2002

The Measure of Indian Water Rights: The Arizona Homeland Standard, Gila River Adjudication

Barbara Cosens
University of Idaho College of Law, bcosens@uidaho.edu

Recommended Citation
42 Nat. Resources J. 835 (2002)

BARBARA A. COSENS*

The Measure of Indian Water Rights: The Arizona Homeland Standard, Gila River Adjudication

ABSTRACT

On November 26, 2001, the Arizona Supreme Court concluded that Indian reservations were established as homelands. By articulating a homeland standard for the measure of reserved water rights based on tribal economic development plans, cultural needs, and historic water uses, the Arizona Supreme Court has eliminated many of the blatant inequities plaguing the current approach to Indian water rights quantification. Nevertheless, there are concerns with wholesale adoption of the Arizona standard, including the effect on those who have devoted resources in reliance on the previous standard, the introduction of uncertainty in the method of quantification, and the impact on federal funding. Courts may address these concerns by retaining the current practicably irrigable standard for quantification of the agricultural water right, and by turning to experience gained in settlement processes to quantify other aspects of a homeland water right. The effect of the standard on the method for calculation of federal funding to develop Indian water highlights the need to change that method to reflect the obligation to provide the water infrastructure necessary to render a reservation a home.

---

* Assistant Professor, Environmental Studies Program, San Francisco State University. Former legal counsel, Montana Reserved Water Rights Compact Commission. Lead counsel on negotiations to settle the reserved water rights of the Fort Belknap Reservation, the Chippewa Cree of the Rocky Boy's Reservation, the National Park Service, and the U.S. Fish and Wildlife Service, in Montana. LL.M. Northwestern School of Law, Lewis and Clark College; J.D. University of California, Hastings College of the Law; M.S. Geology, University of Washington; B.S. Geology, University of California, Davis.

The author would like to acknowledge John Thorson, former Special Master, Arizona Adjudication, and Professor Janet Neuman, Lewis and Clark Law School, for their comments and encouragement, and Professor Neuman's Water Policy class for helping see this through.

Great nations, like great men, should keep their word.[1]

The only job I ever quit at first sight involved hoeing beets. A junior at Oregon State, I was broke and thus happy to have a job at the Agricultural Experiment Station. Then my boss stopped his pickup truck beside an unending field of beets. "Those will be yours," he said. "There's the hoe. You're after the pigweed." A country boy, I knew pigweed at a glance.

Hefting the hoe while that good man dropped his pickup into gear, I then said, "Wait." It was as close as I got to hoeing beets. Ever since, I've never had a problem understanding that farming is not necessarily an improvement on hunting and gathering.[2]

On November 26, 2001, the Arizona Supreme Court introduced an element of sanity and equity into the reserved water rights arena by concluding that Indian reservations were actually established for the purpose of providing a home for Indians.[3] More startling than the ruling itself is the fact that it took 93 years from the recognition of Indian reserved water rights by the U.S. Supreme Court for a state court to reach this conclusion.

In 1908, the U.S. Supreme Court recognized the existence of implied reserved water rights to fulfill the purpose of an Indian reservation.[4] Subsequent cases defined the purpose of most reservations as agricultural and quantified the water right using an approach referred to as the Practicably Irrigable Acreage (PIA) method.[5] The PIA method of quantification allocates to tribes an amount of water necessary to irrigate all land on the reservation that can feasibly and economically be irrigated.[6] Its application turns on the determination that the sole purpose in designating a particular reservation was to create an agrarian lifestyle for its inhabitants. The ruling by the Arizona Supreme Court rejects that narrow purpose and proposes an alternative method of quantification.

The recognition of a homeland purpose is supported by a principled application of the law prior to 1963 and the principles of

---

1. Fed. Power Comm'n v. Tuscarora Indian Nation, 362 U.S. 99, 142 (1960) (Black, J., dissenting).

2. WILLIAM KITTREDGE, THE NATURE OF GENEROSITY 83 (2000).

3. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 74 (Ariz. 2001) (*Gila V*).

4. Winters v. United States, 207 U.S. 564, 576 (1908).

5. Arizona v. California, 373 U.S. 546, 600 (1963) (*Arizona I*); *In Re* Gen. Adjudication of All Rights to Use of Water in the Big Horn River Sys., 753 P.2d 76, 94 (Wyo. 1988) (*Big Horn I*), *aff'd mem. sub. nom.*, 492 U.S. 406 (1989).

6. *Arizona I*, 373 U.S. at 601; *Big Horn I*, 753 P.2d at 94.

statutory and treaty construction in the field of Indian law. More importantly, the ruling by the Arizona Supreme Court eliminates not only the legal gymnastics required to fit widely disparate reservations into an agricultural model, but also the enormous inequity associated with doing so. Whereas southern tribes located in alluvial valleys near a large surface water source (*e.g.*, the Colorado River) are entitled under an agricultural purpose quantified by the PIA method to ample water,[7] tribes in more northern climes or mountainous terrain are left with insufficient rights to meet basic drinking water needs.[8] The Arizona homeland standard allows quantification of tribal water rights based on a development plan tailored to the current and future needs, geography, and culture of a particular reservation, thus eliminating this inequity.

Nevertheless, there are concerns with wholesale adoption of the Arizona standard. First, what of the reservations that benefit from the PIA method and have relied on its stability? Any mid-course correction in law must consider the effect of that correction on those who have invested substantially in reliance on the existing guidelines. The use of a development plan for quantification must still address the quantity of water for the agricultural portion of the plan. Experience with, reliance on, and precedent for the PIA method argue in favor of its continued use as one method to evaluate the adequacy of the agricultural portion of a plan. Second, what is the effect on funding for Indian water right settlements? Currently the method used by the U.S. Department of the Interior to recommend the level of funding is strongly influenced by the estimate of the water right that would have been awarded in court.

Part I of this article addresses the roots of the PIA method. Part II analyzes the new Arizona "homeland" standard from both a legal and an equitable viewpoint and concludes that after leaving tribal water rights to dangle in the wind (or the river) for 93 years, the mere fact that the last 38 of those years employed an artificial standard is no reason to avoid the appropriate ruling now. Part III addresses concerns raised by the Arizona standard. Concerns over implementation of the standard should be addressed in how it is articulated, not by avoiding the logical conclusion that a reservation is in fact a homeland. Concerns over its effect on funding can only be addressed through a change in criteria for funding to also reflect the need to develop reservations as homelands. Just as it is high time the courts recognize the establishment of Indian reservations as permanent homelands, it is high time the Department of the Interior revises its criteria for settlement funding. This article suggests how.

---

7. *See, e.g.*, *Arizona I*, 373 U.S. at 546.
8. *See, e.g.*, State *ex rel* Martinez v. Lewis, 861 P.2d 235, 247 (N.M. Ct. App. 1993).

I. THE PIA METHOD AND HOW IT GREW

Understanding the importance of the Arizona ruling requires an understanding of how courts came to attach an agricultural purpose to reservations in the first place and how courts then defined a method of quantification to fulfill that purpose. The reduction of Indian reservations from vast territories to roughly their current configuration in the late 1800s corresponded with the demise of the buffalo and the push to open land to white settlement in the plains.[9] With the loss of this traditional food source, agriculture provided hope of a new source of subsistence.[10] Furthermore, the Christian overlay on federal Indian policy at the time held the view that farming was the highest pursuit and that "civilization" of Indians would come about through conversion of the hunter society to an agrarian one.[11] Against this backdrop, treaties, executive orders, and Congressional documents reserving land for Indian reservations were littered with language promising the tools and education necessary to farm.[12] Tracing how this history translated into a water right predominantly for agricultural purposes begins with a discussion of the unique nature of reserved water rights.

A. The Reserved Water Right and its Neighbor—Prior Appropriation

The general rule is that water allocation and management is left to state law.[13] The doctrine of prior appropriation governs allocation of water

---

9. DAVID H. GETCHES, CHARLES F. WILKINSON, & ROBERT A. WILLIAMS, JR., FEDERAL INDIAN LAW 143-44 (4th ed. 1998).

10. *Id.*

11. Report of the Board of Indian Commissioners (1869) and Annual Report of the Commissioner of Indian Affairs (1869), reproduced in GETCHES, WILKINSON, & WILLIAMS, *supra* note 9, at 149-51.

12. *See, e.g.*, Winters v. United States, 207 U.S. 564, 576 (1908) (quoting from the Fort Belknap Treaty of 1888, May 1, 1888, 25 Stat. 124).

13. Cal. Or. Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 155-58 (1935) (holding that the effect of the 1866 Mining Act as amended in 1870, the 1877 Desert Lands Act, and the 1891 Act governing right-of-way for canals and reservoirs for public lands and reservations was to sever the water right from the public land leaving it available for appropriation under local law). *See also* United States v. Rio Grande Irrigation Co., 174 U.S. 690, 706 (1899) (stating with respect to the same Acts that "the obvious purpose of Congress was to give its assent, so far as the public lands were concerned, to any system although in contravention to the common law rule [of riparian rights], which permitted the appropriation of those waters for legitimate industries"); *Cf.* Fed. Power Comm'n v. Oregon, 349 U.S. 435, 448 (1955) (Pelton Dam case) (holding that the same Acts do not apply to reserved land, only to public land defined as land subject to private appropriation and disposal under the public land laws).

in most western states.[14] In practical terms, an appropriative right has certain key attributes that become critical in times of drought. First, a water right exists to the extent of application of water to a beneficial use.[15] Second, in times of shortage, allocation occurs on the basis of priority, *i.e.*, the date on which the water right was first developed.[16] The right of the earliest appropriator on a stream is satisfied first. Junior appropriators take remaining water. Shortage is not shared. In the West, water supply fluctuates and there is rarely a year that could be identified as "average" in rainfall. During periods of drought, those who came late to the basin often are left with nothing.

Reserved water rights are the exception to the general rule that state law controls the allocation and management of water. The doctrine of implied reservation of waters was first articulated by the U.S. Supreme Court in *Winters v. United States*.[17] The Court was faced with a conflict between private irrigation diversions from the Milk River in Montana and a downstream irrigation diversion to the Fort Belknap Indian Reservation.[18] During drought, the water supply in the Milk River was inadequate to serve both.[19] Faced with a dry riverbed at the reservation headgate, the United States filed suit to enjoin the diversion of water by private irrigators upstream from the Fort Belknap Reservation.[20]

Under the doctrine of prior appropriation, private diversions developed before the tribal diversion would prevail.[21] Nowhere in the 1888 Act establishing the Fort Belknap Reservation was water mentioned.[22] Yet much of the Act focused on various means to provide the tribes with the tools and knowledge to farm, and in the arid region of the Reservation farming would be impossible without irrigation.[23] In language suggesting both that the Tribes retained previously held water rights[24] and that the Act

---

14. I WELLS A. HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 226 (Harold H. Ellis & J. Peter DeBraal eds., 1971).

15. *See, e.g.*, MONT. CODE ANN. § 85-2-301(1) (2001).

16. *See, e.g., id.* at §§ 85-2-401, -406(1).

17. Winters v. United States, 207 U.S. 564 (1908).

18. *Id.* at 570.

19. *Id.*

20. Winters v. United States, 143 F. 740, 742 (9th Cir. 1906), *aff'd*, 207 U.S. 564 (1908).

21. JOHN SHURTS, INDIAN RESERVED WATER RIGHTS: THE *WINTERS* DOCTRINE IN ITS SOCIAL AND LEGAL CONTEXT 1880S–1930S 35 (2000).

22. *See* Act of May 1, 1888, 25 Stat. 113 (ratifying and confirming an agreement with the Gros Ventre, Piegan, Blood, Blackfeet, and River Crow Indians in Montana).

