A MISPLACED SENSITIVITY: THE DRAFT OPINIONS IN *WYOMING V. UNITED STATES*

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I. INTRODUCTION

In early 1989, the Supreme Court granted certiorari to review the "practicably irrigable acreage" ("PIA") standard used to quantify Indian[1] reserved water rights.[2] On June 26, 1989, after full briefing and argument, the Supreme Court affirmed a Wyoming Supreme Court decision applying the PIA standard to calculate Indian reserved water rights on the Wind River Reservation.[3] The Court, however, did not publish an opinion, causing much speculation among commentators and interested parties about the future of the controversial PIA standard.[4]

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1. We use the term "Indian" throughout this article because we believe it is more commonly used in the context of water rights than the broader term "Native American."

2. Wyoming v. United States, 488 U.S. 1040 (1989).

3. Wyoming v. United States, 492 U.S. 406, 407 (1989).

4. Several commentators analyzed the Justices' questions and statements made during oral argument in an effort to predict the future of the PIA standard. *See* Joseph R. Membrino, *Indian Reserved Water Rights, Federalism and the Trust Responsibility*, 27 LAND & WATER L. REV. 1 (1992); Walter Rusinek, Note, *A Preview of Coming Attractions?* Wyoming v. United States *and the Reserved Rights Doctrine*, 17 ECOLOGY L.Q. 355 (1990); Martha C. Franks, *The Uses of the Practicably Irrigable Acreage Standard in the Quantification of Reserved Water Rights*, 31 NAT. RESOURCES J. 549 (1991) (criticizing the PIA standard for its speculative and subjective nature and for not addressing the real economic needs of the Indian people).

For a discussion of the PIA standard and the *Winters* doctrine of Indian reserved water rights, see *infra* Part II.

Research into the files of the late Justice Thurgood Marshall (the "Marshall Papers") reveals that the Court was poised to deliver an opinion that would have altered the PIA standard by adding what it termed a "sensitivity" analysis.[5] A draft opinion authored by Justice O'Connor indicates that the Supreme Court was prepared to hold that the quantification of Indian reserved water rights requires a "sensitivity to the impact on state and private appropriators of scarce water under state law."[6] This "so-called sensitivity doctrine"[7] would require PIA determinations to include "a 'practical' assessment—a determination apart from the theoretical and 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."[8] With this decision, the Court would have vacated and remanded the Wyoming Supreme Court decision by a five to four vote.[9] On June 22, 1989, however, Justice O'Connor

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5. The release of the 173,000 documents that Justice Thurgood Marshall donated to the Library of Congress engendered considerable controversy. On May 25, 1993, Chief Justice William H. Rehnquist sent a letter to the Librarian of Congress on behalf of a majority of the Supreme Court expressing surprise and disappointment concerning the release of the papers. *See* Neil A. Lewis, *Chief Justice Assails Library on Release of Marshall Papers*, N.Y. TIMES, May 26, 1993, at A1; *see also At Issue: The Marshall Papers*, A.B.A. J., Sept. 1993, at 48 (featuring opinions, both for and against, regarding the release of the Marshall Papers).

The files have nonetheless proven a boon to legal scholars. *See, e.g.*, Richard J. Lazarus, *Meeting the Demands of Integration in the Evolution of Environmental Law: Reforming Environmental Criminal Law*, 83 GEO. L.J. 2407, 2482 n.323 (1995) (citing correspondence between Justices to illustrate how some Justices approach criminal law); Mark V. Tushnet, *The Supreme Court and Race Discrimination, 1967-1991: The View from the Marshall Papers*, 36 WM. & MARY L. REV. 473 (1995) (reviewing Marshall Papers with regard to Civil Rights cases); Robert V. Percival, *Environmental Law in the Supreme Court: Highlights from the Marshall Papers*, 23 ENVTL. L. REP. 10606 (1993) (reviewing Marshall Papers for insight into environmental cases).

6. Wyoming v. United States, Opinion, 2d Draft at 15, No 88-309 (U.S. 1989) (recirculated June 12, 1989) (O'Connor, J.), Appendix *infra* p. 725 [hereinafter Draft Opinion].

7. Letter from Justice White to Justice O'Connor 2 (June 6, 1989) (on file with *University of Colorado Law Review*). In this letter, Justice White raised several concerns about Justice O'Connor's proposed holding, which were later reflected in his concurring opinion. *See* Wyoming v. United States, Concurring Opinion, 2d Draft No 88-309, (U.S. 1989) (recirculated June 14, 1989) (White, J.) (on file with *University of Colorado Law Review*) [hereinafter Draft Concurrence].

8. Draft Opinion, *supra* note 6, at 17, Appendix *infra* p. 738.

9. Chief Justice Rehnquist and Justices Scalia and Kennedy voted to join Justice O'Connor. *See* Letter from Justice Kennedy to Justice O'Connor (June 2, 1989) (on file with *University of Colorado Law Review*); Letter from the Chief Justice

disqualified herself from the case because she had learned that her family's ranching corporation, in which she is a minority stockholder, was a party to a stream adjudication involving Indian water rights.[10] Thus, the Supreme Court ultimately affirmed the Wyoming Supreme Court's decision by a four-to-four vote.[11]

The sensitivity analysis adopted by the majority in the draft opinion, in our view demonstrates the potential for a major reversal in established principles of Indian water law. The PIA quantification standard is extremely important to Indian tribes throughout the arid West because it gives many tribes potential claims to significant quantities of water.[12] The strength of these claims, in turn, provides an incentive for parties to seek negotiated settlements of Indian water rights claims. Were it to become law, the incorporation of a sensitivity analysis into the PIA standard would greatly diminish the rights of Indian tribes. It is our hope that because the proposed analysis would represent such a profound departure from precedent, it exists as an oddity and not an indicator of future Supreme Court jurisprudence.

This article discusses and analyzes the sensitivity doctrine as espoused by the draft holding of the Supreme Court. Part II of

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to Justice O'Connor (June 5, 1989) (on file with *University of Colorado Law Review*); Letter from Justice Scalia to Justice O'Connor (June 19, 1989) (on file with *University of Colorado Law Review*). Justice White drafted a separate concurrence. *See* Draft Concurrence, *supra* note 6. Justice Brennan, joined by Justices Marshall and Blackmun, authored a dissent. *See* Wyoming v. United States, Dissenting Opinion, 2d Draft, No 88-309 (U.S. 1989) (recirculated June 23, 1989) (Brennan, J.), Appendix *infra* p. 741 [hereinafter Draft Dissent]; Letter from Justice Brennan to Justices Marshall, Blackmun, and Stevens (April 28, 1989) (announcing intent to draft dissent) (on file with *University of Colorado Law Review*); Letter from Justice Marshall to Justice Brennan (June 20, 1989) (on file with *University of Colorado Law Review*); Letter from Justice Blackmun to Justice Brennan (June 22, 1989) (on file with *University of Colorado Law Review*). Justice Stevens dissented separately. *See* Wyoming v. United States, Dissenting Opinion, 1st Draft, No 88-309, (U.S. 1989) (circulated June 22, 1989) (Stevens, J.) (on file with *University of Colorado Law Review*).

10. *See* Justice O'Connor, Memorandum to the Conference (June 22, 1989) (on file with *University of Colorado Law Review*). After noting that "[t]he unexpected has become the order of the day this Term," Justice O'Connor explained why she recused herself from the suit: "For reasons which I will not detail here, I believe the ranch will succeed in being dismissed from the suit as having no affected interest, but as of now I believe I must disqualify myself in this case." *Id.* The suit to which she referred was the Gila River Adjudication. *See id.*

11. *See* Wyoming v. United States, 492 U.S. 406 (1989).

12. *See* Rusinek, *supra* note 4, at 407 (noting that because irrigation is a consumptive use of water it can result in a substantial water right).

this article discusses the Indian reserved water rights doctrine and the PIA standard as it developed prior to *Wyoming v. United States*. Part III provides an overview of the *Wyoming* case, summarizing the state proceedings, the arguments made to the Supreme Court, and the draft majority opinion and a draft dissent of the Supreme Court. Part IV analyzes the Supreme Court's proposed holding and argues that the "sensitivity doctrine" advocated in the draft opinion has no place in the quantification of Indian water rights because it represents a departure from precedent and fails to promote either tribal well-being or the efficient use of scarce water resources. The draft opinions are included as an appendix to this article so that scholars and practitioners without easy access to the Marshall Papers may analyze the decision.[13]

II. INDIAN RESERVED WATER RIGHTS AND THE PRACTICABLY IRRIGABLE ACREAGE STANDARD

A. Historical and Legal Background

Two distinct legal doctrines govern state water law in the United States. In the eastern states, rights to the use of water are generally determined by what is termed the "riparian doctrine." This doctrine permits a landowner, whose property abuts a body of water, to make a reasonable use of the water so long as the landowner does not interfere with other riparian users.[14] As such, riparian rights correspond to land ownership. Moreover,

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13. We are sensitive to the problems associated with the publication of a draft Supreme Court opinion. However, the existence of a draft opinion in *Wyoming v. United States* is now widely known, and the opinion is available in the Marshall Papers at the Library of Congress. *See* Peter W. Sly, *Urban and Interstate Perspectives on Off-Reservation Tribal Water Leases*, NAT. RESOURCES & ENV'T, Winter 1996, at 43, 44 (describing the draft opinion and the questions it has raised for Indian law practitioners). In our view, publication of the opinion is warranted because it makes this important opinion—on an extremely contentious issue—widely available to scholars and practitioners. Although several of the draft opinions found in the Marshall Papers have been published, the opinion in *Wyoming v. United States* is not among them. *See* BERNARD SCHWARTZ, THE UNPUBLISHED OPINIONS OF THE REHNQUIST COURT (1996) (reproducing ten draft opinions from the Rehnquist Court but not the opinion in *Wyoming v. United States*). Through publication in a nationally available law review, we hope to make this now public opinion available to a wider audience. We also hope that this article will inform the reader as to some of the Court's missteps.

14. *See* DAVID H. GETCHES, WATER LAW IN A NUTSHELL 14 (2d ed. 1990).

these rights are unaffected by disuse and priority date considerations.

