have the YDP operated and a willingness on the part of municipal interests to have a substantial amount of water continue to be discharged to the Cienega de Santa Clara.⁷⁹ The Workgroup realized that the YDP could be operated at different levels and, depending on the source water for treatment, might have less harmful consequences for the Cienega de Santa Clara.⁸⁰

The Workgroup recommended a pilot project involving Basin-wide voluntary reductions in use pursuant to forbearance programs, based solely on voluntary temporary land fallowing.⁸¹ Such a Basin-wide program would be offered to farmers not only in the United States but also in Mexico. After a period of time, the program's effectiveness and cost would be evaluated. Depending on the results of the pilot program, a long-term program might include a forbearance program. Funding would come from the establishment of a permanent contingency fund to alleviate shortages. A dry-year option fallowing program might be one

73. *See id.*

74. For more on the Cienega, see Brent Langelier, *Accidental Oasis*, TUCSON CITIZEN, June 20, 2006, at 4.

75. *See* WORKGROUP REPORT, *supra* note 71, at i.

76. *Id.* at ii–iv, 10–22.

77. *Id.*

78. *See id.* at 12–13.

79. *See id.* at 1.

80. The conservation measures include capturing water that has been lost because of changed water orders. The construction of new regulatory reservoirs located alongside the All American Canal would serve this function.

81. *Id.* at 18.

component. Any such leasing program would be geographically dispersed to avoid the concentration of impacts on any one irrigation district or agricultural region. Critical to the interests both of irrigation districts and the state stakeholders, this fallowing program would not result in permanent reallocation of entitlements to Colorado River water.⁸²

In conclusion, the Workgroup Proposal is a stunning departure from the past, both in the consensus achieved between often warring interests and in its embracing of forbearance and fallowing programs—types of water marketing—as essential considerations for future water supply.

V. SEVEN BASIN STATES' PRELIMINARY PROPOSAL REGARDING COLORADO RIVER INTERIM OPERATIONS

In February 2006, the Seven Basin States sent a letter to former Secretary of the Interior Gale A. Norton.⁸³ The letter and its accompanying attachments recommended extraordinary changes in the allocation of Colorado River water. It was surprising that all seven states agreed, given the usually contentious character of struggles over the Colorado River.

Former Secretary Norton had nudged the states in this direction in early 2004 when she urged them to begin informal discussions about what to do when water shortages occur, in order to avoid making decisions during times of crisis. Remarkable as it may seem in 2006 in the midst of a historic drought, in 2001, then-Secretary of the Interior Bruce Babbitt promulgated regulations to manage *surplus* supplies.⁸⁴ Yet the sudden drought of record created an urgent need to deal not with surplus but with shortage. In June 2005, Secretary Norton began preparation of an environmental impact statement as required by the National Environmental Policy Act, concerning both shortage guidelines and management criteria that would be used to coordinate the operation of Lake Powell and Lake Mead during low-reservoir conditions. The 2006 Seven Basin States' Preliminary Proposal Regarding Colorado River Interim Operations ("Proposal") achieved a consensus on how the two reservoirs would be operated.⁸⁵ By regulating the levels in Lake Powell, the Proposal offers protection to the Upper Basin States against possible curtailment of their uses.

82. *See id.* at 19.

83. 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, Sec'y, U.S. Dep't of the Interior (Feb. 3, 2006) [hereinafter Seven Basin States' Letter], *available at* <http://www.cwcb.state.co.us/WaterSupply/pubs/020306TransLetterSecNortonSigned.pdf>.

84. *See* Colorado River Interim Surplus Guidelines, 66 Fed. Reg. 7772-02 (Jan. 25, 2001).

85. *See* Seven Basin States' Preliminary Proposal Regarding Colorado River Interim Operations [hereinafter Proposal], *available at* <http://www.cwcb.state.co.us/WaterSupply/pubs/7BasinStatesProposalInterimColoRiverOpsFINAL.pdf> (last visited Mar. 26, 2007) (Attachment A to Seven Basin States' Letter, *supra* note 83). The agreement on reservoir operation, though important, is highly technical and beyond the scope of this Article.