23. Winters v. United States, 207 U.S. 564, 576 (1908).

24. *Id.* ("The lands were arid and, without irrigation, were practically valueless....And this, it is further contended, the Indians knew, and yet made no reservation of the waters.").

of Congress established the water right,[25] the Court recognized that the promises made in the Act could not be upheld without water.[26] Thus, the doctrine of implied water rights to fulfill a reservation purpose arose.

Federal law determines the scope of the reserved right.[27] Similar to the establishment of the Fort Belknap Reservation, the actual reservation of water is rarely stated in the documents reserving land. The right is thus implied as sufficient water to fulfill the purpose of the reservation.[28] It is this lack of clarity in the definition of reserved water rights that has led to the current dilemma over their quantification. Compare for example the portions of legal abstracts defining the use of water under a private, appropriative right to that of a reserved right:

1. Private water right:
   Diversion rate: 5 cfs
   Beneficial use: irrigation
   Acreage irrigated: 1542 acres [specifically identified with legal land description]
   Period of use: March 15–August 20
2. Reserved water right:
   Sufficient water to fulfill the purpose of an 1855 treaty [the drafters of which never considered water].

Reserved water rights are potentially quite large and have the ability to displace junior appropriative rights.[29] Yet, no body of federal statutory or common law clearly sets the standards for quantifying reserved

25. *Id.* at 577 ("The power of the Government to reserve the waters and exempt them from appropriation under the state laws is not denied....That the Government did reserve them we have decided.") (citations omitted).

26. *Id.*

27. Arizona v. San Carlos Apache Tribe, 463 U.S. 545, 571 (1983); Cappaert v. United States, 426 U.S. 128, 145 (1976); Colorado River Water Conservation Dist. v. United States, 424 U.S. 800, 813 (1976); United States v. Dist. Court for Eagle County, 401 U.S. 520, 526 (1971). Although the principle is generally stated as dicta in the cited cases, substantial support exists for the proposition that a federal right is defined by federal law. *See, e.g.*, North Dakota v. United States, 460 U.S. 300 (1983) (federal law prevents draining of a federal waterfowl easement under state law); United States v. Little Lake Misere Land Co., 412 U.S. 580 (1973) (holding federal waterfowl easement purchases for refuge purposes are not defined by state law).

28. United States v. New Mexico, 438 U.S. 696, 700 (1978); *Cappaert*, 426 U.S. at 141; *Winters*, 207 U.S. at 576.

29. *See, e.g., Arizona I*, 373 U.S. 546, 600 (1963) (awarding almost one million acre-feet of water to five reservations—roughly equivalent to 15 percent of the annual flow of the Colorado River apportioned to California, Arizona, and Nevada combined).

water rights.[30] As a result, observable beneficial use, the clear criteria for quantification of appropriative rights affords greater protection on a practical daily basis than the vague standard of "purpose" defining reserved rights. A quantified and developed right is more readily enforced and protected because its measure and application are visible to all. In addition, a quantified and developed right provides clear notice to newcomers to a water source of the likelihood that junior rights will be satisfied. Thus, the search began for an applicable method to quantify tribal water rights to provide certainty to their neighbors and protect the rights of tribes.

B. The Practicably Irrigable Acreage Method

In 1963, after determining that five reservations in the Lower Colorado River Basin were established for agricultural purposes, the U.S. Supreme Court endorsed a method used to quantify the water rights for that purpose: the Practicably Irrigable Acreage method, or PIA.[31] PIA is a quantification method that gives tribes a right to the amount of water necessary to irrigate all land on the reservation that can feasibly and economically be irrigated.[32] Application of the method to the five reservations involved in *Arizona v. California* resulted in an award of just under one million acre-feet per year.[33] The average annual flow of the Colorado River is approximately 14 million acre-feet.[34]

---

30. *See, e.g., In re* the Adjudication of Existing and Reserved Rights to Use of Water, Cause No. WC-92-1, slip op. at 12-13 (Mont. Water Ct. Aug. 10, 2001), 12-13, 16 (Fort Peck Decree).

> After nearly one hundred years of legislation, litigation, and policy-making, there are still no bright lines clearly and consistently delineating the [Reserved Water Rights] Doctrine. Most of the legal issues inherent in the Doctrine remain unsettled and hotly debated and are now complicated by decades of distrust and competing policies....[T]here is no clear consensus among the federal courts as to how the "purpose" of the reservation is to be determined, the proper quantification standard to apply, or the method for quantifying the rights based on that standard.

Id. at 13-16.

31. *Arizona I*, 373 U.S. at 600-01.

32. *Id.* at 600 (accepting the conclusion of the Special Master that quantification of the water necessary to irrigate the practicably irrigable acreage on the Reservation is an appropriate method to determine the water necessary for present and future needs. The relevant discussion of PIA occurs in the Report of the Special Master to the U.S. Supreme Court, Dec. 5, 1960.); *see also* Arizona v. California, 439 U.S. 419 (1979) (*Arizona II*) (further defining the water rights of the five tribes).

33. *Arizona I*, 373 U.S. at 596.

34. Monique C. Shay, *Promises of a Viable Homeland, Reality of Selective Reclamation: A Study of the Relationship Between the Winters Doctrine and Federal Water Development in the Western United States*, 19 ECOLOGY L.Q. 547, 578 (1992).

With an indication of the magnitude of the cloud on appropriative water rights, states pursued jurisdiction to adjudicate tribal water rights. In a highly contentious process that included a last minute appropriation rider referred to as the McCarran Amendment" waiving the sovereign immunity of the United States[35] and appeals to the U.S. Supreme Court interpreting the McCarran Amendment,[36] state courts achieved jurisdiction over adjudication of tribal water rights. This highly politicized process led to the startling outcome that state rather than federal courts define Indian reserved water rights in the first instance, opening the door to substantial experimentation in their quantification. Surprisingly, until now that experimentation has never materialized. State adjudication of tribal water rights addresses federal questions, thus state court decisions remain subject to U.S. Supreme Court review.[37] To avoid potential Supreme Court reversal by embarking on an untested path, most states and tribes proceed within the guidelines provided by PIA—*i.e.*, quantification of water based on the agricultural potential of the reservation land base—even though the Supreme Court has never articulated PIA as the only method for quantification.

---

35. 43 U.S.C. § 666(a) (1994). The relevant text of the McCarran Amendment states, Consent is given to join the United States as a defendant in any suit (1) for the adjudication of rights to the use of water of a river system or other source, or (2) for the administration of such rights, where it appears that the United States is the owner of or is in the process of acquiring water rights by appropriation under State law, by purchase, by exchange, or otherwise, and the United States is a necessary party to such suit. The United States, when a party to any such suit, shall (1) be deemed to have waived any right to plead that the State laws are inapplicable or that the United States is not amenable thereto by reason of its sovereignty, and (2) shall be subject to the judgments, orders, and decrees of the court having jurisdiction.

36. Development of the interpretation of the McCarran Amendment in chronological order: United States v. Dist. Court for Eagle County, 401 U.S. 520 (1971) (holding that the waiver of sovereign immunity in the McCarran Amendment covers suits to adjudicate reserved water rights); Colorado River Water Conservation District v. United States, 424 U.S. 800 (1976) (holding that although jurisdiction is not exclusive in state court, the policy apparent in the McCarran Amendment, to avoid piecemeal litigation, favors deference to state adjudication); Arizona v. San Carlos Apache Tribe, 463 U.S. 545 (1983) (holding that dismissal of federal suits to quantify Indian reserved water rights in deference to state adjudication is appropriate).

37. *See, e.g.*, Wyoming v. United States, 492 U.S. 406 (1989) (affirming *In Re* Gen. Adjudication of All Rights to Use of Water in the Big Horn River Sys., 753 P.2d 76 (Wyo. 1988) (*Big Horn I*)).

Endorsement of the PIA method has led to considerable debate over what composes acreage that is practicably irrigable.[38] Because quantification of most tribal water rights has been the subject of settlement rather than litigation, it is necessary to turn to the one state case where the elements of PIA have been litigated: the adjudication in Wyoming state court of the water rights of the Arapaho and Shoshone Tribes of the Wind River Reservation (*Big Horn I*). In *Big Horn I*, the State, Tribes, and United States stipulated to the following definition of PIA: "those acres susceptible to sustained irrigation at reasonable costs."[39] The Wyoming Supreme Court accepted the application of this test by the Special Master who required the following analyses:

(1) classification of lands based on arability of soils;

(2) analysis of the engineering feasibility of providing irrigation to those soils classified as arable; and

(3) analysis of the economic feasibility of irrigation on the lands considered arable and technically amenable to irrigation.[40]

Each of these steps requires determinations that can result in a wide degree of variability in the PIA ultimately calculated. The area of greatest debate is the economic feasibility analysis, because small differences in factors can result in wide variability in the outcome.[41] Private water users and states point to these factors when they criticize PIA for awarding huge water rights without considering the effects on other water users.[42]

---

38. *See Big Horn I*, 753 P.2d at 76; *see also* Martha C. Franks, *The Use of the Practicably Irrigable Acreage Standard in the Quantification of Reserved Water Rights*, 31 NAT. RESOURCES J. 549 (1991); Gina McGovern, *Settlement or Adjudication Resolving Indian Reserved Rights*, 36 ARIZ. L. REV. 195, 205-08 (1994); Andrew C. Mergen & Sylvia F. Liu, *A Misplaced Sensitivity: The Draft Opinions in* Wyoming v. United States, 68 U. COLO. L. REV. 683 (1997).

39. *Big Horn I*, 753 P.2d at 101.

40. *Id.*

41. *Id.* at 103-04 (noting expert testimony on discount rate variations from two percent to 11 percent); *see also* Lynnette Boomgaarden, *Practicably Irrigable Acreage Under Fire: The Search for a Better Legal Standard*, 25 LAND & WATER L. REV. 417, 430 (1990) (noting that small changes in variables, particularly the discount rate, have large effects on PIA); H.S. Burness, et al., *The "New" Arizona v. California: Practicably Irrigable Acreage and Economic Feasibility*, 22 NAT. RESOURCES J. 517, 522 (1982); Franks, *supra* note 38, at 562 (noting the considerable guesswork in the economic feasibility analysis); Shay, *supra* note 34, at 578 (asserting that the cost/benefit analysis in application of the PIA standard is highly subjective and can be an expensive battle of experts).

42. Judith V. Royster, *A Primer on Indian Water Rights: More Questions Than Answers*, 30 TULSA L.J. 61, 75 (1994); Elizabeth Weldon, *Practicably Irrigable Acreage Standard: A Poor Partner for the West's Water Future*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 203, 205 (2000).

While states and private water users debate the technical aspects of the economic feasibility analysis, tribes debate whether its application is appropriate at all. Passage of the Reclamation Act in 1902 began the use of federal subsidies to facilitate settlement of the West.[43] This federal policy led to substantial non-Indian irrigation development in basins shared with Indian reservations. Many argue that the economic feasibility analysis under the PIA standard holds quantification of tribal water to a higher standard than federal Reclamation projects.[44] The unfairness of this is particularly acute where tribal water resources are shared with a Reclamation project. Given the dissatisfaction on both sides of the debate, it is not surprising that parties to adjudication of tribal water rights sought change.