Due to the arid conditions of the West, western states have largely discarded the riparian doctrine and developed the doctrine of "prior appropriation."[15] Under this doctrine, a person acquires an enforceable right to use water only by actually diverting a quantity of water from its natural sources and applying that quantity of water to a beneficial use. This water use is assigned a legal "priority date," which reflects this initial diversion date. In times of shortage, the holders of "junior" rights, those with later priority dates, must forgo their use of water from a particular water source in favor of "senior" appropriators on the same watercourse. The doctrine is therefore frequently summed up by the phrase "first in time, first in right."[16]

Reserved water rights are a unique type of water right held by the federal government. When the government reserves public lands for particular purposes it also impliedly reserves sufficient water to effectuate those purposes.[17] Reserved rights contain attributes of both riparian and prior appropriation rights. Reserved rights, like riparian rights, are appurtenant to land. Thus, it is land ownership that provides the basis for the right.[18] In addition, like riparian rights, reserved rights are not lost by nonuse. Reserved rights, however, also share two crucial similarities with prior appropriation rights. First, the reserved right is assigned a "priority date" reflecting the date that the land was reserved by the federal government. Second, there is no sharing in times of shortage; a senior right is satisfied before junior rights.[19]

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15. "Today, nine western states follow the pure prior appropriation doctrine: Alaska, Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. Nine others (California, Oregon, Texas, Washington, Kansas, Nebraska, North Dakota, South Dakota, and Oklahoma) have adopted prior appropriation but have also retained riparian rights to some extent." MARC REISNER & SARAH BATES, OVERTAPPED OASIS: REFORM OR REVOLUTION FOR WESTERN WATER 63 (1990).

16. For a brief discussion of the origin of the prior appropriation doctrine and the early cases, see CHARLES F. WILKINSON, CROSSING THE NEXT MERIDIAN: LAND, WATER AND THE FUTURE OF THE WEST 231-35 (1992). A useful summary of the doctrine is found in 2 WATERS AND WATER RIGHTS, ch. 11 (Robert E. Beck ed., 1991 & Repl. Vol. 1996) [hereinafter WATERS].

17. *See* WATERS, *supra* note 16, at 218.

18. *See id.*

19. *See id.*

Not surprisingly, given their unique attributes, reserved water rights present a number of problems for prior appropriation states. Most significantly, because the dates of many federal reservations are quite early, holders of reserved rights are likely to have rights senior to the holders of many long-standing state appropriative rights.[20] Although a federal reservation arguably gives notice to other users, the amount of a federal claim remains uncertain until it is quantified.

State court jurisdiction over federal reserved rights is another difficult issue for prior appropriation states that warrants a brief mention here.[21] The McCarran Amendment, enacted in 1952, is a limited waiver of sovereign immunity, allowing federal water rights to be determined alongside state rights in state courts.[22] The Supreme Court has held that the amendment only applies to general stream adjudications to which all water rights claimants are parties.[23] In 1976, *Colorado River Water Conservation District v. United States*[24] broadened this concept to include Indian reserved water rights. In addition, *Colorado River* held that although federal courts retained concurrent jurisdiction over Indian reserved water rights, "considerations of wise judicial administration" and the overriding McCarran Amendment policy of avoiding piecemeal water rights adjudications warranted deferral of the federal case in favor of the states.[25] This holding was reaffirmed seven years later in *Arizona v. San Carlos Apache Tribe*.[26] In *San Carlos*, the Supreme Court also explained that the McCarran Amendment is strictly jurisdictional; it does not change the federal substantive law of reserved rights.[27]

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20. *See id.* at 219.

21. *See* Michael Lieder, *Adjudication of Indian Water Rights Under the McCarran Amendment: Two Courts Are Better Than One*, 71 GEO. L.J. 1023, 1031-34 (1983); Thomas H. Pacheco, *How Big Is Big? The Scope of Water Rights Suits Under the McCarran Amendment*, 15 ECOLOGY L.Q. 627 (1988).

22. *See* 43 U.S.C. § 666 (1994) (originally enacted as McCarran Amendment, ch. 651, § 208 (a)-(c), 66 Stat. 560 (1952)).

23. *See* Dugan v. Rank, 372 U.S. 609, 617-19 (1963).

24. 424 U.S. 800 (1976).

25. *Id.* at 817, 819-20.

26. 463 U.S. 545, 567 (1983).

27. *See id.* at 571.

B. The Winters *Case*

Throughout this paper we will refer to two types of reserved water rights: Indian reserved rights and federal reserved rights. The reserved rights doctrine, common to both types of rights, originated in the Indian water case of *Winters v. United States*.[28] In *Winters*, the Supreme Court held that the right to use the waters of the Milk River was implied in the 1888 agreement establishing the Fort Belknap Indian Reservation in Montana.[29]

This agreement established the Fort Belknap Reservation "as . . . a permanent home and abiding place of the [Tribes]."[30] In the agreement, the Tribes relinquished a portion of their lands and retained others as their reservation.[31] Beginning in the late 1880s, non-Indian settlers began acquiring ceded land upstream from the reservation, irrigating the land, and obtaining state water rights under the prior appropriation doctrine.[32] In 1898, the Fort Belknap Tribes constructed a small irrigation project.[33] They began using most of this water after the appropriative rights of non-Indians vested under state law.[34] In the dry year of 1905, little or no water was reaching the reservation's irrigation project because of non-Indian diversions; this prompted the United States Department of Justice (at the request of the Department of the Interior) to intervene on behalf of the Indians.[35]

The outcome under Montana state law—"first in time, first in right"—would undoubtedly have favored the non-Indian irrigators.[36] However, the United States, acting on behalf of the Tribes, prevailed in the federal district court, the Ninth Circuit Court of Appeals, and ultimately the United States Supreme Court.

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28. 207 U.S. 564 (1908).

29. *See id.*

30. *Id.* at 565. Two tribes of Indians live on the Fort Belknap Reservation, the Gros Ventre and the Assiniboine.

31. *See* Act of May 1888, ch. 213, 25 Stat. 113 (confirming agreement with Indians that redistributed reservation land).

32. *See* Norris Hundley, Jr., *The* "Winters" *Decision and Indian Water Rights: A Mystery Reexamined*, 13 W. HIST. Q. 17, 20 (1982).

33. *See id.*

34. *See id.*

35. *See id.* at 20-23.

36. *See* WILKINSON, *supra* note 16, at 267.

The United States argued before the district court, as an initial matter, that the Tribes' use of the water predated diversions made by non-Indians.[37] The U.S. Attorney working on this case recognized that this position was problematic because he had been unable to locate documents demonstrating that the reservation had formally declared these rights.[38] He therefore broadened his legal position to include "other rights" possessed by the Indians and the federal government, and asserted that the Indians and the federal government possessed a right to sufficient water to accomplish the purposes of the reservation.[39]

Ultimately, the district court adopted a variation of these arguments, holding that "when the Indians made the treaty granting rights to the United States, they reserved the rights to the Milk River, at least to an extent reasonably necessary to irrigate their lands."[40] The district court held that because the 1888 agreement was intended to make the Tribes farmers, an amount of water sufficient to accomplish this purpose had been reserved to the Tribes.[41] Because the needs of the Tribes could be met by 5000 inches of water, the district court injunction required that this minimum volume of water be provided.[42]

The Ninth Circuit affirmed the district court's judgment. The court agreed that the waters of the Milk River had been reserved for use by Indians "for irrigation, as well as for other purposes."[43] On January 6, 1908, the Supreme Court, in an eight-to-one decision, affirmed the reasoning of the lower courts.[44] The

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37. *See* Hundley, *supra* note 32, at 23. The evidence ultimately showed otherwise. *See id.* at 26.

38. *See id.* at 23.

39. *See id.* at 23-24.

40. *Id.* at 26 (citing to National Archives Records).

41. *See id.* at 27.

42. *See id.*

43. Winters v. United States, 143 F. 740, 745 (9th Cir. 1906) (affirming district court order enjoining any interference with the Indians' use of the Milk River); *see also* Winters v. United States, 148 F. 684 (9th Cir. 1906) (final decision on the merits of the case). As Professor Hundley notes, the Ninth Circuit "reaffirmed this principle with greater precision less than two years later in *Conrad v. United States*, [161 F.2d 829, 835 (9th Cir. 1908)] . . . ." Hundley, *supra* note 32, at 29. In *Conrad*, involving water rights on Montana's Blackfeet Reservation, the Ninth Circuit explained that *Winters* "determines the paramount right of the Indians . . . to the use of the waters . . . to the extent reasonably necessary for the purposes of irrigation and stock raising, and domestic and other useful purposes." Conrad Inv. Co. v. United States, 161 F. 829, 831 (9th Cir. 1908).

44. *See* Winters v. United States, 207 U.S. 564 (1908).

starting point of the Court's analysis was the 1888 agreement creating Fort Belknap Reservation. In its construction of the agreement, the court noted that the reservation was part of a larger tract of land that the Indians had the right to use and occupy; that the policy of the government and the "desire" of the Indians was the transformation of the Tribes from a nomadic to an agrarian people; and that a smaller tract of unirrigated land would be inadequate to accomplish this transformation.[45] Yet, the Court observed that "it is contended, the means of irrigation were deliberately given up by the Indians and accepted by the Government."[46]

Although the Court recognized that without water for irrigated agriculture the lands retained by the Tribes were valueless, the Court acknowledged that the agreement itself was silent as to water rights. The Court concluded, however, that the absence of any mention of water rights was not fatal to the Tribes' claim, stating "that which makes for the retention of the waters is of greater force than that which makes for their cession."[47] Rejecting the argument that the Tribes received a reservation without the requisite water, the Court found it unlikely that the Indians had "reduce[d] the area of their occupation and give[n] up the waters which made it valuable and adequate."[48]

C. *Quantifying* Winters *Rights: The PIA Standard*

The *Winters* decision, and most of the reserved rights cases that immediately followed, held that Indians' rights should not be quantified, allowing the entitlement to expand to meet the reasonable needs of the tribes.[49] In 1963, however, the Supreme Court's decision in *Arizona v. California* ("*Arizona I*")[50] made the

45. *See id. at* 576.
46. *Id.*
47. *Id.*
48. *Id.* at 575-76. The current Secretary of the Interior, Bruce Babbitt, has explained the *Winters* holding as, "wait a minute, it doesn't seem very just that the Native Americans are living with no water, while the guys who arrived yesterday have taken it all." Bruce Babbitt, *The Public Interest in Western Water*, 23 ENVTL. L. 933, 938 (1993).
49. *See* Conrad Inv. Co. v. United States, 161 F. 829 (9th Cir. 1908); United States v. Ahtanum Irrig. Dist., 236 F.2d 321 (9th Cir. 1956), *cert. denied*, 352 U.S. 988 (1957). *See generally* LLOYD BURTON, AMERICAN INDIAN WATER RIGHTS AND THE LIMITS OF LAW 40 (1991).
50. 373 U.S. 546 (1963) (*Arizona I*).

issue of quantification the single most important aspect of any Indian water rights adjudication.