For years, the states of California and Nevada relied on the Secretary's authority to re-allocate water that is allocated to another state but unused in any given year. The Secretary justified this re-allocation under Article II(B)(6) of the United States Supreme Court's Decree in *Arizona v. California*.⁸⁶ The Proposal suggests that the Secretary use the Article II(B)(6) authority in the following order of priority: first, to meet the domestic uses of the Metropolitan Water District of Southern California ("MWD") and the Southern Nevada Water Authority ("SNWA"); second, to meet the off-stream banking activities of MDW and SNWA; and third, to "meet the other needs for water in California in accordance with the California Seven-Party Agreement as supplemented by the Quantification Settlement Agreement" ("QSA").⁸⁷

For our purposes, the heart of the Proposal is the set of incentives to develop additional water supplies through (1) extraordinary conservation, (2) system efficiency improvements, and (3) augmentation projects.⁸⁸ The Proposal advocates interpreting the Law of the River flexibly to respond to urgent needs of individual states. To that end, the Proposal urges the Secretary to develop a "policy and accounting procedure" regarding various kinds of conservation and supply augmentation options.⁸⁹ Water marketing and water transfers are endorsed as "Intentionally Created Surplus" ("ICS"). ICS credits would be distributed pursuant to the Secretary's Article II(B)(2) power, and forbearance agreements between the states.⁹⁰ ICS credits can be created "only through extraordinary conservation activities," which include: (1) fallowing of currently irrigated land; (2) canal lining programs; (3) desalination programs; (4) extraordinary new conservation programs; and (5) other extraordinary conservation measures approved by the states.⁹¹

Such credits can be created only by contractors without an outstanding payback obligation and for water that would otherwise have been beneficially used.⁹² The Proposal caps the maximum amount of ICS credits that can be generated during any one year to 400,000 acre-feet for California, 125,000 acre-feet for Nevada, and 100,000 acre-feet for Arizona.⁹³ There is effectively a tax on ICS credits of five percent on a one-time basis for water that would benefit the entire system and a three percent tax to offset annual evaporation losses.⁹⁴ There are no other charges by the Secretary for administering this system.⁹⁵ Finally, the Proposal has a system for the recovery of ICS credits.⁹⁶

The ICS credit system is an extraordinary change in how Colorado River waters are used. Although it does not formally change the allocation of water from

86. 126 S. Ct. 1543, 1547 (2006) (mem.).

87. Proposal, *supra* note 85, § 1(B).

88. *See id.* § 4.

89. *Id.*

90. *Id.*

91. *Id.* § 4(B)(2).

92. *Id.* § 4(B)(1).

93. *Id.* § 4(B)(5).

94. *Id.* § 4(B)(8).

95. *Id.*

96. *Id.* § 4(B)(9).

one state to another, it effectively operates that way. Nothing in the program prevents one state from buying water from a contractor in another state who has engaged in an activity that qualifies for ICS credits.

A sticking point that previously prevented a consensus from developing has revolved around the use of water from various tributaries, notably the Virgin and Muddy Rivers by the city of Las Vegas. The Virgin River begins in Utah and flows through northwestern Arizona and southeastern Nevada before it ultimately reaches Lake Mead. For years, the city of Las Vegas has threatened to build a pipeline that would move water from the Virgin River to Las Vegas for municipal and industrial uses. Until recently, no one took such a threat seriously, in part because of the expense and in part because the quality of the Virgin River water was suspect. But as the drought has deepened, it became a more viable option for Las Vegas. The Proposal addressed this concern of Las Vegas by allowing procedures to “purchase and fallow” senior water rights on tributaries so long as the rights were created prior to the Boulder Canyon Project Act.⁹⁷ Once the Secretary confirms that the rights have been retired, the water could be recovered from Lake Mead. This was an important concession to Nevada, which now has a way to increase its use of Colorado River water beyond its 300,000 acre-feet allotment without having to actually build a pipeline to the Virgin River or ask the other basin states to reopen the Law of the River.⁹⁸