In 1989, the U.S. Supreme Court granted certiorari on *Big Horn I* on the question, "In the absence of any demonstrated necessity for additional water to fulfill Reservation purposes and in the presence of substantial state water rights long in use on the Reservation, may a reserved water right be implied for all practicably irrigable land within a Reservation?"[45] The Court

---

43. Regarding the size of the subsidy, see DANIEL MCCOOL, COMMAND OF THE WATERS: IRON TRIANGLES, FEDERAL WATER DEVELOPMENT, AND INDIAN WATER 71 (1987) (noting an investment of $3.62 billion in Reclamation by 1974, resulting in a 57–97 percent subsidy according to a 1980 study by the Interior Department's Office of Policy Analysis). Regarding the policy behind the Reclamation Act, see MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER 4, 120-24 (1987) (summarizing the many bailouts of Reclamation projects through restructuring of repayment and extension of the repayment period required on the federal capitol investments in reclamation, Reisner states, "Were it not for a century and a half of messianic effort toward [manipulation of water], the West as we know it would not exist."); *see also* Ivanhoe Irrigation Dist. v. McCracken, 357 U.S. 275, 292 (1958) (holding that Congress intended the Reclamation program to benefit "the largest number of people, consistent, of course, with the public good"); Peterson v. United States Dep't of the Interior, 899 F.2d 799, 802-03 (9th Cir. 1990) ("With the Reclamation Act, Congress created a blueprint for the orderly development of the West, and water was the instrument by which the plan would be carried out..."); United States v. Tulare Lake Canal Co., 535 F.2d 1093, 1119 (9th Cir. 1976) (stating that the Act had the following goals: "to create family-sized farms in areas irrigated by federal projects...to secure the wide distribution of the substantial subsidy involved in reclamation projects and limit private speculative gains resulting from the existence of such projects").

44. Franks, *supra* note 38, at 578 (noting that a strict application of a PIA economic analysis would not show any modern federal water project to be feasible); Walter Rusinek, *A Preview of Coming Attractions?* Wyoming v. United States *and the Reserved Rights Doctrine*, 17 ECOLOGY L.Q. 355, 372 (1990) (criticizing the application of PIA in *Arizona II* for imposing more stringent standards than those required for federal reclamation projects); Shay, *supra* note 34, at 579 (noting that Tribes argue that the economic feasibility analysis under PIA is more stringent than the requirements for federal reclamation projects).

45. Wyoming v. United States, 488 U.S. 1040 (1989) (granting certiorari on "Question 2 presented by the petition"). Text of the question may be found at Rusinek, *supra* note 44, at 394 n.267.

issued the following ruling: "The judgment below is affirmed by an equally divided Court."[46]

With PIA reaffirmed, courts and parties proceeded to settle under the guidelines imposed by the PIA standard despite the fact that it resulted in a less than satisfactory outcome in the vast majority of cases.[47] Those affected by water allocation were thus startled to learn that an even more subjective standard might have prevailed. Upon the opening of the papers of Justice Thurgood Marshall, parties learned that prior to her recusal from *Big Horn I* due to the conflict created by a family ranch with water claims in the Gila River adjudication, Justice O'Connor had written a majority opinion that would have altered the PIA standard.[48] Justice O'Connor would have required "sensitivity" to private development and reduced a PIA award if the projects proposed lacked a "reasonable likelihood" of being built.[49] Thus, a standard already highly variable in its application would have included the subjective requirement that the political will to develop irrigation on that particular reservation exists. Quite possibly that political will would decrease with the increasing level of water development in basins shared with a reservation. Lucky the tribe who ended up with flat land in a warm climate where its trustee did not promote irrigation of surrounding land through development of a Reclamation project. The dispute within the Supreme Court made public by the release of the Marshall papers, combined with growing concern over inequitable results, rendered the issue of the standard for quantification of tribal water rights ripe for change.

II. THE HOMELAND STANDARD

On November 26, 2001, the Arizona Supreme Court rejected agriculture as the standard purpose and PIA as the sole measure of agricultural reserved water rights on Indian reservations in Arizona,

---

46. Wyoming v. United States, 492 U.S. 406 (1989).

47. It should be noted that nothing in either *Arizona I* and *II* or *Wyoming v. United States* requires PIA as the only standard for quantification of a reserved water right. These cases merely endorse the method as a reasonable accommodation of the need to quantify future rights when the purpose of the reservation has been determined to be agricultural. Nevertheless, seeking to avoid a costly process of trial and error to determine what other standard the Supreme Court might accept, states and tribes have relied on the validity of PIA.

48. Second Draft Opinion of O'Connor, J., at 17-18, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) (available in the Manuscript Division of the Library of Congress, papers of Justice Marshall); *see also* Mergen and Liu, *supra* note 38, at 684.

49. Second Draft Opinion of O'Connor, J., at 17, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) (available in the Manuscript Division of the Library of Congress, papers of Justice Marshall).

concluding that a homeland rather than an agricultural purpose applies.[50] The concept of a Reservation as a homeland is not new. [51] However, the Arizona Supreme Court is the first state court to squarely adopt a homeland standard and to further articulate a method of quantification consistent with that standard.

The Arizona Supreme Court ruling arose in the context of the water rights of the Gila River Indian Community. Quantification of those water rights is in active negotiation.[52] The Gila River is Arizona's largest tributary to the Colorado River, and the claims of the Gila River Indian Community are the largest on the river.[53] The 1.5 million acre-feet claim of the Gila River Indian Community represents the entire annual flow of the river from the main stem and tributaries upstream from the Reservation.[54] The Arizona Supreme Court has closely defined the scope of that negotiation with respect to the quantification of the water rights. On May 16, 1991, the Arizona Supreme Court held that a court may not approve an Indian water rights settlement unless it is convinced "by a preponderance of the evidence that [] there is a reasonable basis to conclude that the water rights of the Indian tribe...established in the settlement agreement...are no more extensive than the Indian tribe...would have been able to prove at trial."[55] Thus, despite the fact that the Tribes' water rights are in negotiation, the parties must reach a settlement that results in a tribal water right that is less than or equal to the right the Gila River Indian Community would have

---

50. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. and Source, 35 P.3d 68, 76 (Ariz. 2001) (*Gila V*).

51. Tribes have long asserted a homeland purpose in quantification of water rights. Courts have either rejected the approach, *see In Re* Gen. Adjudication of All Rights to Use of Water in the Big Horn River Sys., 753 P.2d 76, 94-97 (Wyo. 1988) (*Big Horn I*), *aff'd mem. sub. nom.*, 492 U.S. 406 (1989) (rejecting the finding of the Special Master that treaty language stating "[t]he Indian herein named agree...they will make said reservations their permanent home" indicated that a primary purpose of the Reservation was to provide a permanent homeland), or relied on quantification for irrigation to provide sufficient water to account for future needs implicit in a homeland purpose. Colville Confederated Tribes v. Walton, 647 F.2d 42, 47-48 (9th Cir. 1981) (holding that "one purpose for creating this reservation was to provide a homeland for the Indians to maintain their agrarian society" and then concluding that the amount of water necessary to irrigate all practicably irrigable acreage is the appropriate measure of water for that purpose).

52. S. Joshua Newcom, *Peace on the Gila? Pending Gila River Indian Community Settlement Tied to CAP Repayment*, River Report, Colorado River Project (Summer 2001), *at* http://water-ed.org/rrsummer2001.asp.

53. *Id.*

54. *Id.*

55. Special Procedural Order Providing for the Approval of Fed. Water Rights Settlements, Including Those of Indian Tribes (May 16, 1991) at 7, *In re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68 (Ariz. 2001) (*Gila V*), *available at* http://www.supreme.state.az.us/wm/DecisionsandOrders.htm.

obtained in litigation.[56] As a result, negotiations benefit from an understanding among the parties of the standard under which a court would quantify the tribal water rights.

The question of quantification, addressed in the November 26, 2001, ruling, came before the Arizona Supreme Court during the settlement process because of the court's role in the interlocutory review.[57] At issue in the November 26, 2001, ruling was, "What is the appropriate standard to be applied in determining the amount of water reserved for federal lands."[58] The trial court had concluded that the purpose of the reservation is agricultural and the appropriate standard is PIA.[59] The Arizona Supreme Court rejected both the purpose and the measure defined by the lower court, concluding that

1. The purpose of any reservation is to establish a "homeland"[60] and
2. The measure of the water right for a "homeland" is specific to the needs, wants, plans, cultural background, and geographic setting of the particular reservation, and cannot be defined by a single measure such as PIA.[61]

A. Analysis of the Arizona Supreme Court's "Homeland" Purpose

The Arizona Supreme Court's opinion in the Gila River adjudication represents a principled determination that an Indian reservation is established for a homeland purpose. First, the court distinguishes Indian reservations from other federal reservations on the basis of the canons of construction requiring liberal interpretation of treaties, statutes, and executive orders pertaining to Indian affairs and the

---

56. *Compare In Re* the Adjudication of Existing and Reserved Rights to the Use of Water, Both Surface and Underground, of the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation Within the State of Montana in Basins 40E, 40EJ, 40O, 40Q, 40R, & 40S, No. WC-92-1, 7-8 (Mont. Water Ct. 2001) (concluding that, if there is no material injury to other water rights, the standard of review of an Indian water rights settlement in Montana is that the settlement be "fundamentally fair, adequate, and reasonable and conforms to applicable law").

57. *See* Special Procedural Order Providing for Interlocutory Appeals and Certifications (Sept. 26, 1989), *In re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68 (Ariz. 2001) (*Gila V*) (Nos. W-1, W-2, W-3, and W-4), *available at* http://www.supreme.state.az.us/wm/InterlocutoryAppeals.htm (addressing the court's role in the interlocutory review).

58. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 71 (Ariz. 2001) (*Gila V*).

59. *Id.*

60. *Id.* at 76.

61. *Id.* at 79-80.

federal fiduciary relationship with tribes.[62] Second, the court interprets *Winters* and *Arizona I* to be consistent with a determination that the purpose of the establishment of an Indian reservation is to provide a permanent homeland.[63] Third, the court points out that the traditional test for identifying the purpose of implied reserved water rights for federal reservations, which involves examination of historic documents associated with establishment of a reservation, is inadequate when applied to Indian reservations.[64] Historic documents illustrate more than a century of conflicting federal policy and multiple efforts to reduce Indian lands for the purpose of opening areas for non-Indian settlement, and revealing little about the intended use of land dedicated to reservation status.[65] Under the Arizona Court's ruling, this traditional examination of the specific history and documents associated with a particular Indian reservation is left to the quantification stage of that particular reservation's water rights, not the determination of purpose. Each step in the court's analysis will be discussed in turn.

1. The Difference Between Indian and Other Federal Reservations

With the exception of the brief endorsement of the Wind River water right, the U.S. Supreme Court has addressed the doctrine of reserved water rights since 1963 only in the context of non-Indian federal reservations.[66] In doing so, the Court has articulated a very narrow construction of the scope of the implied right, raising the issue of whether the same narrow construction applies to Indian reserved rights.[67]

In *United States v. New Mexico*, the U.S. Supreme Court addressed the reserved water rights of the Gila National Forest and announced a distinction between primary and secondary purposes of a reservation.[68] The Court noted that for every gallon of water awarded to the federal

62. *Id.* at 74, 76.

63. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 74, 78 (Ariz. 2001) (*Gila V*).

64. *Id.*

65. *Id.*

66. *See* Cappaert v. United States, 426 U.S. 128 (1976) (affirming an injunction against private groundwater pumping affecting water levels at an underground pool within a national monument); United States v. New Mexico, 438 U.S. 696 (1978) (addressing the scope of the reserved water right associated with a national forest).

67. MERGEN AND LIU, *supra* note 38, at 697, 706-07 (noting dispute over whether the Sensitivity Doctrine from *New Mexico* and *Cappaert* applies to Indian reserved water rights); ROYSTER, *supra* note 42, at 72 (noting that "[t]he Supreme Court has not applied [the primary/secondary distinction of *New Mexico]* to Indian water rights"); RUSINEK, *supra* note 44, at 373.