In 1952, Arizona filed suit in the original jurisdiction of the United States Supreme Court to determine its share of water from the Colorado River.[51] The United States intervened, asserting, among other things, reserved water rights for Indian reservations located in the lower Colorado basin.[52] This complicated case was tried before a special master, Simon H. Rifkind.[53]

In accord with *Winters* and its progeny, the Special Master held that when the Indian reservations along the Colorado were created, water sufficient to provide for the future needs of the reservations was also reserved.[54] He concluded that an award based on the current Indian population or needs would require open-ended decrees that allowed for modification as the population changed in the future.[55] He saw this solution as unsatisfactory because it would jeopardize junior water rights and hamper the financing of future irrigation projects.[56]

The correct approach, the Special Master concluded, was to tie the Tribes' water rights to the future development of the reserved lands. Specifically, the Special Master quantified the future needs of the five reservations on the main stem of the Colorado River by deciding which reservation lands were "practicably irrigable."[57] The Special Master recognized that this standard was potentially generous. He specifically observed that the land withdrawn for these reservations was more extensive than necessary to support the Indians who inhabited the land at the time the reservations were established.[58]

After ruling that the measure of the *Winters* right for the Colorado River Tribes was the practicably irrigable acreage (PIA)

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51. *See id.* at 550-51.

52. *See id.* at 551 n.3. The controversy surrounding the federal government's intervention on behalf of the tribes is discussed in PHILIP L. FRADKIN, A RIVER NO MORE: THE COLORADO RIVER AND THE WEST 154-61 (1981).

53. *See Arizona I*, 373 U.S. at 550-51. Pretrial activities alone took four years. Moreover, at trial, testimony was given by 106 witnesses and depositions were taken from 234 witnesses. *See generally* Charles J. Meyers, *The Colorado River*, 19 STAN. L. REV. 1, 42-43 (1966).

54. *See* REPORT OF SPECIAL MASTER SIMON H. RIFKIND 257-62. (Dec. 5, 1960) [hereinafter RIFKIND REPORT].

55. *See id.* at 263-264.

56. *See id.* at 264.

57. *See id.* at 265-66.

58. *See id.* at 262.

standard, the Special Master further stated that the uses of the water reserved for the Indian reservations was not limited to agricultural purposes and related uses because "the decree establishes a property right which the United States may utilize or dispose of for the benefit of the Indians as the relevant law may allow."[59]

The Supreme Court affirmed the Special Master's adoption of the PIA standard. The Court explained:

> [The Master] found that the water was intended to satisfy the future as well as the present needs of the Indian Reservations and ruled that enough water was reserved to irrigate all the practicably irrigable acreage on the reservations. . . . How many Indians there will be and what their future needs will be can only be guessed. We have concluded, as did the Master, that the only feasible and fair way by which reserved water for the reservations can be measured is irrigable acreage. The various acreages of irrigable land which the Master found to be on the different reservations we find to be reasonable.[60]

In the end, these five Indian reservations were awarded about 900,000 acre-feet[61] of water per year, based on the Special Master's determination that the reservations had 135,000 acres of practicably irrigable land.[62]

However, unlike the Special Master's Report, the Court's decision did not address the issue of whether the water quantified according to this standard could only be used for agricultural purposes. In 1979, the Supreme Court approved a stipulation recognizing non-agricultural uses of the Tribes' reserved rights.[63]

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59. *Id.* at 265-66.

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

61. An acre-foot is equal to the amount of water necessary to cover an acre of land to a depth of one foot and is roughly equivalent to 326,000 gallons. For a discussion of how this quantity relates to household use, see Ed Quillen, *What Size Shoe Does an Acre-Foot Wear?*, *in* WESTERN WATER MADE SIMPLE 190, 190 (Ed Marston ed., 1987).

62. *See Arizona I*, 373 U.S. at 596, 600.

63. *See* Arizona v. California, 439 U.S. 419 (1979). Based partially on the report of the Special Master, the Solicitor of the Department of the Interior had previously advised the Secretary of the Interior to approve a lease proposed by the Colorado River Indian tribes for a recreation and housing development where the developer would use a portion of the tribes' agricultural rights. *See* Memorandum from Edward Weinberg, Deputy Solicitor, Dep't of the Interior, Indian Affairs, to Secretary of the Interior (Feb. 1, 1964), *in* 2 DEP'T OF THE INTERIOR, OPINIONS OF THE SOLICITOR OF THE DEPARTMENT OF THE INTERIOR RELATING TO INDIAN AFFAIRS 1917-1974, 1930 (no

When the Department of the Interior failed to claim all the irrigable acreage to which the Tribes in *Arizona v. California* were entitled, the Tribes sought to reopen the decree.[64]

The Court then appointed a Special Master, who recommended that the Tribes' annual entitlement be increased by about one-third in order to accommodate all irrigable reservation acres including those lands that had been omitted from the earlier decree.[65] Ultimately, the Court in *Arizona II* rejected nearly all of the Tribes' requests because granting them would undermine the certainty provided by the earlier decree.[66] Despite the urging of various states, the Court refused to reconsider the PIA standard it had adopted in 1963.[67]

D. Criticism of the PIA Standard and the Emergence of the "Sensitivity Doctrine"

The PIA standard adopted by the Court in *Arizona I* and affirmed by the Court in *Arizona II* has been the subject of continuous discussion. Professor Charles Meyers of Stanford Law School observed in 1966 that the Court's decision in *Arizona I* raised more questions than it answered.[68] The Supreme Court, he noted, did not address the transferability of the reserved rights or the tribes' ability to change uses. In contrast, both subjects were touched upon in the Special Master's report.[69] In addition, Meyers noted that it is difficult to discern whether the Court meant for the Special Master's PIA standard to govern all Indian reservations established for agricultural purposes, or whether this standard was limited to the five Colorado River reservations.[70]

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date).

64. *See* Arizona v. California, 460 U.S. 605, 611-612 (1983) (*Arizona II*).

65. *See* REPORT OF SPECIAL MASTER ELBERT TUTTLE 125-26 (Feb. 22, 1982) [hereinafter REPORT OF ELBERT TUTTLE].

66. *See Arizona II*, 460 U.S. at 615-20. The Court did allow a slight expansion of the total irrigable acreage as a result of settling a boundary dispute left open by the 1964 decree. *See id.* at 641 The Court also made plain that the determination of the total PIA is to be based upon technology available at the time of trial, not the technology available as of the date of establishment of the reservation. *See id.* at 625 n.18.

67. *See id.* at 625-26.

68. *See* Meyers, *supra* note 53, at 71.

69. *See id.*

70. *See id.*

The questions Professor Meyers identified in 1966 remain unanswered today. The primary strength of the PIA standard may be the incentive it provides to settle Indian water rights disputes because the tribes' successful litigation of disputes may secure large quantities of water.[71] In addition, the quantification of a water right, either by a determination of PIA or through settlement, establishes certainty regarding water rights and quantities.[72] In the water-scarce West, certainty in water rights is generally understood as encouraging economic development.[73] Finally, as Professor Tarlock has remarked, the PIA standard endures because "no satisfactory substitute has emerged."[74]

Criticism of the PIA standard has focused on several concerns. Critics have observed that the standard may, by virtue of geography, favor some tribes over others,[75] may depend on suspect economics,[76] and is inconsistent with recent Supreme Court case law.[77]

There can be little doubt that the PIA standard works to the advantage of tribes inhabiting alluvial plains or other relatively flat lands adjacent to stream courses.[78] In contrast, tribes inhabiting mountainous or other agriculturally marginal terrains are at a severe disadvantage when it comes to demonstrating that their lands are practicably irrigable. In *New Mexico ex rel. Martinez v. Lewis*,[79] the New Mexico Court of Appeals held that the Mescalero Apache Tribe and the United States had failed to meet their burden of proof regarding the technical and economic feasibility of two irrigation projects proposed for a high altitude environment.[80] The appellate court treated the projects skepti-

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71. *See* Judith V. Royster, *A Primer on Indian Water Rights: More Questions Than Answers*, 30 TULSA L.J. 61, 76 nn. 88-90 (1994) (citing additional academic commentary).

72. *See id.*

73. *See id.*

74. Dan A. Tarlock, *One River, Three Sovereigns: Indian and Interstate Water Rights*, 22 LAND & WATER L. REV. 631, 659 (1987).

75. *See generally* BURTON, *supra* note 49, at 40.

76. *See* Franks, *supra* note 4 at 570-82; BURTON, *supra* note 49, at 40; H.S. Burness et al., *The "New" Arizona v. California: Practicably Irrigable Acreage and Economic Feasibility*, 22 NAT. RESOURCES J. 517 (1982).

77. *See* Franks, *supra* note 4, at 554-57.

78. *See generally* BURTON, *supra* note 49, at 40.

79. 861 P.2d 235 (N.M. Ct. App. 1993). Mr. Mergen represented the United States in this litigation.