Because there are many inefficiencies in the pipes and plumbing that make up the distribution system for Colorado River water, one source of additional water is to make the physical infrastructure more efficient. The Proposal asks the Secretary to identify “system efficiency projects” that would pass a cost-benefit analysis.⁹⁹ Individual states may then contribute money to a fund administered by the Secretary to finance these water efficiency improvements.¹⁰⁰ The water saved by such system efficiency projects would be considered ICS and subject to later recovery. The ICS credits would go to the state that ponies up the capital pursuant to its BCPA Section 5 surplus contract. However, the Secretary would first need to obtain a waiver or forbearance agreement from another Section 5 contractor who might possess the right to the delivery of the same water.¹⁰¹ These system efficiency projects effectively create another mechanism for interstate marketing. Affluent cities can advance substantial amounts of cash to improve the efficiency of agricultural distribution systems, and enter into an agreement, “forbearance” or otherwise, with a contractor who has a right to such water, who would agree, in exchange for having her delivery system improved, not to object to the Secretary delivering her water to the state that provided the money for the improvements.¹⁰² The opportunity to obtain ICS credits has already spawned demonstration projects

97. *See id.* § 4(C).

98. *See id.*

99. *Id.* § 4(D).

100. *See id.*

101. *Id.*

102. There is also a proposal for generating non-Colorado River system water, through weather modification projects and diversions of water from other rivers' reservoirs. *See id.* § 4(E).

between the Bureau of Reclamation and the Metropolitan Water District and between the Bureau of Reclamation and the Imperial Irrigation District.¹⁰³

A tantalizing portion of the Proposal allows for the exchange of non-Colorado River water among Colorado River contractors.¹⁰⁴ Contractors who fund the development of non-Colorado River water in one state may obtain the right to use Colorado River water in another state by an exchange mechanism; that is, by the development of “intentionally unused” water developed by the funding mechanism.¹⁰⁵ Such exchanges would not necessarily be limited to states in the United States. It might be possible to establish an exchange concerning water supplies in Mexico. This is a very intriguing possibility, given the inefficiency of the water distribution system in Mexicali. Indeed, the MWD has expressed interest in putting substantial money on the table to rehabilitate the irrigation system in Mexicali.

Many water exchanges stumble on the objections of other users in the system. Under state law, this is usually dubbed the “no harm to junior” rule, which allows any junior appropriator on a system to object to harm caused by the transfer of water.¹⁰⁶ The Proposal finesses this problem. A lower priority contractor who objects will be offered an opportunity to pay the cost of developing a portion of this non-Colorado River system water. Any contractor who refuses such an offer would be deemed to have waived the right to challenge the exchange of Colorado River water.¹⁰⁷ These water exchanges put the cities at an advantage because they have the discretionary capital. Nonetheless, irrigation districts, farmers, and rural communities would be given the option to pay the cost of improving the irrigation system in order to achieve ICS credits.

The Proposal creatively interprets the Supreme Court decree. It effectively allows the transfer of water from one Colorado River water user to a user in a different state. It very importantly allows the state of Nevada to secure an allocation beyond the 300,000 acre-feet allocated under the Boulder Canyon Project Act as interpreted by the United States Supreme Court in *Arizona v. California*.¹⁰⁸

103. See BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, DRAFT ANNUAL OPERATING PLAN FOR COLORADO RIVER RESERVOIRS 2007, at 3 & nn.2, 3 (2006), available at http://www.usbr.gov/uc/water/rsvrs/ops/aop/aop07_draft.pdf.

104. See Proposal, *supra* note 85, § 5.

105. See *id.*

106. See SAX ET AL., *supra* note 46, at 270–76.

107. See Proposal, *supra* note 85, § 5.

108. In Arizona, CAWCD was initially hostile to such interstate credits. A December 2005 document that provided an executive summary of critical issues concerning Colorado River supplies dismissed the ICS program as inconsistent with the Law of the River. “This is a form of interstate water sales that has no legal basis or precedent. The Supreme Court Decree states that water use is to be accounted to the state in which it is used.” Executive Summary of Critical Issues: Topic—Colorado River Shortage Related Interstate Issues (Oct. 1, 2006), available at <http://www.cap-az.com/pdfs/critical/Col%20Rvr%20Shortage--Interstate%20Issues.pdf>. But by February 2006, all states had signed on to the agreement.