68. *United States v. New Mexico*, 438 U.S. at 701-02.

government, one less gallon is available for appropriation under state law.[69] Thus, out of traditional deference to state law concerning allocation of water resources, the Court concluded that only primary purposes carry a reserved water right.[70] Water for secondary purposes can be fulfilled pursuant to state law.[71]

The Court further narrowed the scope of federal reserved water rights in addressing the rights associated with an underground pool expressly preserved in the establishment of a national monument.[72] The Court was unwilling to balance competing appropriative water interests against those of the federal land out of concern that congressional intent with respect to the use of federal land could be defeated.[73] However, once again, out of sensitivity to the traditional deference to state law, the Court stated, "The implied-reservation-of-rights-doctrine...reserves only that amount of water necessary to fulfill the purpose of the reservation, no more."[74]

The Arizona Supreme Court appropriately rejected application of this narrow construction to the rights of Indian reservations. The court relied on three factors to distinguish the liberal construction required for analysis of the rights of Indian Reservations from the narrow construction of those associated with non-Indian federal reservations. First, the court refers to the special fiduciary relationship between the federal government and Indian tribes.[75] Second, related to the fiduciary relationship, the court refers to the canon of construction that "treaties, statutes and executive orders are construed liberally in the Indians' favor."[76] Third, the court

69. *Id.* at 705. It should be noted that despite the influence of the concept of a gallon-for-gallon tradeoff on the reasoning of the Court, there is little actual data to support this assertion. Even on a stream considered fully appropriated, differences in timing of diversion use of storage and return flow render calculation of the tradeoff more complex.

70. *Id.*

71. *Id.*

72. Cappaert v. United States, 426 U.S. 128, 132 (1976).

73. *Id.* at 138-39.

74. *Id.* at 141. The term "sensitivity" was applied to this issue by the dissenting opinion in *United States v. New Mexico*, 438 U.S. at 718, in which Justice Powell states, "I agree with the Court that the implied-reservation doctrine should be applied with sensitivity to its impact upon those who have obtained water rights under state law and to Congress' general policy of deference to state water law." Although the majority opinion does not use the term "sensitivity," it is considered the source of the Sensitivity Doctrine.

75. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 74 (Ariz. 2001) (*Gila V*).

76. *Id.*

rejects the narrow construction as inadequate to meet the goal of Indian self-sufficiency.[77]

a. Fiduciary Relationship

Indian reservations are distinguished from federal reservations by the special relationship between tribes and the U.S. government. This special relationship in which the United States is considered the trustee for tribal nations "is one of the primary cornerstones of Indian law."[78] It is an outgrowth of the duty accepted by the federal government when it asserted dominance over Indian tribes.[79] Trusteeship governs "the required standard of conduct for federal officials and Congress...[and the interpretation of] treaties, agreements, statutes, executive orders, and administrative regulations."[80] A significant factor in the rise of the doctrine of trusteeship was the need for the federal government to intervene between states and tribes in order to protect the tribes.[81] In the face of this historic duty, it would be incongruous to construe tribal water rights narrowly out of deference to state law.

b. Canons of Construction

In addition, at the time of reservation establishment, tribal governments were generally weakened and faced with annihilation or agreement to peace on terms expressed in the English language of the federal government. To address this unequal bargaining power and to fulfill the obligation of the trustee to deal fairly with the Indians, the U.S. Supreme Court relies on certain canons of construction when interpreting treaties, statutes, and Executive Orders pertaining to Indian affairs.[82] Thus, in

---

77. *Id.* at 77 ("While the purpose for which the federal government reserves other types of lands may be strictly construed, the purposes of Indian reservations are necessarily entitled to broader interpretation if the goal of Indian self-sufficiency is to be attained.").

78. FELIX S. COHEN, HANDBOOK OF FEDERAL INDIAN LAW 221 (1982 ed.).

79. Cherokee Nation v. Georgia, 30 U.S. (5 Pet.) 1, 17 (1831) (Although the case merely concluded that the Supreme Court lacked original jurisdiction in a suit brought by a tribe against a state, Justice Marshall's dicta that tribes may "be denominated domestic dependent nations" and that "[t]heir relation to the United States resembles that of a ward to his guardian" is considered the source of the trustee doctrine.).

80. COHEN, *supra* note 78, at 220.

81. *See* Worcester v. Georgia, 31 U.S. (6 Pet.) 515, 561-62 (1832) (holding that "the laws of Georgia can have no force" within the boundaries of the reservation).

82. The canons of construction, first applied to treaties and later extended to statutes, executive orders, and administrative regulations, are "[1] that treaties be liberally construed to favor Indians; [2] that ambiguous expressions in treaties must be resolved in favor of the Indians; and [3] that treaties should be construed as the Indians would have understood them." COHEN, *supra* note 78, at 222. *See also* McClanahan v. State Tax Commission, 411 U.S. 164, 174 (1973) (ambiguous expressions must be resolved in favor of the Indian parties concerned); Choctaw Nation v. Oklahoma, 397 U.S. 620, 631 (1970) ("treaties with the Indians must be

Winters v. United States, the Court, faced with the dilemma of reconciling the intent of Congress in establishing the Fort Belknap Reservation with the conflicting intent of Congress in opening adjacent land to settlement, ruled that the canons of construction weigh in favor of tribes.[83] The Court concluded, in light of scarce water supply, that the water is reserved for the reservation.[84] No such principle in favor of a broad construction of reserving documents exists for national forests or monuments.[85]

c. Indian Self-Sufficiency

Finally, an Indian reservation is not a mere set-aside of public lands for a specific national purpose.[86] Meeting the goal of Indian self-sufficiency requires a broad reading of the purposes of an Indian reservation.[87] In contrast to a national forest that is set aside to protect certain resource values,[88] people live on Indian reservations. Preserving the ability of those people to determine their own future is not so singular as the primary purpose approach requires. Furthermore, this goal of self-sufficiency through establishment of a homeland is consistent with prior case law.

2. The Law Leading up to the Homeland Standard

In arriving at the homeland standard, the Arizona Supreme Court notes that the establishment of reservations as permanent homes formed the

---

interpreted as they would have understood them"); Choctaw Nation v. United States, 318 U.S. 423, 431-32 (1943) (Indian treaties must be liberally construed in favor of the Indians.); Charles F. Wilkinson & John M. Volkman, *Judicial Review of Indian Treaty Abrogation: "As Long as Water Flows or Grass Grows upon the Earth"—How Long a Time Is That?*, 63 CAL. L. REV. 601, 617 (1975).

83. Winters v. United States, 207 U.S. 564, 576 (1908).

84. *Id.* at 576-77.

85. MERGEN AND LIU, *supra* note 38, at 713.

86. Franks, *supra* note 38, at 555-56 (contrasting the minimal needs tests of *New Mexico* and *Cappaert* with the maximization of the water right found by applying PIA); Shay, *supra* note 34, at 575 (stating that "the purposes of Indian reservations cannot be clearly limited as they can be for a reservation like a National Forest"). *But see* Rebecca E. Wardlaw, *The Irrigable Acres Doctrine*, 15 NAT. RESOURCES J. 375, 375-76 (1975) The language in *Winters* can be interpreted as recognizing either a reservation of rights by the Indians or a reservation by the federal government and those who support the theory that *Winters* is based on a reservation of rights by the federal government "apparently do not materially distinguish the situation of an Indian reservation from that of other federal reservations." *Id.* at 376.

87. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 77 (Ariz. 2001) (*Gila V*), *citing* WILLIAM C. CANBY, JR., AMERICAN INDIAN LAW, 245-46 (1981). It should be noted that later in the opinion, the Arizona court states that "[t]he PIA standard also potentially frustrates the requirement that federally reserved water rights be tailored to minimal need." *Gila V*, 35 P.3d at 79. This falls in the section of the case discussing the application of the homeland standard. The contradiction between the court's broad reading of purpose and the narrow application of quantification is discussed below.

88. *See* United States v. New Mexico, 438 U.S. 696, 707 (1978) (explaining that Congress set aside national forests to conserve water flows and provide a reliable timber source).

basis for the U.S. Supreme Court's rulings in both *Winters* and *Arizona I*.[89] The Arizona homeland standard is consistent with both *Winters* and *Arizona I*, despite the articulation of PIA in the latter case, and represents a more principled development of the law that began with *Winters*.

Winters laid the groundwork for both the homeland standard and the erroneous interpretation that agriculture is the sole purpose of Indian reservations.[90] To arrive at the conclusion that the Reservation held the superior right, the Court spoke broadly, stating that "[t]he Indians had command of the lands and the waters—command of all their beneficial use, whether kept for hunting, 'and grazing roving herds of stock,' or turned to agriculture and the arts of civilization. Did they give up all this?"[91] The Court appropriately relied on the canons of construction for the proposition that treaties with Indian tribes must be construed liberally.[92]

But, it so happened that the particular tribal diversion in question in *Winters* was for the purpose of irrigation. Thus, the Court specifically addressed this issue. It pointed to the specific language in the treaty stating,

> The reservation was a part of a very much larger tract which the Indians had the right to occupy and use, and which was adequate for the habits and wants of a nomadic and uncivilized people. It was the policy of the government, it was the desire of the Indians, to change those habits and to become a pastoral and civilized people."[93]

Never mind that the Court also noted the treaty language stating that the land was reserved "as an Indian reservation and for a permanent home and abiding place of the Gros Ventre and Assiniboine bands or tribes of Indians,"[94] the pastoral stage was set.

Fifty years passed in which only occasional examples exist of the efforts of the United States to protect the irrigation water of tribes[95] until

---

89. *Gila V*, 35 P.3d at 74 (noting that *Winters* recognized the Fort Belknap Reservation as a "permanent home and abiding place," Winters v. United States, 207 U.S. 564, 565 (1908), and that *Arizona I* referred to the same concept as "a 'livable' environment." Arizona v. California, 373 U.S. 546, 599 (1963) (*Arizona I*).

90. Winters, 207 U.S. at 577.

91. *Id.* at 576.

92. *Id.*; *see supra* note 82; *see also* Royster, *supra* note 42, at 65 (noting that the Court relied on the canons of construction to liberally construe the purpose for the establishment of the Fort Belknap Reservation in *Winters*).

93. Winters, 207 U.S. at 576.

94. *Id.* at 565.

95. United States v. Ahtanum Irrigation Dist., 236 F.2d 321, 323, 326 (9th Cir. 1956), *cert. denied*, 352 U.S. 988 (1957) (establishing rights of the Yakima tribe in Ahtanum Creek and concluding that the 1855 treaty reserved water for present and future needs); United States v. Walker River Irrigation Dist., 104 F.2d 334 (9th Cir. 1939) (restraining upstream diversions from interfering with reserved water rights of the tribe); United States v. Orr Water Ditch Co.,

Arizona sued California for apportionment of the Lower Basin share of the Colorado River and the United States intervened asserting the reserved water rights in the basin, in particular those necessary to fulfill the agricultural purpose of five Indian reservations.[96] With little discussion of the agricultural purpose, the case focused on a method of quantification to fulfill that purpose. In formulating the PIA method, the Special Master articulated a land-based approach that appeared more objective and more certain than a method based on population growth. The U.S. Supreme Court accepted this approach and rejected the argument put forth by Arizona "that the quantity of water reserved should be measured by the Indians' 'reasonably foreseeable needs.'"[97] The state's proposed method was based on population projections, which, the Court concluded, "can only be guessed."[98]

Apparent in the Court's discussion in *Arizona I* is the struggle to find a method to quantify a water right not yet exercised in a manner that would fill the needs of the tribes for all times and yet provide certainty for off-Reservation water users. The rejection of the reasonable needs standard was not based on a determination that agriculture trumped all other uses, but on a concern that projections of population and need beyond the immediate future were too uncertain.[99] The U.S. Supreme Court endorsed the PIA standard, stating "that the only feasible and fair way by which reserved water for the reservations can be measured is irrigable acreage."[100] Nowhere did the Court articulate a conclusion that PIA was the only possible method for all reservations or that agriculture was the sole purpose for which any and all reservations were established.[101] However, implied in this search for a method that would withstand the test of time is recognition that the reservation is a permanent homeland.