80. *See id.* at 246-47.

cally, in large part because of their location in an arid and mountainous region.[81]

Perhaps the greatest challenge to quantification under the PIA standard is the use of a cost-benefit analysis in judging the feasibility of Indian irrigation projects.[82] The Special Master in the *Arizona II* litigation held that PIA must be based on a cost-benefit analysis.[83] In other words, land will be classified as practicably irrigable if it can be shown not only that the land can support the growth of crops, but that those crops can be grown economically. Under this standard, Indian tribes and the United States, acting on the Indians' behalf, propose irrigation projects for allegedly irrigable land. This approach has since become the norm.[84] However, this approach can be easily misused; a failure to distinguish between economic and financial feasibility, an insufficiently narrow consideration of costs and benefits, or the choice of a discount rate can easily defeat a tribe's PIA claim.[85] These concerns appear well-founded in the wake of the aforementioned *New Mexico ex rel. Martinez v. Lewis*, where the trial court cursorily held that the Mescalero Apache Tribe's carefully planned irrigation projects were simply not economically feasible.[86]

Finally, some critics argue that the PIA standard should be abandoned because it is inconsistent with the Supreme Court's holdings in two non-Indian reserved rights cases: *Cappaert v.*

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81. *See id.* at 248 (commenting that the Tribe's expert's testimony on crop yields bordered on the fantastic).

82. *See* sources cited *supra* note 76.

83. *See* REPORT OF ELBERT TUTTLE, *supra* note 65, at 94.

84. *See, e.g., In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76 (Wyo. 1988) (*Big Horn I*); *New Mexico ex rel. Martinez*, 861 P.2d 235.

85. One commentator has gone so far as to argue that PIA must only be determined through the use of an extremely restrictive cost-benefit analysis even while acknowledging that the test she advocates would make it unlikely that any Indian irrigation project would be found economically feasible. *See* Franks, *supra* note 4.

86. *See* New Mexico *ex rel.* Reynolds v. Lewis, Nos. 20294 & 22600, slip op. at 10 (Dist. Ct. of Chaves County, N.M., filed July 11, 1989). This holding was affirmed by an appellate court reluctant to reconsider what it deemed to be factual findings. *See* New Mexico *ex rel.* Martinez v. Lewis, 861 P.2d 235, 246 (N.M. Ct. App. 1993).

United States[87] and *United States v. New Mexico*.[88] Arguably, the "sensitivity" doctrine, which Justice O'Connor advocated as a PIA replacement, originated in these holdings, evidencing a restrained approach to the doctrine of federal *non-Indian* reserved water rights.[89] Proponents of the sensitivity doctrine assert that because a federal reserved water right will frequently require a "gallon-for-gallon"[90] reduction in the amount of water available to junior private appropriators, courts should apply the reserved rights doctrine with "sensitivity" to state water users. Moreover, advocates of this sensitivity doctrine claim that reserved rights exist only to satisfy a federal reservation's *minimum* water needs;[91] in recognition of this belief, the sensitivity doctrine includes a "minimal needs" standard, which its advocates argue is more equitable than the current PIA standard. These advocates further contend that the PIA standard results in "windfalls" for Indian tribes because courts look to the irrigability of the reservation land "without regard to the needs of the Indians living on that land."[92]

Whether the Supreme Court's circumspect "minimal needs" approach to non-Indian federal reserved rights should also apply to Indian reserved rights has engendered considerable controversy.[93] The answer to this question depends on whether Indian

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87. 426 U.S. 128 (1976) (holding that when the United States established a deep cavern on federal land as a national monument, it reserved appurtenant, unappropriated water necessary to fulfill the purposes of the reservation, which included preservation of the pool within the cavern and its fish).

88. 438 U.S. 696 (1978) (holding that the United States, in creating the Gila National Forest in New Mexico, reserved enough water to fulfill the relatively narrow purposes of the national forest, which included conservation of water flows and maintenance of a continuous supply of timber but excluded aesthetic, recreational, wildlife preservation, and stockwatering purposes).

89. *See infra* text accompanying notes 165-170.

90. *New Mexico*, 438 U.S. at 705.

91. *See generally* Franks, *supra* note 4, at 554; *In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76 (Wyo. 1988) (*Big Horn I*).

92. Franks, *supra* note 4, at 556. *See, e.g.*, Petition for Writ of Certiorari to the Supreme Court of Wyoming at 17-21, Wyoming v. United States, 488 U.S. 1040 (1989) (No. 88-309) [hereinafter Petition for Writ of Certiorari]; Rusinek, *supra* note 4, at 394-96 (discussing the arguments of advocates of a "minimal needs based standard" in greater detail).

93. *See* Brief for the Petitioner *passim*, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309); Brief of the State of New Mexico as Amicus Curiae at 7-10, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) (observing that the Supreme Court's statements in *Cappaert v. United States*, 426 U.S. 128 (1976), and *United States v. New Mexico*, 438 U.S. 696 (1978), conflict with the PIA standard).

reserved rights, which are intended to provide a livelihood for Indian communities, are different from non-Indian reserved rights. Advocates of the PIA standard take the position that Indian reserved rights are different and are not governed by *United States v. New Mexico*,[94] but instead by *Arizona II*,[95] which dealt expressly with Indian reserved rights.[96] In *Arizona II*, the Supreme Court explicitly rejected a balancing approach to the quantification of Indian reserved water rights;[97] lower courts appear to be in general agreement on the matter.[98] During oral arguments for *Wyoming v. United States*, several Justices appeared willing to apply a "minimal needs" standard to the quantification of Indian reserved rights and expressed hostility toward the current PIA standard.[99] The draft decision in *Wyoming* confirms that the Supreme Court was indeed ready to incorporate a sensitivity analysis into the quantification of Indian reserved water rights.

III. *WYOMING V. UNITED STATES*

The Wind River Reservation, home of the Shoshone and Northern Arapahoe Tribes, consists of approximately 2.5 million acres within the upper reaches of the Big Horn River in what is now Northwestern Wyoming.[100] This region's varied topography includes mountains and valleys, high plateaus, terraced stream

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94. 438 U.S. 696 (1978).

95. 460 U.S. 605 (1983).

96. *See, e.g.*, Gover, Stetson & Williams, In re: The General Adjudication of All Rights to Use Water in the Big Horn River System and All Other Sources in the State of Wyoming, 46 ARK. L. REV. 237, 241-47 (1993) (reproducing the law firm of Gover, Stetson & Williams's brief for rehearing).

97. *See Arizona II*, 460 U.S. at 616. For further discussion, see *infra* text accompanying note 202.

98. *See infra* text accompanying note 203.

99. *See* Official Transcript: Proceedings Before the Supreme Court of the United States at 23-24, 36-39, 41-43 (Apr. 25, 1989), Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) [hereinafter Official Transcript]; Rusinek, *supra* note 4, at 402-03. One Justice, for instance, expressed skepticism about the PIA standard to Jeffrey Minear, Assistant to the Solicitor General of the United States: "I mean, I find it difficult to believe that in 1868 Congress, no matter what the size of the Indian population that was contemplated to be on the—on the reservation in question, should be deemed to have said we're giving enough water to irrigate every—every inch of arable land. No matter how large the tribe they thought they were settling. Did they expect to make some tribes very rich so they could have an enormous export business?" Official Transcript, *supra*, at 36-37.

100. *See* Draft Opinion, *supra* note 6, at 1, Appendix *infra* p. 725.

valleys, and desert terrain.[101] When the Wind River Reservation was established by the Second Treaty of Fort Bridger in 1868,[102] it was "the choicest and best-watered portion of Wyoming," including "more than 400,000 acres of timber, extensive well-grassed bench lands and fertile river valleys conveniently irrigable."[103] The United States agreed that the land would be "set apart for the absolute and undisturbed use and occupation of the Shoshone Indians" in return for a promise by the Indians to make the reservation their permanent home.[104]

The Second Treaty of Fort Bridger had reduced the amount of land originally set aside for the Shoshone and the Bannack Indians from more than forty-four million acres to slightly more than three million acres.[105] With the establishment of the reservation, the Shoshone Indians faced a difficult transition from a hunting to an agricultural economy.[106] In an effort to raise revenues to support their failing economy, the Shoshone and Arapahoe[107] Tribes ceded an additional 1,480,000 acres to the United States for cash in the Second McLaughlin Agreement of 1904-1905.[108]

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101. *See In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76, 83 (Wyo. 1988) (*Big Horn I*).

102. Treaty with the Shoshone and Bannack Tribes, July 3, 1868, U.S.-Shoshone-Bannacks, 15 Stat. 673 [hereinafter Second Treaty of Fort Bridger].

103. United States v. Shoshone Tribe of Indians, 304 U.S. 111, 114 (1938).

104. *Id.* at 113 (citing Second Treaty of Fort Bridger).

105. *See Big Horn I*, 753 P.2d at 83. In the First Treaty of Fort Bridger of 1863, the United States designated 44,672,000 acres of land located in present-day Wyoming, Colorado, Utah, and Idaho as hunting grounds for the peripatetic Shoshone Indians. When the United States realized that the size of the region it had set aside was unrealistic in light of the increasing westward movement of white settlers following the Civil War, the Shoshone Tribe ceded all but 3,054,182 acres to the United States in the Second Treaty of Fort Bridger. *See* Second Treaty of Fort Bridger, *supra* note 102, 15 Stat. at 674; *Shoshone Tribe*, 304 U.S. at 113; *Big Horn I*, 753 P.2d at 83.

106. *See Big Horn I*, 753 P.2d at 83-84.

107. In 1878, the United States moved the Arapahoe Indians onto the reservation. *See Shoshone Tribe*, 304 U.S. at 112. The Shoshone were later compensated. *See id.*

108. *See* Second McLaughlin Agreement, Apr. 21, 1904, ch. 1452, 33 Stat. 1016 (1905). The United States opened the ceded lands to non-Indian settlers in 1906, *see* Proclamation of June 2, 1906, 34 Stat. 3208, either reimbursing the Tribes or using the sale proceeds for the benefit of the Tribes. Less than 10% of the opened lands were purchased, and in 1934 the Secretary of the Interior discontinued the sales. *See* Brief for Tribal Respondents at 4 n.3, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) [hereinafter Brief for Tribal Respondents]; Act of June 18, 1934, ch. 576, § 3, 48 Stat. 984, 984. In 1940, the Secretary of the Interior began to restore some of the undisposed ceded lands to tribal ownership, and the United States later

A. State Proceedings

In January 1977, Wyoming filed a complaint in state district court initiating a general stream adjudication to determine the nature, extent, and relative priority of all water rights in the Big Horn River drainage system.[109] The United States, named as a defendant, unsuccessfully attempted to remove the action to federal court,[110] and the Shoshone and Arapahoe Tribes intervened in state court claiming that the United States would not adequately represent their interests.[111]

In 1979, the state district court appointed Special Master Teno Roncalio to take evidence and prepare recommendations,[112] and in December 1982, Special Master Roncalio issued a 451-page report on the Indians' reserved water rights.[113] The Special Master, relying on *Winters v. United States*, found that the United States, through the Second Treaty of Fort Bridger, impliedly reserved enough water to fulfill the purpose of the Wind River Reservation: to create a permanent homeland for the Indians.[114] Accordingly, the Special Master ruled that the Indians' reserved

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required some more ceded land to be held in trust for the Tribes. *See* Brief for Tribal Respondents, *supra*, at 4 n.3; Act of July 27, 1939, ch. 387, § 4, 53 Stat. 1128, 1129. Since 1953, the size of the reservation has remained fairly stable. The Wind River Reservation is currently the third-largest Indian reservation in the United States. *See* Brief for Tribal Respondents, *supra*, at 3 n.1.