It also anticipates that desalination projects may provide a mechanism to create ICS credits. The state of Nevada has already approached the cities of San Diego and Tijuana, Mexico with the thought that Las Vegas would pay to construct desalination plants along the coast; San Diego and/or Tijuana would use the water from the desalination plants; and Nevada would take these two cities' Colorado River water from Lake Mead.¹⁰⁹

In addition, Las Vegas is proposing to contribute \$80 million to the federal budget to build a "Drop 2" reservoir along the California/Mexico border.¹¹⁰ One of the complaints about how the Colorado River system has been administered revolves around the fact that it takes from three to five days for water ordered by irrigation districts in southern California and southern Arizona to arrive after being released from Lake Mead. In those intervening days, perhaps a rainstorm has satisfied the irrigation district's need for water. In that case, the district simply does not divert the water from the mainstem; as a result, it flows into Mexico, but Mexico, lacking any storage facility, may not use it either. One of the "efficiency" developments would be the Drop 2 reservoir that would allow for recapturing such flows that were released from Lake Mead but not diverted and, equally important for accounting purposes, not counted against the United States' contribution to Mexico under the Mexico–United States water treaty. From an environmental perspective, such a reservoir has an unintended consequence of making it less likely that the Colorado River Delta would receive surplus flows.¹¹¹

VI. CONCLUSION

Arizona's increasing population places demands on its water supply that cannot be satisfied by the usual answers: build a dam, divert a river, or drill a well. Each of these is becoming increasingly untenable.¹¹² When such traditional options prove unsatisfactory, the usual approach for water in the West is "augmentation" of supply, meaning the importation of water from distant basins. This is what the Central Arizona Project represents. But new calls for augmentation, whether of cloud seeding or desalination, must solve complicated and nuanced legal and scientific issues before they will prove to be viable in the long term. Other options include greater water conservation and an increase in the reuse of municipal effluent. Arizona is already embarking on these avenues, which will be helpful, but ultimately inadequate, to satisfy the demand for new water.

We should recognize that we are entering an era of water reallocation, when demand for new supplies will be satisfied by shifting water use from existing users to those with new demands. One way to do this, we believe, is by voluntary

109. See *Colorado River States Reach Landmark Agreement*, HIGH COUNTRY NEWS, Feb. 20, 2006, at 3.

110. See Henry Brean, *Nevada Would Pay for Border Reservoir in Deal for More Water*, LAS VEGAS REVIEW-JOURNAL, Jan. 14, 2006, at 1B; *Colorado River States*, *supra* note 109.

111. See Robert Jerome Glennon & Peter W. Culp, *The Last Green Lagoon: How and Why the Bush Administration Should Save the Colorado River Delta*, 28 ECOLOGY L.Q. 903, 949–51 (2002).

112. Robert Glennon, *Water Scarcity, Marketing, and Privatization*, 83 TEXAS L. REV. 1873, 1873–84 (2005).

transfers between willing sellers and willing buyers. Water marketing, as it is called, should be embraced especially by the environmental community because the alternatives of more diversions of water from the few remaining flowing rivers, or an increase in groundwater pumping, are unsatisfactory. The fate of both the Verde River and the San Pedro River may depend on a reallocation of water use.

Unfortunately, as our paper has demonstrated, substantial legal impediments prevent the reallocation of even modest quantities of mainstem Colorado River Water. The procedural pitfalls and bureaucratic approvals necessary to transfer such modest quantities of water drive up transaction costs and discourage the development of a market in water. It is critical that the Arizona Department of Water Resources and the Bureau of Reclamation remove unnecessary or outdated impediments to these transfers and, especially, work with one another to smooth the way for the reallocation of water where such reallocation enhances state and federal water management goals.