3. *The Difficulty in Gleaning Congressional Intent*

In the search for reservation purpose, courts turn to "the document and circumstances surrounding its creation, and the history of the Indians

---

Equity No. A3 (D. Nev. 1944) (decree of water rights including those asserted by the United States on behalf of the Pyramid Lake Paiute Tribe); United States *ex rel.* Ray v. Hibner, 27 F.2d 909, 910 (D. Idaho 1928) (seeking to determine rights of Indians for water for irrigation and domestic use).

96. *See generally* Arizona v. California, 373 U.S. 546 (1963) (*Arizona I*).

97. *Id.* at 600.

98. *Id.* at 601.

99. *Id.* at 600-01.

100. *Id.* at 601.

101. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 78 (Ariz. 2001) (*Gila V*) (stating, "As observed by Special Master Tuttle in his Arizona II report, 'the Court did not necessarily adopt this standard as the universal measure of Indian reserved water rights...'") (citation omitted).

for whom it was created."[102] Rejecting this approach, the Arizona Supreme Court points out that the search for reservation purpose within the historical documents establishing any one Indian reservation will reveal conflicting purposes both in the documents themselves and within federal policy.[103]

A clear example of the problem created by reliance on establishing documents exists for the Rocky Boy's Reservation in Montana. Land originally set aside for the Rocky Boy's Reservation in Montana in 1916 was not identified as suitable for agriculture when included in a survey to identify agricultural land.[104] In 1938, this deficiency was recognized and 35,500 acres, some of it identified as marginal agricultural land, was purchased by the United States for addition to the Rocky Boy's Reservation.[105] Did the purpose of the Rocky Boy's Reservation suddenly change in 1938? What does that mean for small acreages that, despite the Secretary's survey, are irrigable within the original Reservation?[106] In short, which is more important: what the federal government considered the possibilities for use of that land over 80 years ago, or what the Tribes can make of it now?

The Gila River Indian Community experienced a similar ambiguous history. As noted by the Arizona Supreme Court, "the boundaries of the Gila River Indian Community changed ten times from its creation in 1859 until 1915."[107] The court notes that the different purposes associated with the additions and deletions of land asserted by state litigants would result in "[s]uch an arbitrary patchwork of water rights [as to be] unworkable and inconsistent with the concept of a permanent, unified homeland."[108]

The Arizona Supreme Court notes that parallel to the conflicting language of documents associated with specific Indian reservations is the

---

102. Colville Confederated Tribes v. Walton, 647 F.2d 42, 47 (9th Cir. 1981).

103. *Gila V*, 35 P.3d at 74-75.

104. General Orders and Circulars, No. 85, Headquarters of the Army, October 22, 1981; *see also* An Act Authorizing Secretary of the Interior to Survey Lands of the Abandoned Fort Assiniboine Military Reservation, ch. 25, 38 Stat. 807 (1915) (directing the Secretary to survey lands on the former military reservation suitable for agriculture, coal mining, and timer.). The Rocky Boy's Reservation was established out of a portion of the former military reservation; however, the Rocky Boy's Reservation included none of the land identified by the survey as suitable for agriculture.

105. S. REP. NO. 76-105, at 1-2 (1939). The area was not actually added to the Reservation until November 26, 1947.

106. *See also* Franks, *supra* note 38, at 562 (asserting that congressional intent varies for reservations and PIA is merely an expedient due to the difficulty and possible irrelevance of determining congressional intent).

107. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 74 (Ariz. 2001) (*Gila V*).

108. *Id.*

conflict between federal Indian policy and federal policy to settle the West in general.[109] As reservations were reduced in size, the Bureau of Reclamation developed irrigation projects for their off-reservation neighbors.[110] Thus, the policy of moving Indians out of the way for white settlement[111] ran headlong into the agricultural purpose assigned to reservations such as the five examined in Arizona I. The Arizona Supreme Court's ruling avoids the need to interpret conflicting documents and shifting federal policy associated with specific periods in U.S. history by taking a broad view of reservation purpose as what it should be if the United States is to keep its word and provide a permanent home for Indians.

B. The Measure of the Homeland Standard

The question remains: If a homeland rather than agricultural purpose is applied, what is the measure of the water right for a homeland? The ruling by the Arizona Supreme Court that Indian reservations are created for the purpose of providing a homeland allows Arizona courts to quantify water for uses other than agriculture. It does not eliminate the need to determine what those uses might be and how to quantify them. The difficulty this presents has led some federal courts to adhere to the PIA method for quantification despite the determination that a homeland purpose applies.[112]

The Arizona court rejects PIA as the sole measure of the water rights for a homeland purpose.[113] In reaching this conclusion, the Arizona Supreme Court raises certain policy concerns associated with application of PIA. First, the court raises one of the primary failings of the PIA standard—the constraints on economic progress and self-determination imposed by assuming a single economic "choice" for tribes: agriculture[114]—and notes that PIA imposes a method based on an economic pursuit that is no longer considered viable in many parts of the west.[115] Second, the court

---

109. *Id.* at 75.

110. *Compare* MCCOOL, *supra* note 43 (addressing funding for BOR irrigation development) and MCCOOL, *supra* note 43, at 125 (addressing funding for BIA irrigation development); *see also* Winters v. United States, 207 U.S. 564, 566 (1908) (addressing the conflict between the intent of the federal government in establishing the reservation and its intent in opening the surrounding area to settlement).

111. *Gila V*, 35 P.3d at 75.

112. Colville Confederated Tribes v. Walton, 647 F.2d 42, 47 (9th Cir. 1981).

113. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 78 (Ariz. 2001) (*Gila V*).

114. *Id.* at 76.

115. *Id.* at 78-79.

notes the potential "for inequitable treatment of tribes based solely on geographic location" through application of PIA.[116]

1. The Rejection of a Single (un)Economic Path for Indian Reservations

The Arizona Supreme Court rejects the PIA measure of tribal water rights because it implies that an Indian reservation will remain static, relying on agriculture even when it has been found no longer to serve the economies of the surrounding region.[117] The court may be criticized for failing to make the distinction between the purpose for which the right is quantified and the use to which the water is put.[118] However, both the requirement under the PIA method of economic feasibility under conditions at the time of quantification and the difficulty tribes have faced in attempting to apply water to uses other than irrigation once quantified render that distinction illusory and justify the approach of the Arizona court.

For acreage to be considered practicably irrigable, it must be economically feasible to irrigate under conditions existing at the time of adjudication.[119] This means that the economic benefits of developing irrigation must equal or outweigh the costs today.[120] Even under conditions existing in the early 1900s, the costs of irrigating the arid West have often exceeded the benefits.[121] This gap between benefit and cost has grown only more pronounced as the cost of development of infrastructure and environmental compliance has grown. As the Arizona court points out, "Although over 40 percent of the nation's population lived and worked on farms in 1880, less than 5 percent do today."[122] It is highly likely that if the surrounding region has switched from agriculture to other economic pursuits, it is because agriculture is no longer even marginally economically

---

116. *Id.*

117. *Id.* at 76, 78-79.

118. Arizona v. California, 439 U.S. 419, 422 (1979) (*Arizona II*) ("The foregoing reference to a quantity of water necessary to supply consumptive use required for irrigation...shall constitute the means of determining quantity of adjudicated water rights, but shall not constitute a restriction of the usage of them to irrigation or other agricultural application. If all or part of the adjudicated water rights of any of the five Indian Reservations is used other than for irrigation or other agricultural application, the total consumptive use...shall not exceed the consumptive use that would have resulted if the diversions...had been used for irrigation.").

119. *In Re* Gen. Adjudication of all Rights to Use of Water in the Big Horn River Sys., 753 P.2d 76, 101 (Wyo. 1988) (*Big Horn I*), *aff'd mem. sub. nom.*, 492 U.S. 406 (1989).

120. Shay, *supra* note 34, at 578.

121. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 78 (Ariz. 2001) (*Gila V*), *citing* Franks, *supra* note 38, at 578; *see also* MCCOOL, *supra* note 43, at 71; REISNER, *supra* note 43, at 5, 120-24.

122. *Gila V*, 35 P.3d at 76, *citing* U.S. CENSUS BUREAU, HISTORICAL STATISTICS OF THE UNITED STATES, COLONIAL TIMES TO 1970, 240, 457 (1975).

feasible.[123] Thus, PIA has become obsolete with the changing economic base of the West.[124]

Even if quantification under PIA is accomplished, the identification of a sole agricultural purpose becomes a barrier to pursuit of other economic uses of water by tribes. The distinction between quantification and use is one without a difference when tribes encounter insurmountable obstacles to application of water quantified for irrigation to other uses. These obstacles arise in the course of determining on what basis Indian water rights may be put to different uses and, in the first instance, who decides.

Interpretation of the McCarran Amendment to allow state court adjudication of water rights left open the question of administration of those rights once adjudicated. [125] The Ninth Circuit has held that a tribe has jurisdiction over administration, including change in use of its water rights when the water source is located wholly within a reservation.[126] However, the Ninth Circuit has also recognized state jurisdiction over non-Indian water use on a reservation when the water source is shared with land off the reservation.[127] The Wyoming Supreme Court took the constraints on tribal administration one step further. In response to a challenge to tribal dedication of a portion of the water rights of the Wind River Reservation to instream flow, the court concluded that the change could only occur pursuant to state law.[128] The Justices differed in their bases for the determination. One basis, that only the state can hold an instream flow right under Wyoming law, presents an absolute bar.[129] Even without the restriction on ownership of an instream flow right, Wyoming state law permits change in use of a water right only if the applicant can prove the change can occur without injury to other water users.[130] When a water right quantified for irrigation has never been developed for that purpose, the burden of proving no injury as a result of the change is nearly insurmountable. Yet, if agriculture is no longer an economic pursuit on the

123. Joseph R. Membrino, *Indian Reserved Water Rights, Federalism and the Trust Responsibility*, 27 LAND & WATER L. REV. 1, 23-24 (1992) (noting the incongruence between the shift of Reclamation water to urban uses and the argument that the tribal use should be agricultural).

124. Royster, *supra* note 42, at 75 (noting that PIA has been criticized for locking tribes into a nineteenth century notion when agriculture is no longer economically feasible).

125. 43 U.S.C. § 666(a); *see also supra* note 35 and accompanying text.

126. Colville Confederated Tribes v. Walton, 647 F.2d 42 (9th Cir. 1981).

127. United States v. Anderson, 736 F.2d 1358, 1366 (9th Cir. 1984).

128. *In Re* Gen. Adjudication of All Rights to Use Water in the Big Horn River Sys., 835 P.2d 273, 279 (Wyo. 1992) (*Big Horn III*).

129. *Id., citing* Wyo. Stat. Ann. § 41-3-1002(e) (Michie Supp. 1991).

130. *Big Horn III*, 835 P.2d at 280.

Reservation, the water will never be developed to provide a baseline from which change can occur.

Given the barriers to change in use of a tribal water right quantified for an agricultural purpose, the Arizona court was correct in saying, "Just as the nation's economy has evolved, nothing should prevent tribes from diversifying their economies if they so choose and are reasonably able to do so. The permanent homeland concept allows for this flexibility and practicality."[131]

2. Elimination of the Inequities of PIA

Although the PIA method has long been criticized by non-Indian water users as awarding too much water, widespread recognition of the inadequacy of the standard might not have occurred had adjudication of reserved rights not run-up against the inevitable—reservations where PIA granted so little water as to make a mockery of any promise to provide conditions for permanent settlement on a reservation.[132] This is particularly apparent for tribes on mountainous reservations or in northern climates.[133]

The Arizona Supreme Court recognized "the inequitable treatment of tribes based solely on geographic location" under the PIA standard as its primary objection to the "across-the-board" application of PIA.[134] The court noted the failure of the PIA standard to award an adequate water right to tribes in mountainous regions.[135] For illustration, the following discussion looks at the Mescalero Apache Indian Reservation, relied on by the Arizona court, and the Chippewa Cree of the Rocky Boy's Reservation in Montana.[136]

The Mescalero Apache Indian Reservation, established in 1852, is in the mountainous terrain of south-central New Mexico with an elevation

---

131. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. and Source, 35 P.3d 68, 76 (Ariz. 2001) (*Gila V*).