109. *See Big Horn I*, 753 P.2d at 84; *see also* WYO. STAT. ANN. § 1-37-106 (Michie 1988) (authorizing the State of Wyoming to commence systemwide adjudications of water rights).

110. *See Big Horn I*, 753 P.2d at 84. The federal district court remanded the case to state court, holding that the McCarran Amendment, 43 U.S.C. § 666 (1994), provided for state court jurisdiction in this case. *See id.*

111. *See Big Horn I*, 753 P.2d at 84; FED. R. CIV. P. 24(a). The United States originally claimed federal water rights on behalf of the Tribes for some 640,000 acre-feet for historical and future irrigation, while the Tribes claimed more than 1,500,000 acre-feet for irrigation. *See* TENO RONCALIO, SPECIAL MASTER, REPORT CONCERNING RESERVED WATER RIGHT CLAIMS BY AND ON BEHALF OF THE TRIBES OF THE WIND RIVER INDIAN RESERVATION, WYOMING, Dec. 15, 1982, *reprinted in* Appendix to Petition for Writ of Certiorari at 446a, 547a, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) [hereinafter SPECIAL MASTER REPORT].

112. *See Big Horn I*, 753 P.2d at 85. The Special Master divided the adjudication into three phases. The case that was ultimately reviewed by the Supreme Court addressed only the first phase: determination of the extent and quantity of Indian reserved water rights. *See id.* The second phase, dealing with non-Indian federal reserved water rights was completed in February 1983; the third phase, dealing with state water rights evidenced by a permit or certificate is still pending. *See id.*

113. *See id.*

114. *See* SPECIAL MASTER REPORT, *supra* note 111, at 439a-446a, 640a, 643a.

water rights included an amount necessary to satisfy a broad range of uses, including "agriculture, livestock, fish and wildlife, mineral development, municipal needs, industrial development, and protection and preservation of the aesthetic natural conditions" on the reservation.[115]

The Special Master quantified the amount of surface water reserved for agriculture on the basis of PIA, which the parties had defined as "those acres susceptible to sustained irrigation at reasonable costs."[116] He determined that 54,390 acres of "historical lands"—lands that had been irrigated or were currently being irrigated—were practicably irrigable,[117] and recommended an annual award of 288,355 acre-feet of water for those lands.[118] In addition, the Special Master recommended an annual award of 188,937 acre-feet of water for 48,520 acres of practicably irrigable "future lands"—lands that had not been irrigated previously.[119] The Special Master also recommended that an additional 20,000 acre-feet annually be set aside for non-agricultural uses and for in-stream flows to preserve fishery habitat and areas of aesthetic and wildlife value.[120]

On May 10, 1983, the state district court affirmed the Special Master's award of reserved water rights for PIA, but rejected the award of water for non-agricultural purposes.[121] The court held that the sole purpose of the reservation was agricultural, and therefore, PIA was the correct standard by which to quantify the Tribes' water rights.[122] The district court awarded the Tribes 479,427 acre-feet of water for 102,736 acres of historical and future lands.[123]

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115. *Id.* at 643a.

116. *Id.* at 534a.

117. *See id.* at 463a-531a.

118. *See id.* at 531a.

119. *See id.*, at 682a, 695a. The Special Master set forth a three-part test for determining PIA: (1) the land must be arable, *see id.* at 535a-544a; (2) the land must be susceptible to sustained irrigation from an engineering standpoint, *see id.* at 544a-555a.; and (3) the land must be irrigable "at reasonable cost," which involves a cost-benefit analysis, *see id.* at 559a-580a.

120. *See id.* at 611a-23a.

121. *See In re* The General Adjudication of All Rights to Use Water in the Big Horn River System and All Other Sources, Civ. No. 4993, *reprinted in* Appendix to Petition for Writ of Certiorari at 209a-210a, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309) [hereinafter Supreme Court Appendix].

122. *See* Supreme Court Appendix, *supra* note 121, at 182a, 262a-263a.

123. *See id.* at 169a-182a.

The Wyoming Supreme Court, by a three-to-two vote, largely affirmed the state district court decision.[124] The court agreed that a right to reserved water could be implied from the treaty establishing the reservation.[125] It held that the sole purpose of the reservation was agricultural,[126] and therefore, the correct method of quantification was the amount of water necessary to irrigate all of the reservation's PIA.[127] In determining PIA for future lands, the court applied a two-part analysis: "[T]he PIA must be susceptible of sustained irrigation (not only proof of the arability but also of the engineering feasibility of irrigating the land) and irrigable 'at reasonable cost.'"[128] The court awarded the Tribes 500,717 acre-feet per year based on 54,216 acres of historical lands and 54,005 acres of future lands.[129]

The court noted that it was unsure whether the "sensitivity doctrine," which requires reserved water rights to be quantified with sensitivity to the impact on state and private appropriators, should apply.[130] The court held that even if it did, the district court had shown sufficient sensitivity to the water needs of the non-Indian water users.[131] Contrary to the Special Master's recommendations, the court also held that non-Indian successors to Indian lands would enjoy an 1868 priority date in common with Indian owned rights for certain practicably irrigable land.[132]

B. Supreme Court Proceedings

The Wyoming Supreme Court's PIA decision revived the debate about the quantification of Indian reserved water rights.[133]

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124. *See In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76, 77 (Wyo. 1988) (*Big Horn I*).

125. *See id.* at 91-94.

126. *See id.* at 96-99.

127. *See id.* at 100-101.

128. *Id.* at 101.

129. *See* Brief for Tribal Respondents, *supra* note 108, at 10 n.16.

130. *See Big Horn I*, 753 P.2d at 111.

131. *See id.* at 112.

132. *See id.* at 112-114. Non-Indian successors could enjoy a 1868 priority date if they could show that their land was irrigated by their Indian predecessors or irrigated within a reasonable time after they acquired the land. *See id.*

133. Several commentators commented on or criticized the opinion. *See* BURTON, *supra* note 49, at 37-38 (criticizing the Wyoming Supreme Court's decision with respect to groundwater and the purposes for which water could be reserved); Peg Rogers, Note, In Re Rights to Use Water in the Big Horn River, *753 P.2d 76 (Wyo. 1988)*, 30 NAT. RESOURCES J. 439 (1990) (arguing that the narrow

Wyoming filed a petition for writ of certiorari to the Supreme Court.[134] On January 23, 1989, the Supreme Court granted certiorari to review whether the Wyoming Supreme Court had erred in applying the PIA standard to calculate the Indian reserved water rights.[135]

1. Arguments

In its appellate brief, Wyoming argued that instead of applying the PIA standard to all reservations, the Court should "equitably tailor the reserved right doctrine to the needs of individual reservations."[136] Wyoming argued that the PIA standard should apply only to reservations in the "peculiar circumstances" of the *Arizona I* reservations.[137] Where a reservation has had "ample time to reach full irrigation development,"[138]

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interpretation of the purposes of the Indian reservation departed from accepted principles of liberal federal treaty interpretation); David M. Stanton, Note, *Is There a Reserved Water Right for Wildlife on the Wind River Indian Reservation?—A Critical Analysis of the Big Horn River General Adjudication*, 35 S.D. L. REV. 326 (1990) (arguing that the court erred in refusing to include wildlife uses in the quantification of the reserved water rights).

134. Wyoming sought review of three questions: (1) whether a federal reserved water right can exist for the reservation despite the congressional requirement in the 1905 agreement that the reservation's water rights be obtained under state law, *see* Second McLaughlin Agreement, Apr. 21, 1904, ch. 1452, 33 Stat. 1016, 1017 (1905); (2) whether the PIA standard should be used to measure the reserved water right; and (3) what priority date should be accorded to the lands that were ceded by the Tribes and later restored to the reservation. *See* Petition for Writ of Certiorari, *supra* note 92, at i.

On cross-petition, the Tribes raised six issues: (1) the validity of the "permanent homeland" purpose, (2) the reserved rights to groundwater, (3) the ban on the export of reserved water, (4) the burden of proof for establishing reserved rights on historical lands, (5) the use of the 40% efficiency rate for historically irrigated lands, and (6) the priority date for non-Indians claiming reserved rights. *See* Cross-Petition for a Writ of Certiorari at i-ii, Shoshone Tribe v. Wyoming, 492 U.S. 926 (1989) (No. 88-492) (denying certiorari review of the tribes' cross-petition); Rusinek, *supra* note 4, at 393-94. Another group, including the City of Riverton, individual farmers and ranchers, and local irrigation districts, also filed a cross-petition for review. *See* Riverton's Cross-Petition, *infra* note 227. These petitioners sought "review of the sensitivity doctrine, the *Wyoming* court's choice of a discount rate, and its rejection of their estoppel argument." Rusinek, *supra* note 4, at 394.

135. *See* Wyoming v. United States, 488 U.S. 1040 (1989).

136. Brief for the Petitioner, *supra* note 93, at 12.

137. *Id.* at 26. Wyoming argued that the *Arizona I* reservations were desert lands, while the lands at issue in this case were "the best-watered portion of Wyoming." *Id.* at 24-25.

138. *Id.* at 30.

as the State argued was the case with the Wind River Reservation, the PIA standard should be discarded because it results in an "unjustified windfall[]"[139] to the Tribes, it disregards the sensitivity doctrine,[140] and its inflexibility carries inherent problems of proof.[141] Wyoming also argued that the Court should specify factors to be considered in tailoring a reserved right instead of requiring lower courts to adhere to the PIA standard.[142] Implicit in Wyoming's argument was that only historically irrigated land *not* covered by state permits would be entitled to a reserved water right.[143]

The Tribes, on the other hand, urged the Supreme Court to uphold the use of the PIA standard. The Tribes first argued that Wyoming overstated the adverse impact of the PIA standard on non-Indian water users.[144] The Tribes then argued that their situation was legally indistinguishable from *Arizona I*; as such, they asserted that the Wyoming courts properly relied on *Arizona I*. Furthermore, the Tribes argued that the "minimal need" cases often cited for supporting a sensitivity analysis, *Cappaert v. United States*[145] and *United States v. New Mexico*,[146] were in fact consistent with the PIA ruling in *Arizona I* because they relied on the PIA standard to determine the proper measure of a reserved right.[147] The Tribes, however, strongly opposed the argument suggested by these cases that water rights should be tailored to the minimal needs of the reservation.[148] The Tribes pointed out that "[t]his case involves vested property right to water reserved under a federal treaty for the needs of a permanent homeland for

139. *Id.* at 28.

140. *See id.*

141. *See id.* at 28-47.

142. *See id.* at 15-16. Wyoming suggested factors such as the extent of historical irrigation, whether lands could have been reasonably foreseen to be irrigated at the time of the reservation but have not yet been irrigated, the state-awarded water rights granted for Indian agricultural use, non-irrigation agricultural needs of the reservation, and "the impact of the reserved water right on non-Indians using water under state law." *Id.*

143. Brief for Tribal Respondents, *supra* note 108, at 34-43.

144. *See id.* at 14-22.

145. 426 U.S. 128 (1976).

146. 438 U.S. 696 (1978). For a discussion of these cases and the development of the "sensitivity" doctrine, see *supra* text accompanying notes 87-99.

147. *See* Brief for Tribal Respondents, *supra* note 108, at 29.

148. *See id.* at 21-32.

two Indian tribes, not the water reserved for a federal reservation to protect pupfish or trees."[149]

The Tribes further argued that recognition of Wyoming's argument would undermine eighty years of law protecting Indian tribes from losing their *Winters* water rights due to non-use and would disregard the historical lack of adequate governmental support for Indian irrigation projects.[150] The Tribes refuted Wyoming's contention that the PIA standard produced an "unjustified windfall,"[151] pointing out that the Wyoming Supreme Court had awarded water rights based on 108,000 irrigable acres; this amount was only 6000 acres more than what Wyoming asserted were practicably irrigable in its pretrial pleadings and was significantly less than the 145,000 acres for which federal officials once secured protective state permits.[152]

The United States joined the Tribes in arguing that the Wyoming Supreme Court properly applied the PIA standard to measure Indian reserved water rights and that the PIA standard should not be modified, discarded, or replaced.[153] The United States first argued that the Wyoming Supreme Court correctly followed *Arizona I*, which held that the PIA standard was "the only feasible and fair way by which reserved water for the reservations can be measured."[154] It then argued that the PIA standard should not be modified or discarded because reserved water rights are questions of implied intent rather than equity, the PIA standard is objective, and no workable alternative has been suggested.[155] In conclusion, the United States emphasized that the compelling need for certainty in western water law mandated adherence to the PIA standard; the United States noted that courts and negotiators had relied on this standard for the twelve years of litigation in this case and for more than twenty-five years in other water adjudications and negotiated settlements.[156]

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149. *Id.* at 30.
150. *See id.* at 34-43.
151. Brief for the Petitioner, *supra* note 93, at 28.
152. *See* Brief for Tribal Respondents, *supra* note 108, at 45-46, n.12.
153. *See* Brief for the United States, Wyoming v. United States, 492 U.S. 406 (1989) (No. 88-309).
154. *Id.* at 12 (quoting Arizona v. California, 373 U.S. 546, 601 (1963) (*Arizona I*)).
155. *See id.* at 19-47.
156. *See id.* at 48-50.

C. *The Draft Opinions*

A brief overview of the draft majority opinion and one of the draft dissents follows.

1. Draft Majority Opinion

The draft opinion authored by Justice O'Connor, while declining to discard the PIA standard altogether, proposed radically altering the quantification criterion by merging it with a sensitivity analysis.[157] O'Connor began the substantive portion of her opinion by acknowledging some of the strengths of the PIA standard. She observed that the standard "is the cornerstone of current settlement negotiations"[158] and noted that no other standard has been suggested that "would prove as workable as the PIA standard for determining reserved water rights for agricultural reservations."[159] In addition, she concluded that a new standard "will create a maelstrom in water rights adjudication."[160] Most importantly to O'Connor, the PIA standard is "based on objective factors which are familiar to courts."[161]

Having decided to adhere to some version of the PIA standard, Justice O'Connor set forth the factors that should be utilized in determining PIA. O'Connor agreed that historically irrigated lands should generally be considered practicably irrigable.[162] As for lands that have not been irrigated, the three factors that determine whether the lands may be included as PIA are "the arability of the lands, the engineering feasibility (based on current technology) of necessary future irrigation projects, and the economic feasibility of such projects . . . ."[163]

Finally, O'Connor's draft opinion would have held that the "quantification of Indian reserved water rights must entail sensitivity to the impact on state and private appropriators of scarce water under state law."[164] Justice O'Connor buttressed this statement with a discussion of two post-*Arizona* non-Indian

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157. *See* Draft Opinion, *supra* note 6.
158. *Id.* at 12, Appendix *infra* p. 734.
159. *Id.*, Appendix *infra* p. 734-35.
160. *Id.*, Appendix *infra* p. 734.
161. *Id.*
162. *See id.* at 13, Appendix *infra* p. 735.
163. *See id.* at 14, Appendix *infra* p. 728.
164. *Id.* at 15, Appendix *infra* p. 737.

reserved rights cases.[165] First, O'Connor discussed *Cappaert*, which held that the government reserved sufficient water to maintain the level of an underground pool upon its designation as Devil's Hole National Monument.[166] The *Cappaert* Court, however, explained that the implied reservation of water doctrine "reserves only that amount of water necessary to fulfill the purpose of the reservation, no more."[167] As such, the *Cappaert* Court found that the injunction limiting the use of the water had been "tailored . . . very appropriately, to minimal need."[168] Second, Justice O'Connor relied on *New Mexico*, which held that the government had reserved water in setting aside a national forest "only where necessary to ensure the primary purposes of the national forests."[169] Ironically, a quote from Justice Powell's dissent in *New Mexico* introduced the sensitivity doctrine: "Even the dissenters in *New Mexico* agreed 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.'"[170]

To Justice O'Connor, "Sensitivity to the impact on prior appropriators necessarily means that 'there has to be some degree of pragmatism' in determining PIA."[171] O'Connor defined pragmatism to mean that there must be a "*reasonable likelihood* that future irrigation projects . . . will *actually* be built."[172] O'Connor also proposed requiring the trier of fact to determine if additional cultivated acreage was necessary to meet the needs of the Tribe and to determine whether there will be a sufficient market for crops grown on these lands.

O'Connor's proposed sensitivity analysis shows that the Court was on the verge of adopting a significant change in the PIA standard. This analysis apparently required that the water quantified under the PIA standard actually be intended, at least

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165. *See id.*

166. *See* Cappaert v. United States, 426 U.S. 128, 147 (1976).

167. *Id.* at 141, *quoted in* Draft Opinion, *supra* note 6, at 14, Appendix *infra* p. 737.

168. *Id.*

169. Draft Opinion, *supra* note 6, at 15, Appendix *infra* p. 738 (citing United States v. New Mexico, 438 U.S. 696, 718 (1978) (Powell, J., dissenting in part)).

170. *Id.* (quoting *New Mexico*, 438 U.S. at 718 (Powell, J., dissenting in part)).

171. *Id.* at 17, Appendix *infra* p. 738 (quoting *In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76, 19 (Wyo. 1988) (*Big Horn I*)).

172. *Id.*

initially, for agricultural purposes. In contrast, Special Master Rifkind, in developing the PIA standard, had expressly declined to reach the issue of the water's actual use.[173] Had the Court adopted the substantial revision of the PIA standard represented in O'Connor's draft opinion, the Court would have vacated the Wyoming Supreme Court decision insofar as it reserved water for future lands, and remanded the case to the Wyoming Supreme Court for an application of the "practicability" factor.[174]

2. Justice Brennan's Draft Dissent

Justice Brennan, joined by Justices Marshall and Blackmun, wrote a vigorous twenty-three-page draft dissent. Justice Brennan noted that although the Court had previously held that sufficient water was reserved at the creation of the reservation to irrigate the land and fulfill its purpose, the Indians had been unable to use the water reserved because they either lacked the capital or had not received the "massive amounts of federal funds" needed for significant western irrigation projects.[175] Justice Brennan argued that requiring the Tribes to demonstrate a "reasonable likelihood" that economically feasible projects will actually be built effectively penalized the Indians for the lack of government investment on their reservations by taking those water rights that had remained theirs at least "on paper."[176] Further, Brennan stated that this requirement

> —gratuitously superimposed, in the name of "sensitivity" to the interests of those who compete with the Indians for water, upon a workable method for calculating practicably irrigable acreage that parallels Government methods for determining the feasibility of water projects for the benefit of non-Indians —has no basis in law or justice.[177]

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173. *See* RIFKIND REPORT, *supra* note 54, at 265.

174. Draft Opinion, *supra* note 6, at 19, Appendix *infra* p. 740. In a brief draft concurrence, Justice White reiterated the need to find that future lands will be irrigated. *See* Wyoming v. United States, Concurring Opinion, 2d Draft at 1, No. 88-309 (U.S. 1989) (recirculated June 14, 1989) (on file with the *University of Colorado Law Review*). The concurrence also observed that the Supreme Court has never decided whether reserved rights may be sold or leased either on- or off-reservation. *See id.* at 2.