132. Royster, *supra* note 42, at 75 (noting that PIA is criticized as providing a windfall for some tribes while at the same time it is criticized for providing too little water for reservations with few irrigable acres); Wardlaw, *supra* note 86, at 382 (asserting that the PIA standard is unfair when applied to a reservation with no irrigable acres).

133. Mergen & Liu, *supra* note 38, at 695 (noting the unequal treatment of tribes in alluvial valleys versus those in mountainous terrain under the PIA standard).

134. *Gila V*, 35 P.3d at 78.

135. *Id., citing* State *ex rel.* Martinez v. Lewis, 861 P.2d 235 (N.M. Ct. App. 1993).

136. *See generally Martinez*, 861 P.2d at 246-51 (failure of tribe to prove economic feasibility of irrigation projects in mountainous terrain); Franks, *supra* note 38, at 560-62 (discussing the Mescalero Apache water right); Barbara A. Cosens, *The 1997 Water Rights Settlement Between the State of Montana and the Chippewa Cree tribe of the Rocky Boy's Reservation: The Role of Community and the Trustee*, 16 U.C.L.A. J. ENVTL. L. 255, 290 n.151 (1998) (describing settlement of water rights of Chippewa Cree Tribe of the Rocky Boy's Reservation as exceeding PIA in order to meet basic needs).

in the area suitable for crops that grow at an elevation above 6000 feet.[137] To prove-up a water right under the PIA method, experts for the Tribe and the United States went to great lengths to design creative irrigation projects that would move water by tunnel from the Rio Ruidoso into another drainage and provide irrigation for crops including alfalfa, barley, Christmas trees, strawberries and asparagus.[138] However, the New Mexico court rejected the notion that anything resembling practicably irrigable acreage exists on the Reservation.[139] In particular, the court states,

> If you use a small enough discount rate, grow an expensive enough specialty crop, assume that market demand will expand, and ignore enough management and labor costs, the standard of economic feasibility adopted by the United States Supreme Court in *Arizona v. California* becomes meaningless. The word "practicably" has been edited out.[140]

The Tribe's claim for 17,750 acre-feet of water per year was rejected and the Tribe was awarded 2322 acre-feet per year,[141] barely enough for a domestic water supply for a small town.

Similar to the Mescalero Apache, the Chippewa Cree of the Rocky Boy's Reservation are located in mountainous terrain. The Rocky Boy's Reservation lies in the Bearpaw Mountains of north-central Montana on land formerly part of the Fort Assiniboine military reservation.[142] On February 11, 1915, Congress authorized the Secretary of the Interior to survey Fort Assiniboine for disposal.[143] The survey was to identify (1) land suitable for agriculture to be opened for settlement, (2) coal land to be opened for settlement with coal resources reserved to the United States, (3) timber land to be disposed of pursuant to the timber laws, and (4) mineral land to be disposed of pursuant to the mineral laws.[144] On September 16, 1916, in response to petitions by the leaders of the Chippewa and Cree Tribes in the area, Congress amended the 1915 Act to set aside a 56,035 acre

---

137. *Martinez*, 861 P.2d at 238, 247.

138. *Id.* at 246-47.

139. *Id.* at 248-51.

140. *Id.* at 250.

141. *State ex rel.* Martinez v. Lewis, 861 P.2d 235, 238 (N.M. Ct. App. 1993); *see also* Franks, *supra* note 38, at 560-62 (asserting that the Mescalero case indicates that the PIA standard is flawed because it resulted in almost no water for the tribe).

142. General Orders and Circulars, General Field Order No. 8, Dept. of Dakota, Vol. 208, June 28, 1881. Fort Assinniboine was established by Executive Order on March 4, 1880; however, the boundaries were defective and were reprinted in this June 28, 1881, issuance.

143. An Act Authorizing the Secretary of the Interior to Survey the Lands of the Abandoned Fort Assiniboine Military Reservation and Open the Same to Settlement, ch. 25, 38 Stat. 807 (1915).

144. *Id.*

portion of the land for the Rocky Boy's Reservation, specifically designating it for the "Rocky Boy's Band of Chippewas and such other homeless Indians in the State of Montana as the Secretary of the Interior may see fit to locate thereon."[145] The Reservation contained none of the land in the former military reservation identified as suitable for irrigated agriculture.[146]

The Indian Reorganization Act, passed on June 18, 1934, authorized acquisition of lands for Indians.[147] Pursuant to this authority, a 156,000-acre area on the western border of the Reservation was designated as a maximum purchase area for addition of land to the Rocky Boy's Reservation.[148] In 1938 the Bureau of Indian Affairs purchased roughly 35,500 acres within this area from private landholders for $288,000.[149] Exchanges of letters between landowners and the BIA indicate that much of the land was marginal for agricultural purposes.[150]

In addition to having a limited agricultural land base, the Rocky Boy's Reservation is located in an area of scarce water supply. Annual precipitation averages 12 inches in the Reservation area suitable for growing hay.[151] Snowpack in the Bearpaw Mountains, which receive an average of 30 inches of precipitation per year, contributes to high spring runoff.[152] Capture of this runoff requires expensive storage.

Application of the PIA method to the Rocky Boy's Reservation using similar factors to those used by the New Mexico courts in reference

---

145. Act Providing for the Opening of the Fort Assiniboine Military Reservation, ch. 452, 39 Stat. 739 (1916).

146. General Orders and Circulars, No. 85 Headquarters of the Army, Oct. 22, 1891.

147. Indian Reorganization Act, ch. 576, 48 Stat. 984 (1934).

148. Project Plan—Rocky Boy's Reservation, Montana (1937) (available at the National Archives, Pacific NW Region, Fort Belknap Indian Agency, Land Acquisitions Project Files, 1937–47, Box 396). The actual outlines of the maximum purchase area were not articulated until 1939 in a Senate report. *See* S. REP. NO. 76-105 (1939). The area outlines may have been the result of recommendations of a group of federal officials who met in Great Falls, Montana, in 1936 to discuss the needs of Montana's landless Indians. *See* Letter from Superintendent Wooldridge to the Commissioner of Indian Affairs (Dec. 10, 1936) (available at the National Archives, Pacific NW Region).

149. S. REP. NO. 76-105 (1939). This area was not added to the Reservation until November 26, 1947, when the Assistant Secretary of the Interior signed the proclamation transferring the land in response to an agreement with the Chippewa Cree Tribe to enroll more landless Indians. THOMAS R. WESSEL, A HISTORY OF THE ROCKY BOY'S INDIAN RESERVATION 181 (1974) (unpublished manuscript on file with Montana Historical Society, cited in internal memorandum of the Reserved Water Rights Compact Commission staff).

150. *Id.*

151. SUSAN COTTINGHAM ET AL., TECHNICAL REPORT: COMPACT SETTLEMENT BETWEEN THE MONTANA RESERVED WATER RIGHTS COMPACT COMMISSION AND THE CHIPPEWA CREE TRIBE OF THE ROCKY BOY'S RESERVATION AND THE UNITED STATES 20 (2001) (unpublished report prepared for the Montana Reserved Water Rights Compact Commission) (on file with the Commission, Helena, Mont.).

152. *Id.*

to the Mescalero Apache Reservation results in a reserved water right of roughly zero.[153] By eliminating the requirement of economic feasibility and using variables that reflect the need to subsidize irrigation development on reservations and a trustee responsibility to provide potable drinking water, a more generous reserved water right of 20,000 acre-feet per year can be calculated.[154] When negotiations began to settle the water rights for the Rocky Boy's Reservation, little thought had been given either to the legal basis for application of PIA when it provided too little water for a tribe to exist, or to the moral dilemma.

Finally, if the plight of mountain and northern tribes under a PIA method is dim, what of the tribe whose prime agricultural land has been flooded by a federal water project? This is the fate of the most irrigable land on the Fort Berthold Reservation, drowned beneath the water backed up by the Army Corps of Engineer's Garrison Dam.[155] Under a PIA method, the very act of flooding the irrigable land of the reservation destroys any claim the tribe has to the water thus impounded. These extreme results are only necessary if courts persist in the fiction that all reservations, even those expressly established in areas not suitable for irrigated agriculture, have an agricultural purpose and a water right determined solely by calculation of Practicably Irrigable Acreage.

3. *An Alternative Measure of Tribal Water*

In articulating a purpose that would apply to most Indian reservations, the Arizona Supreme Court did not eliminate the need for an inquiry particularized to each reservation. It simply moved that inquiry from the determination of purpose to the quantification phase. The Arizona Supreme Court's alternative ties the quantification of tribal water rights to development of the specific reservation as a viable homeland. The measure of the water right for a "homeland" is specific to the needs, wants, plans, cultural background, and geographic setting of the particular reservation.[156] To achieve a quantity, the Arizona court requests that the lower court be presented with "actual and proposed uses, accompanied by the parties' recommendations regarding feasibility and the amount of water necessary to accomplish the homeland purpose."[157] The development of a master land

153. Telephone Conversation with Bill Greiman, Agricultural Engineer, Montana Reserved Water Rights Compact Commission (June 25, 2002).

154. *Id.* Note that this is precisely the approach rejected by the New Mexico Court in *Martinez*. A water right of 20,000 acre-feet per year was ultimately recognized for the Rocky Boy's Reservation to satisfy the development plan proposed by the Tribe. *Id.*

155. REISNER, *supra* note 43, at 195.

156. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 79-80 (Ariz. 2001) (*Gila V*).

157. *Id.* at 79.

use plan and the development of an economic development plan, both of which are common approaches in settlement, are two ways to achieve this requirement.[158] Under this approach, the tribe's historic and cultural uses are relevant as well as the geography of the reservation.[159] Thus, the standard approach of examining historic documents to determine reservation purpose re-appears in the Arizona Supreme Court's quantification methodology.

The approach articulated by the Arizona Supreme Court has long been used in interest-based settlement negotiations. For example, the "Fort McDowell Indian Community utilized a land use plan in conjunction with its water rights settlement based on agricultural production, commercial development, industrial use, residential use, recreational use, and wilderness."[160] The initial settlement proposal of the Chippewa Cree of the Rocky Boy's Reservation called for a water right to meet the needs of a development plan that included irrigation, commercial use (including a meat packing plant), recreation (including snow making at the Tribe's ski resort), domestic use, stock watering, and fish and wildlife enhancement projects.[161] The initial proposal for settlement of the water rights of the Gros Ventre and Assiniboine Tribes of the Fort Belknap Reservation was based on a development plan that included expansion of irrigation and enhancement of wildlife habitat.[162]

None of these proposed development plans limits the water right to existing needs nor are future needs based solely on population projections. The U.S. Supreme Court in *Arizona I* specifically rejected quantification of a reserved water right based on population trends.[163] Noting this, the Arizona Supreme Court states that "[w]hile it should never be the only factor, a tribe's present and projected future population may be

---

158. *Id.* at 79-80; *see also* Weldon, *supra* note 42, at 227 (arguing for replacement of PIA with a "true use standard" that requires a plan for development. The author goes further than the Arizona Supreme Court in also arguing for a requirement of identification of funding sources. For reasons discussed in part III, I do not believe this is a valid option since it ties a tribe's water right to the vagaries of the congressional budget process.); Rusinek, *supra* note 44, at 407 (asserting the validity of a homeland standard and noting that under that standard a court could require a development plan with agriculture as one component).