175. Draft Dissent, *supra* note 9, at 1-2, Appendix *infra* p. 741.

176. *See id.*

177. *Id.*, Appendix *infra* p. 742.

In Brennan's view, O'Connor's draft opinion "strikes at the heart of the *Winters* right itself"[178] because the *Winters* doctrine requires the reviewing court to determine the implied intent of the government in creating the reservation.[179] Here, the purpose of Congress in establishing the Wind River Reservation was to reserve enough water to make the Indians' land useful.[180] Brennan found no basis for O'Connor's balancing of interests test in a review of the statutes and executive orders creating the Wind River Reservation.[181]

Justice Brennan also challenged O'Connor's emphasis on the needs of the Tribes. Brennan noted that decisions whether to build irrigation projects are not based so much on need, but rather based on the politics surrounding funding for reclamation projects.[182]

Finally, Brennan observed that while O'Connor's draft opinion purported not to answer the question of whether the reserved water rights may be sold or leased for export off-reservation, it apparently assumed that they could not.[183] Otherwise, "the Court's premise that they had been awarded more water than they could use would be clearly untenable. Indeed, the water would be used twice: first by the Tribes as a source of income; and then by the purchaser for irrigation or other purposes."[184]

In conclusion, Justice Brennan reiterated the need to uphold the *Winters* principle of "deal[ing] fairly with the Indians by reserving for them the waters without which their lands would have been useless."[185]

IV. ANALYSIS OF THE SENSITIVITY DOCTRINE ESPOUSED IN THE *WYOMING* DRAFT OPINIONS

Instead of publishing these drafts, the Supreme Court affirmed, by a divided court, the Wyoming Supreme Court decision

178. *Id.* at 9, Appendix *infra* p. 749.
179. *See id.* at 6, Appendix *infra* p. 746.
180. *See id.*
181. *See id.* at 8, Appendix *infra* p. 748.
182. *See id.* at 5, 13-16, Appendix *infra* pp. 745, 751-54.
183. *See id.* at 17, Appendix *infra* p. 757.
184. *Id.*
185. *Id.* at 20, Appendix *infra* p. 746 (quoting Arizona v. California, 373 U.S. 546, 600 (1963) (*Arizona I*)).

without publishing an opinion.[186] Justice O'Connor, author of the draft majority decision, had recused herself from the case, allowing the PIA standard to stand unchanged.[187] Although the Supreme Court ultimately upheld the Wyoming Supreme Court's use of the PIA standard, a seeming victory for the Indians, future litigants undoubtedly will seek clarification of the PIA standard. Because Wyoming's sensitivity analysis nearly prevailed, future parties and courts that review this issue should be made aware of some of the argument's flaws.

First, the inclusion of a sensitivity analysis runs counter to established case law in two ways: (1) it misinterprets the federal reserved rights cases such as *Cappaert* and *New Mexico* to include a balancing requirement;[188] and (2) it contradicts a number of cases that have considered the PIA standard and rejected a balancing requirement.[189]

Second, and more importantly, the sensitivity analysis fails to promote either tribal well-being or the efficient use of scarce water resources. The emphasis on balancing needs and "practicality," while paying lip service to notions of equity and economic realities, in fact undermines basic fairness and results in the ineffective use of water resources.[190]

A. The Sensitivity Analysis Runs Counter to Established Case Law

1. Erroneous Interpretation of Federal Reserved Rights Cases

Proponents of the sensitivity analysis misinterpret two post-*Arizona I* cases to conclude that a sensitivity analysis applies in determining reserved water rights.[191] Both *Cappaert v. United States* and *United States v. New Mexico* upheld the federal government's authority to reserve water and quantified it according to the purposes of the legislation creating the protected

186. *See* Wyoming v. United States, 492 U.S. 406 (1989).
187. *See id.* at 407.
188. *See infra* Part IV.A.1.
189. *See infra* Part IV.A.2.
190. *See infra* Part IV.B.
191. *See, e.g.*, Draft Opinion, *supra* note 6, at 15, Appendix *infra* p. 737.

federal area.[192] Neither of these cases advocated balancing the needs of competing water users.

In *Cappaert*, the Supreme Court unanimously held that when the United States established a deep cavern on federal land as a national monument, it reserved appurtenant, unappropriated water necessary to fulfill the purposes of the reservation, which included preservation of the pool within the cavern and a unique race of desert fish found in the pool.[193] In doing so, the Court stated that the reserved water doctrine "reserves only that amount of water necessary to fulfill the purpose of the reservation, no more,"[194] and suggested that the quantification of the water right must be tailored to "minimal need."[195] In *New Mexico*, the Supreme Court held that the United States, in creating the Gila National Forest in New Mexico, reserved enough water to fulfill the relatively narrow purposes of the national forest, which included conservation of water flows and maintenance of a continuous supply of timber; however, aesthetic, recreational, wildlife-preservation, and stockwatering purposes were excluded.[196] The Court stated that while the United States is entitled to water to fulfill the "primary" purposes of national forests, it must acquire water for "secondary" purposes under state water laws.[197]

To reach a sensitivity analysis, Justice O'Connor's draft opinion relied on these holdings regarding *non-Indian* federal reserved rights as evidence of the Court's past inclination to balance *tribal* interests against other water users' interests.[198] However, neither *Cappaert* nor *New Mexico* addressed whether a balancing requirement extended to Indian water rights. In fact, *Cappaert* explicitly rejected a balancing approach to the quantification of federal reserved rights: "Nevada argues that the cases establishing the doctrine of federally reserved water rights articulate an equitable doctrine calling for a balancing of compet-

192. *See* Cappaert v. United States, 426 U.S. 128 (1976); United States v. New Mexico, 438 U.S. 696 (1978).

193. *See Cappaert*, 426 U.S. at 138-43.

194. *Id.* at 141.

195. *Id.*

196. *See New Mexico*, 438 U.S. at 708 (construing Organic Administration Act of 1897, 16 U.S.C § 475 (1976)); *id.* at 717 n.24 (construing 16 U.S.C. § 481 (1976)).

197. *See id.* at 702-03.

198. *See* Draft Opinion, *supra* note 6, at 15-17, Appendix *infra* pp. 737-38.

ing interests. However, an examination of those cases shows they do not analyze the doctrine in terms of a balancing test."[199]

Similarly, the *New Mexico* decision failed to consider the impact of the water reservation on other water users in reaching its holding.[200] Instead, it followed the approach of past implied-reservation cases, which "carefully examined both the asserted water right and the specific purposes for which the land was reserved, and concluded that without the water the purposes of the reservation would be entirely defeated."[201]

Most importantly, O'Connor's draft opinion ignored the Supreme Court's previous explicit rejection of the argument that Indian reserved water rights should be subject to equitable considerations. Both *Arizona I* and *II* noted that

> [the Court] rejected the argument, urged by the States, that equitable apportionment should govern the question. [The Court was] "not convinced by Arizona's argument that each reservation is so much like a State that its rights to water should be determined by the doctrine of equitable apportionment." . . . "Moreover, even were [the Court] to treat an Indian reservation like a State, equitable apportionment would still not control, since, under [the Court's] view, the Indian claims here are governed by the statutes and Executive Orders creating the reservations."[202]

Lower courts have subsequently followed this holding, reiterating that reserved water rights are not subject to a balancing inquiry.[203]

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199. *Cappaert*, 426 U.S. at 138. The Supreme Court, in a footnote, explained:

> Nevada is asking, in effect, that the Court overrule *Arizona v. California* and *United States v. District Court for Eagle County* to the extent that they hold that the implied-reservation doctrine applies to all federal enclaves since in so holding those cases did not balance the "competing equities." However, since balancing the equities is not the test, those cases need not be disturbed.

Id. at 139 n.4 (citations omitted).

200. *See New Mexico*, 438 U.S. at 713, 714 & n.21, 718.

201. *Id.* at 700. For a useful discussion of the opinion, see Sally V. Fairfax & Dan A. Tarlock, *No Water for the Woods: A Critical Analysis of* United States v. New Mexico, 15 IDAHO L. REV. 509 (1979).

202. Arizona v. California, 460 U.S. 605, 616, (1983) (*Arizona II*) (quoting Arizona v. California, 373 U.S. 546, 597 (1963) (*Arizona I*)).

203. *See, e.g.*, Colville Confederated Tribes v. Walton, 752 F.2d 397, 405 (9th Cir. 1985) ("Where reserved rights are properly implied, they arise without regard to equities that may favor competing water users."); United States v. Adair, 723 F.2d 1394, 1408 (9th Cir. 1983) (stating that the cases involving non-Indian federal

In addition to misinterpreting the federal reserved rights cases, proponents of the sensitivity analysis also ignore a crucial difference between Indian reserved water rights and non-Indian federal reserved water rights. Indian reservations were set aside to promote the well-being of tribes and to ensure their self-sufficiency. The Ninth Circuit succinctly summarized the basis for treating Indian reserved rights differently from federal reserved water rights in *Colville Confederated Tribes v. Walton*:[204] "The general purpose [of an Indian reservation], to provide a home for the Indians, is a broad one and must be liberally construed. We are mindful that the reservation was created for the Indians, not for the benefit of the government."[205]

The foregoing approach is, in our view, the correct one. The court's statement is consistent with both the holding in *Winters*[206] and canons of construction in Indian law that mandate that treaties and statutes passed for the benefit of Indian tribes are "to be liberally construed [with] doubtful expressions being resolved in favor of the Indians."[207] Contrary to this canon of Indian treaty construction, the sensitivity analysis favors non-Indian interests.

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reserved water rights are "not directly applicable to *Winters* doctrine rights on Indian reservations").

204. 647 F.2d 42, 47 (9th Cir. 1980), *cert. denied*, 454 U.S. 1092 (1981).

205. *Id.*; *see also* U.S. NAT'L WATER COMM'N, WATER POLICIES FOR THE FUTURE: FINAL REPORT TO THE PRESIDENT AND TO THE CONGRESS OF THE UNITED STATES 459-83 (1973) (noting significant differences between Indian reserved rights and water rights for other federal reservations) [hereinafter U.S. NAT'L WATER COMM'N]; Charles Meyers, *Federal Ground Water Rights: A Note on* Cappaert v. United States, 13 LAND & WATER L. REV. 377, 388-89 (1978) (stating that Indian reserved rights to groundwater necessarily differ from and are greater than those of other federal reservations).