159. *Gila V*, 35 P.3d at 79-80.

160. *Id.* at 79, *citing* S. REP. NO. 101-479 (1990).

161. Water Rights Compact Entered into by the State of Montana, the Chippewa Cree Tribe of the Rocky Boy's Reservation and the United States of America 5-12 (Aug. 6, 1992) (working draft available at the Montana Reserved Water Rights Compact Commission, Helena, Mont.).

162. NATURAL RESOURCES CONSULTING ENGINEERS, INC., PRELIMINARY DRAFT WATER RIGHTS DEVELOPMENT PLAN, FORT BELKNAP INDIAN RESERVATION, MONTANA 17, 31 (1995) (available at the Montana Reserved Water Rights Compact Commission, Helena, Mont.).

163. Arizona v. California, 373 U.S. 546, 600-01 (1963) (*Arizona I*).

considered in determining water rights."[164] Population projections have been used in a limited fashion in developing the portion of tribal development plans addressing domestic use.[165]

Each of the plans listed above turns to the specific geography, climate, culture, and desires of the reservation in question in formulating the plan. That each of these development plans formed the basis of a settlement that achieved voluntary approval by tribal councils serves to emphasize the adequacy of the approach. By considering not only the needs but also the choices of a particular tribe, the method recognizes that no two reservations are alike in climate, geography, culture, or aspiration.[166]

III. CONCERNS WITH THE ARIZONA HOMELAND STANDARD

The determination that Indian reservations were intended as homelands is difficult to fault. Despite the fact that the U.S. Supreme Court has required a finding of purpose particularized to establishment of each reservation, the reasoning employed by the Arizona court would lead to a finding of a homeland purpose in most cases. Where concern will be raised with the Arizona Supreme Court's approach is in the measure of the water rights for the homeland purpose. First, does the Arizona Supreme Court's method result in a significant change in the measure of the water right for agricultural reservations and, if so, does the change adversely affect settlement or litigation that has proceeded in reliance on the validity of PIA? Second, does the Arizona Supreme Court's method affect funding for Indian water rights settlement given that federal criteria ties funding, in part, to the value of the water right the United States failed to protect as well as the value of the original claim relinquished in settlement?

A. Reliance on PIA

State courts and settling parties have proceeded since 1963 under the assumption that a negotiated or litigated water right resembling a PIA measure will withstand scrutiny. Thus, considerable public and private funds have been spent undertaking the studies necessary to establish the technical and economic feasibility of irrigation on specific Indian

---

164. *In Re* Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, 35 P.3d 68, 80 (Ariz. 2001) (*Gila V*); *see also* MSE-HKM ENGINEERING, MUNICIPAL, RURAL AND INDUSTRIAL WATER SUPPLY SYSTEM NEEDS ASSESSMENT, ROCKY BOY'S INDIAN RESERVATION 21-26 (1996) (prepared for the Bureau of Reclamation) (available at the Montana Reserved Water Rights Compact Commission, Helena, Mont.) (using population projections to determine the future drinking water needs of the tribe).

165. *See, e.g.*, MSE-HKM ENGINEERING, *supra* note 164.

166. *See, e.g.*, Franks, *supra* note 38, at 563 (criticizing PIA for ignoring need and choice).

reservations. Would adoption of the Arizona Supreme Court approach render this effort useless? Not necessarily.

The primary concerns with PIA expressed by the Arizona Supreme Court are (1) PIA prevents economic diversity or change in use and (2) PIA discriminates against northern and mountainous reservations. These concerns are addressed by the broad scope of a development plan associated with a homeland standard and do not require elimination of PIA.[167] Consideration of an Indian reservation as a homeland still leaves open the question of what type of homeland it is. The Arizona Supreme Court calls for the utilization of master land use or economic development plans in place of the PIA method. However, every component of a land use or economic development plan must be accompanied by some method for quantification of current and future water needs. Each of the development plans discussed above included an agricultural component. Thus, resorting to a development plan does not eliminate the need to establish a method for quantification of the agricultural component of the water right.

Any method to quantify the agricultural portion of the homeland water right must walk the line between the acceptance of PIA and the rejection of a "reasonable needs" test by the U.S. Supreme Court in *Arizona I*.[168] Thus, the quantification cannot be based merely on foreseeable needs and population projections.[169] Courts must distinguish between the fact that it may be necessary and prudent to develop only a portion of the tribal water rights in the near future—an issue of funding and immediate need—and the scope of the water right for all time. Although the Arizona Supreme Court rejects PIA as the sole measure of tribal water rights and points out some of its failings, nothing in the opinion precludes use of PIA as one component of quantification. PIA remains one objective means by which to quantify the agricultural portion of a development plan.

Evaluation of alternatives to the use of PIA in quantification of agricultural water illustrates the difficulty in development of a different methodology. The U.S. Supreme Court in *Arizona I* rejected the "reasonable needs" test, which based water use on population projections.[170] Although population projections are commonly used in determining the size of, for example, a drinking water project over its projected 50-year life, a reserved water right quantification is a final decree of the water right for all time. The

---

167. Inequities resulting from the economic feasibility portion of the PIA analysis are beyond the scope of this article; however, modification of the standard could begin by applying the same standard used in evaluating other federal water projects in the same basin at the time of their development rather than a modern standard that holds tribes to a higher level of economic scrutiny.

168. Arizona v. California, 373 U.S. 546, 600 (1963) (*Arizona I*).

169. *Id.*

170. *Id.*

U.S. Supreme Court was understandably reluctant to tie that right to the vagaries of population growth and migration, turning instead to a land based methodology.

The draft opinion of Justice O'Connor in *Big Horn I* discussed above adheres to the land-based approach in PIA but is also problematic. Justice O'Connor would have retained the three-step process in a PIA analysis and then added a fourth step requiring "a 'practical' assessment—a determination apart from theoretical economic and engineering feasibility—of the *reasonable likelihood* that future irrigation projects, necessary to enable lands which have never been irrigated to obtain water, will *actually* be built."[171] As noted above, this standard subjects the final quantification of a tribal water right for all time to the political wind of today. Are we in a balanced budget cycle? What is the political clout of neighboring off-reservation farmers? Have we already developed all the water in this basin for a Reclamation project? Are there water-dependent endangered species in this basin? Such a subjective analysis is clearly at odds with *Arizona I* and tends to once again blur the distinction between quantification and use. That line is further blurred by the current federal policy on funding of Indian water right settlements, thus linking quantification and funding in a way that would have serious consequences should the new Arizona approach result in a substantial reduction in the initial claims of Arizona's tribes.

B. The Effect on Settlement Funding

Funding to implement tribal water right settlements is essential to the health, welfare, and economic development of reservations. Currently, although some funding is obtained through local contributions to settlement, the bulk of implementation funding is federal.[172] The following paragraphs describe how the federal method for computation of settlement funding uses the value of a tribe's legal claim for water as the primary basis for the funding calculation. Just as use of PIA methodology leaves land-poor tribes with insufficient water, the federal method of funding calculation leaves land-poor tribes with no means to develop what little water they are determined to have a right to.

---

171. Wyoming v. United States, Draft Opinion, *supra* note 48, at 17.

172. *See, e.g.*, Southern Arizona Water Rights Settlement, Pub. L. No. 97-293, 96 Stat. 1274 (1982) and Pub. L. No. 102-497, 106 Stat. 3255 (1992) (federal project for tribes); Salt River Pima-Maricopa Indian Community Water Rights Settlement, Pub. L. No. 100-512, 102 Stat. 2549 (1988) (use of water exchanges); San Carlos Apache Tribe Water Rights Settlement, Pub. L. No. 102-575, 106 Stat. 4600 (1992) (use of Central Arizona Project water); for summary table, *see* ELIZABETH CHECCHIO & BONNIE G. COLBY, INDIAN WATER RIGHTS: NEGOTIATING THE FUTURE, 4-5 (1993).

The current basis for the Department of the Interior's recommendation on funding levels for an Indian water rights settlement is set forth in the "Criteria and Procedures for the Participation of the Federal Government in Negotiations for the Settlement of Indian Water Right Claims."[173] The Criteria and Procedures were established pursuant to a negotiation policy articulated by former President Bush[174] and remained unchanged throughout the Clinton administration and thus far in the current Bush administration.[175]

The Criteria and Procedures provide guidelines for the procedure for federal participation in negotiations to settle Indian Water Rights and the criteria for determining federal negotiating positions.[176] Of particular importance in the Criteria and Procedures when considering the standard to be used for quantification of tribal water rights are (1) the evaluation of the likely "litigation outcome" used to evaluate settlement proposals for quantification;[177] and (2) the criteria tying federal funding to federal legal exposure, and the criteria tying the federal position on state and local monetary contribution to settlement to the benefits received by those interests through reduction in the tribal water claim.[178]

1. The Litigation Outcome

Calculation of the potential best- and worst-case scenario for litigation of the tribal right provides the federal government with a bottom

---

173. Criteria & Procedures for the Participation of the Federal Government in Negotiations for the Settlement of Indian Water Rights Claims, 55 Fed. Reg. 9223 (Mar. 12, 1990) [hereinafter Criteria & Procedures].

174. In his statements on signing the "Puyallup Tribe of Indians Settlement Act of 1989," President Bush stated,

> The Administration expects to continue to work toward settlement of legitimate Indian land and water rights claims to which the Federal Government is a party....Indian land and water rights settlements involve a complicated blend of law, treaties, court decisions, history, social policies, technology, and practicality. These interrelated factors make it difficult to formulate hard-and-fast rules to determine exact settlement contributions by the various parties involved in a specific claim....In recognition of these difficulties, this Administration is committed to establishing criteria and procedures to guide future Indian land and water claim settlement negotiations including provision for Administration participation in such negotiations.

George Bush, 1 Pub. Papers 771, 772 (June 21, 1989).

175. A Department of the Interior official, William Meyers III, in a statement at the Western States Water Council/Native American Rights Fund Symposium on Indian Water Rights Settlement, St. George, Utah, October 2001, indicated that the Bush administration is willing to review the Criteria and Procedures.

176. Criteria & Procedures, *supra* note 173, 55 Fed. Reg. 9223 (Mar. 12, 1990).

177. *Id.*

178. *Id.*

line against which the actual settlement can be measured for purposes of determining federal support. As trustee, the federal government's support is essential to finalization of a settlement.

Currently the PIA method of quantification is used to determine the potential litigation outcome. The warm climate, generous soils, and flatland location of many of Arizona's Indian reservations render application of the PIA method likely to maximize initial tribal water right claims. The potential size and early date of these claims has been the primary force in driving non-reservation parties to the table to settle water rights. The resulting momentum has led to the design of more and more elaborate mechanisms for the trade and development of water.[179] Federal support for these solutions, particularly in basins where other federal water interests exist, is directly tied to the federal assessment of what a particular reservation is entitled to.[180]

Settlement of water for most reservations in Arizona is at a relatively advanced stage.[181] Federal assessment of proposed settlements generally occurs after the components of a likely settlement are identified, thus occurring fairly late in the process. Substantial public money has been spent in reliance on a PIA method for Arizona tribes.[182] Introduction of a new measure—the development plan—with details yet to be worked out could render existing assessment obsolete and cast a shadow of uncertainty over the ongoing federal process.[183] Stability in notions of rights throughout the rather lengthy settlement process is essential to an outcome that generates federal support. As discussed above, continued use of a PIA method for reservations with actual irrigation potential avoids this problem.

2. *Funding*

In the absence of retention of PIA as the measure of the agricultural portion of the water right, the greatest effect on Arizona tribes who are in the middle of processes to achieve settlement of their water rights is the effect on federal support for funding to implement those settlements. Funding for development of tribal water and changes in water

---

179. *See, e.g.*, Southern Arizona Water Rights Settlement, Pub. L. No. 97-293, 96 Stat. 1274 (1982), Pub. L. No. 102-497, 106 Stat. 3255 (1992) (federal project for tribes); Salt River Pima-Maricopa Indian Community Water Rights Settlement, Pub. L. No. 100-512, 102 Stat. 2549 (1988) (use of water exchanges); San Carlos Apache Tribe Water Rights Settlement, Pub. L. No. 102-575, 106 Stat. 4600 (1992) (use of Central Arizona Project water); *summarized in* CHECCHIO & COLBY, *supra* note 172, at 4-5.

180. Criteria & Procedures, *supra* note 173, 55 Fed. Reg. 9224 (Mar. 12, 1990).

181. *See* The Online Arizona General Stream Adjudication Bulletin, *at* http://www.supreme.state.az.us/wm/bulletin.htm. (last modified Sept. 3, 2002).

182. Telephone Interview with Pam Williams, Solicitor's Office, Indian Affairs Division, U.S. Department of the Interior (Feb. 26, 2002).

183. *Id.*

infrastructure necessary to implement an Indian water rights settlement generally comes from two sources: (1) federal contribution and (2) state and local contribution.[184] Both components are affected by the method relied on to calculate the measure of the tribal water right had its resolution occurred in court.

First, the federal criteria for determining contributions to settlement provide that "Federal contributions to a settlement should not exceed the sum of...calculable legal exposure [and] Federal trust or programmatic responsibilities...[that] cannot be funded through a normal budget process."[185] The Department of the Interior considers four factors in this calculation: (1) the avoided cost of litigation of the reserved water right, (2) the value of the portion of the tribal water right claim that the tribe gives up, (3) the value of any other claims against the United States related to water resource management or management of other natural resources that the tribe agrees to relinquish, and (4) cost of water development that would generally be funded through a BIA program if there is a justification for including the funding in the settlement rather than the BIA program funding.[186] However, in practice, positions taken by the Department of the Interior in negotiations indicate that the primary focus has been on the litigation exposure portion of this analysis.[187] The United States, as trustee over tribal resources, is liable for failure to protect those resources.[188] Thus, federal litigation exposure is strongly influenced by the value of the resource that the United States allegedly failed to protect. The greater the value of the calculated tribal water right expected in litigation, the greater the justifiable contribution.

Second, federal support for non-federal contribution is also tied to the measure of the tribal water right claim given up in settlement.[189] The Criteria and Procedures require the Department of the Interior to evaluate non-federal contribution to settlement in proportion "to benefits

184. CHECCHIO & COLBY, *supra* note 172, at 69-70.

185. Criteria & Procedures, *supra* note 173, 55 Fed. Reg. 9223 (Mar. 12, 1990).

186. Telephone interview with Richard Aldrich, Field Solicitor, U.S. Department of the Interior (June 19, 2002).

187. Telephone interview with Susan Cottingham, Program Manager, Montana Reserved Water Rights Compact Commission (Apr. 2, 2002).

188. *See, e.g.*, The Fort Belknap Indian Community v. United States, Docket No. 250-A, Indian Claims Commission; Blackfeet and Gros Ventre Tribes of Indians v. United States, Docket No. 279-C, Indian Claims Commission, Consolidated before the Court of Claims, Order Jan. 7, 1981 (resolves claims for mismanagement of natural resources).

189. Criteria & Procedures, *supra* note 173, 55 Fed. Reg. 9223 (Mar. 12, 1990). The Criteria and Procedures are not binding on non-federal parties. Non-federal parties could circumvent Administration support and go directly to Congress for appropriations. However, as a practical matter, Administration support, particularly for items that have an impact on the federal budget, is essential to finalization of a settlement.

received."[190] State and local parties are considered by the Department of the Interior to be the beneficiaries of the water made available through relinquishment of a portion of the tribal claim. Generally the water made available is the difference between a tribe's credible water right claim and a settlement quantification. This difference is between a water right calculated under a PIA method and a smaller water right proposed under a development plan. In short, under the Criteria and Procedures, non-federal contribution has been calculated as the difference between PIA and the proposed measure of the Arizona Supreme Court's homeland standard. Elimination of the PIA method of quantification eliminates the basis for state and local contribution. The following analysis concludes that rather than provide a basis for questioning the Arizona Supreme Court's approach, the problems it raises for federal funding merely emphasize the need to revisit the federal Criteria and Procedures.

Basing federal contribution on legal exposure has never been an appropriate measure of the federal obligation to assist tribes in development of water supplies. Although the suggested retention of PIA to measure the agricultural portion of a homeland water right under the Arizona Supreme Court's approach would alleviate part of the problem, it does nothing to remedy the existing inequity evident in the Criteria and Procedures. As noted above, the federal calculation of funding is strongly tied to the value of the initial tribal claim. Just as it is cheaper to back into a Volkswagen than a Mercedes, failure by the trustee to protect a small water right is cheaper than failure to protect a large one. Thus, claims based on PIA by tribes in alluvial valleys in southern climates lead to high calculated federal legal exposure. In contrast, federal exposure for a mountainous reservation in the north like Rocky Boy's is minimal. The additional problems highlighted by contemplation of a new standard of quantification may be just the impetus necessary to remedy the Criteria and Procedures to properly reflect the federal fiduciary obligation to tribes.

C. Recommended Changes to the Federal Approach to Funding

Change in the Criteria and Procedures is necessary to reflect the obligation of the federal trustee to ensure the ability of tribes to develop a viable reservation homeland. The recognition of a homeland purpose by the Arizona Supreme Court suggests the path the United States should follow in making those changes. That path would pose the question, "What are the water needs of a viable reservation economy, culture, and ecology?" not, What is the potential federal legal exposure should we fail to protect tribal

190. *Id.*

resources?" Thus, the recommended approach ties funding to the tribe's plans for the present and future needs of its reservation.

Criticism of the Criteria and Procedures is not new. From the outset, tribal representatives criticized both their substance and the failure to obtain tribal comment prior to their publication.[191] Even federal representatives have noted their shortcomings in calculating federal contribution to settlement.[192] The Native American Rights Fund proposed changes that would consider the need to attain "permanent economically sustaining homelands for the Indians" and "the financial means necessary for the Tribe to pursue economic development and strengthen tribal self-governance."[193] The proposed changes have never been considered for incorporation into the Criteria and Procedures. Notably, the proposed changes mimic the approach of the Arizona Supreme Court by focusing on the need to develop a reservation as a homeland. For the same reasons that a homeland standard represents a principled approach to quantification of Indian reserved water rights, calculation of funding at levels necessary to develop a reservation as a homeland represents a more principled approach than one based on litigation exposure.

Precedent exists for developing criteria tied to the economic and water needs and development plans of a particular reservation rather than litigation exposure. Despite the general emphasis on the legal exposure of the federal government, the Department of the Interior under the Clinton Administration became convinced that the trustee obligation must also be considered where the tribal resource base is poor. Thus, despite minimal exposure, the Department of the Interior recommended, Congress authorized, and President Clinton signed authorization for $46 million for development of the water resources on the Rocky Boy's Reservation.[194] The dollar amount was tied to a water development plan proposed by the tribe.[195] The funding fell within the scope of the Criteria and Procedures

---

191. *See generally* Eileen Shimizu, *Indian Water Rights: An Examination of the Current Status of the Department of Interior's Guidelines and the Opposition to Them*, 38 FED. BAR NEWS & J. 88 (1991) (summarizing criticism by the Native American Rights Fund).

192. Michael J. Clinton, *Settlement of Indian Reserved Water Rights Claims*, 33 NAT. RESOURCES J. 665, 668 (1993) (noting comments by OMB Manager Dave Gibbons that the criteria side of the Criteria and Procedures is not working); *see also* REPORT OF THE WESTERN WATER POLICY REVIEW ADVISORY COMM'N, WATER IN THE WEST: THE CHALLENGE FOR THE NEXT CENTURY Ch. 6, at 9 (1998) ("Federal contributions toward meeting [its]obligations [to Indian tribes] should not be limited to potential federal liability for breach of trust, but should recognize a moral and legal obligation to protect and assist the tribes.").

193. NATIVE AM. RIGHTS FUND, PROPOSED CHANGES TO THE CRITERIA AND PROCEDURES 2 (Sept. 12, 1991) (on file with author).

194. Chippewa Cree Tribe of The Rocky Boy's Reservation Indian Reserved Water Rights Settlement and Water Supply Enhancement Act of 1999, Pub. L. No. 106-163, 113 Stat. 1778.

195. *See* Water Rights Compact (working draft), *supra* note 161.

because the development was of the type normally funded through BIA programs.[196] However, a change in the personnel in charge of the federal Working Group on Indian Water Rights was necessary to allow this approach to move forward.[197]

Considerable inertia prevents change of federal guidelines used for over ten years. The willingness of the Clinton administration to recognize their inapplicability to the Rocky Boy's Reservation suggests that change may not be needed. However, that willingness came after several years of refusal, and only a change in the decision-making personnel at the Department of the Interior led to a deviation from the guidelines.[198] Because the evaluation under the Criteria and Procedures provides the baseline from which any deviation from those criteria is measured and because the willingness to do so may turn on a single decision maker within the Department of the Interior, the Criteria and Procedures should be changed. Even though the Criteria and Procedures may be considered mere guidelines, their change would provide notice to tribes and protection for the Department of the Interior employees struggling to provide a coherent, consistent, and moral approach to federal support for tribal water development. Parallel to the adoption of a homeland standard by the Arizona Supreme Court, that change should reflect the fact that it is only appropriate that funding recommendations by the trustee be tied to the need for development of water infrastructure and restoration of riparian habitat, fisheries, and wetlands as necessary to serve the purpose of a permanent home for Indians.

Change in the federal Criteria and Procedures to tie recommendations for funding to tribal needs and plans for economic development would also eliminate the current discrepancy between tribes who settle and those who litigate. By tying funding recommendations, in part, to the avoided cost of litigation, tribes uncomfortable with negotiation face a troubling choice: negotiate and maximize funding recommendations or litigate and face reduced funding. Such penalty on a tribe's choice to seek judicial resolution of a dispute is inappropriate. Change in the Criteria and Procedures to reflect needs and plans eliminates this dilemma and, similar to the ruling by the Arizona Supreme Court, reflects the obligation to ensure the ability of tribes to develop reservations as permanent homes.

---

196. Telephone Interview with Richard Aldrich, Field Solicitor, U.S. Department of the Interior (June 19, 2002).

197. Telephone Interview with Susan Cottingham, Program Manager, Montana Reserved Water Rights Compact Commission (April 2, 2002) (referring to the appointment of David Hayes as the head of the Working Group on Indian Water Rights Settlements by Secretary of the Interior Babbitt).

198. Cosens, *supra* note 136, at 257 n.10.

IV. CONCLUSION

Ninety-three years after the recognition of the importance of water to sustenance of life on Indian reservations, a state court has recognized that the measure of the water right created is the amount necessary to actually provide that sustenance. By articulating a homeland standard based on tribal economic development plans, cultural needs, and historic water uses, the Arizona Supreme Court has eliminated many of the blatant inequities plaguing the current approach to Indian water right quantification. However, the standard does open the issue of the precise means for quantification of a water right to meet that standard. Courts may turn to experience gained in settlement for guidelines in addressing quantification of non-agricultural water uses, but reliance on, experience with, and objectivity of the PIA method weigh in favor of its retention for quantification of agricultural reserved water rights in court. Should courts instead use the new homeland standard as a basis for a reduction in quantification of reserved water rights, the standard may have a significant impact on the calculation of recommended levels of federal funding for development of reserved water. Rather than providing a basis to reject the Arizona standard, the collateral effect of a change to the Arizona homeland standard on settlement funding merely emphasizes the need also to change the criteria for funding to reflect the purpose of establishing reservations as homelands.