206. 207 U.S. 564 (1908). In construing the 1888 agreement, which established the Fort Belknap Reservation, the Supreme Court wrote:

> By a rule of interpretation of agreements and treaties with the Indians, ambiguities occurring will be resolved from the standpoint of Indians. And the rule should certainly be applied to determine between two inferences, one of which would support the purpose of the agreement and the other impair or defeat it. On account of their relations to the Government, it cannot be supposed that the Indians were alert to exclude by formal words every inference which might militate against or defeat the declared purpose of themselves and the Government . . . .

Id. at 564, 576-77.

207. Alaska Pac. Fisheries v. United States, 248 U.S. 78, 89 (1918); *see also* Montana *ex rel.* Greely v. Confederated Salish & Kootenai Tribes, 712 P.2d 767, 768 (Mont. 1985) ("[T]he purposes of Indian reserved rights . . . are given broader interpretation in order to further the federal goal of Indian sufficiency.").

In sum, the sensitivity analysis, which recommends consideration of non-Indian users' rights at the expense of Indian tribes' reserved rights, is without basis in the law.

2. Sensitivity Analysis Runs Counter to Longstanding PIA Case Law

The sensitivity analysis, coupled with an emphasis on the practicality of future irrigation projects also is without basis in longstanding case law interpreting the PIA standard. Justice O'Connor's draft opinion states that

> [s]ensitivity to the impact on prior appropriators necessarily means that "there has to be some degree of pragmatism" in determining PIA. We think this pragmatism involves 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.[208]

This emphasis on the practicality of future irrigation projects on Indian reservations fundamentally misconstrues the function of the PIA standard and that of the *Winters* doctrine. The PIA standard is simply the measure for quantifying sufficient water to fulfill the purpose of an agricultural reservation. It does not mandate that the quantified water be used for actual irrigation projects. Instead, "the water was intended to satisfy the future as well as the present needs of the Indian Reservations,"[209] and the amount awarded is subject to change as the needs of Indians change.[210]

The amount of water reserved by the establishment of an Indian reservation and the uses to which this water may be put were open-ended from the beginning of the reserved rights doctrine. In *Winters*, the Supreme Court refused to set an upper limit for the water awarded to the Fort Belknap Indian Reserva-

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208. Draft Opinion, *supra* note 6, at 17, Appendix *infra* p. 738 (citation omitted) (quoting *In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76, 119 (Wyo. 1988)).

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

210. *See* Hundley, *supra* note 32, at 36.

tion.[211] Instead, the Supreme Court recognized that Congress intended to reserve enough water to make the reduced area "valuable or adequate," and it did not limit the uses for which the water was intended:

> The 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? Did they reduce the area of their occupation and give up the waters which made it valuable or adequate? . . . If it were possible to believe affirmative answers, we might also believe that the Indians were awed by the power of the Government or deceived by its negotiators. Neither view is possible.[212]

In *Winters*, the Supreme Court affirmed the lower court's award of 5000 inches of water to meet the then-current needs of the Indians, even though this amount effectively gave the Indians all the water available during that irrigation season.[213] The *Winters* Court understood the purpose of the reservation as changing "the habits and wants of a nomadic and uncivilized people"[214] through agriculture and other "civilizing" activities. Thus, as historian Norris Hundley, Jr., argues persuasively, the *Winters* Court intended that "when Indians entered into an agreement setting aside lands and waters, they retained the right to sufficient water for any purpose that would promote their 'civilization'—in other words, for any reasonable purpose."[215]

Furthermore, Justice O'Connor's proposed holding that courts should consider the "reasonable likelihood" that future irrigation projects "will actually be built" recycles a line of reasoning explicitly rejected by the Supreme Court in its only two published opinions on the PIA standard.[216] In *Arizona I*, when the Supreme Court first articulated the PIA standard, it explicitly rejected any standard that would depend on the "reasonably foreseeable needs" of the Indians:

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211. *See Winters*, 207 U.S. at 576.
212. *Id.*
213. *See id.*; Hundley, *supra* note 32, at 36.
214. *Winters*, 207 U.S. at 576.
215. Hundley, *supra* note 32, at 36-39.
216. *See* Arizona v. California, 373 U.S. 546, 600 (1963) (*Arizona I*); Arizona v. California, 460 U.S. 605, 617 (1983) (*Arizona II*).

> Arizona . . . contends that the quantity of water reserved should be measured by the Indians' "reasonably foreseeable needs," which, in fact, means by the number of Indians. How many Indians there will be and what their future needs will be can only be guessed. We have concluded, as did the Master, that the only feasible and fair way by which reserved water for the reservations can be measured is irrigable acreage.[217]

Nineteen years later, in *Arizona II*, the Court reiterated its rejection of Arizona's position that the quantity of water reserved should be measured by the "reasonably foreseeable needs" of the Indians.[218]

Lower courts have also interpreted the PIA standard as one governing quantification of Indian reserved water rights, not one governing the uses of such water. In *Colville Confederated Tribes v. Walton*, for instance, the Ninth Circuit held that "the purposes for which the reservation was created governed the quantification of reserved water, but not the use of such water."[219] The Ninth Circuit further noted "that permitting the Indians to determine how to use reserved water is consistent with the general purpose for the creation of an Indian reservation providing a homeland for the survival and growth of Indians and their way of life."[220]

B. The Sensitivity Analysis Fails to Promote Tribal Well-Being or the Efficient Use of Water

1. The Sensitivity Analysis Undermines Tribal Autonomy and Self-Sufficiency

In addition to being unfounded in precedent, the sensitivity analysis fails to protect tribal well-being, undermines tribal sovereignty, and contradicts basic understandings of fairness.

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217. *Arizona I*, 373 U.S. at 601; *see also* RIFKIND REPORT, *supra* note 54.

> At the time of the creation of the five Indian Reservations in question, it was impossible to predict the future needs of the Indians who might inhabit them. . . . What the United States did, in withdrawing public lands for these Indian Reservations, was to establish areas that could be used in the indefinite future to satisfy the needs of Indian tribes in the United States as those needs might develop.

Id. at 262.

218. *See Arizona II*, 460 U.S. at 617.

219. Colville Confederated Tribes v. Walton, 647 F.2d 42, 48 (9th Cir. 1980), *cert. denied*, 454 U.S. 1092 (1981).

220. *Id.* at 49.

Proponents of a sensitivity analysis argue that if courts do not consider the needs of other water users, Indian tribes would enjoy a "windfall."[221] These fears, however, are not borne out in reality. Commentators agree that the PIA standard is not bringing great wealth to Indian reservations.[222] Indeed, Indian reservations are among the most economically depressed sectors of the nation.[223] In the *Wyoming* case, the Shoshone and Northern Arapahoe Tribes presented evidence that the Wind River Reservation was plagued by a seventy-one percent unemployment rate and an average family income of $6277, and that seventy-five percent of families on the reservation were classified as "low-income" or in "poverty" based on federal Office of Management and Budget guidelines.[224]

In addition, a comparison of the history of water development on Indian reservations with similar development on non-Indian lands shows that Indian tribes have not enjoyed a bounty under the current system of quantifying reserved water.[225] The *Wyo-*

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221. *See, e.g.*, Brief for the Petitioner, *supra* note 93, at 28 (Wyoming's argument before the Supreme Court).

222. *See* WATERS, *supra* note 14, at 248; *see also* Richard B. Collins, *The Future Course of the* Winters *Doctrine*, 56 U. COLO. L. REV. 481, 494 (1985).

223. Indians who reside on reservations suffer from chronically high unemployment rates, lack of basic services, and serious health and social problems. *See, e.g.*, Ward Churchill & Winona LaDuke, *Native North America: The Political Economy of Radioactive Colonialism*, *in* THE STATE OF NATIVE AMERICA: GENOCIDE, COLONIZATION, AND RESISTANCE 241 (M. Annette Jaimes ed., 1992).

> Despite the obvious and abundant wealth of land and resources they nominally retain.... North American Indian populations suffer virtually the full range of conditions observable in the most depressed of Third World areas. Theirs is the highest rate of infant mortality on the continent, the shortest life expectancy, the greatest incidence of malnutrition, the highest rate of death by exposure, the highest unemployment, the lowest per capita income, the highest rate of communicable or plague diseases, the lowest level of formal educational attainment, and so on.

Id. at 246; *see also* Indian Business Opportunities Enhancement Act, S. 3118, 102d Cong. (1992) (draft legislation to amend the Buy Indian Act, 25 U.S.C. § 47 (1994)).

224. "W.I.N.D.S." PROJECT: WIND RIVER INDIAN NEEDS DETERMINATION SURVEY, EXECUTIVE SUMMARY OF FINAL REPORT, *reprinted in* Brief for Tribal Respondents, *supra* note 108, at 22a-32a.

225. *See generally* DANIEL MCCOOL, COMMAND OF THE WATERS: IRON TRIANGLES, FEDERAL WATER DEVELOPMENT, AND INDIAN WATER (1987); MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER (1986). Even in the heyday of federal funding for irrigation projects, Indian tribes received little government aid. Throughout the late nineteenth and early twentieth centuries, the United States government pursued an aggressive policy of western development that greatly favored non-Indian development of water resources. *See generally* MCCOOL, *supra*. During this period, the federal government neglected the

ming case illustrates how federal subsidies to non-Indian water users stood in stark contrast to funding for Indian projects on the Wind River Reservation. Between 1907 and 1987, the United States allocated a total of $4.4 million toward construction and maintenance of Indian irrigation projects on the reservation; these projects irrigated 54,000 acres of land.[226] However, the United States subsidized non-Indian irrigation development on the reservation to an even greater extent. Non-Indian irrigation projects benefit approximately 120,000 acres within the reservation, including approximately 73,000 acres served by the federally funded Riverton Reclamation Project, which lies entirely within the ceded portion of the reservation.[227] In contrast to the $4.4 million in Indian water project funding, the United States spent more than $70 million on the Riverton Reclamation Project alone.[228] This dramatic difference in historical support for Indian

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development of Indian water rights; this neglect resulted in a huge disparity between the funding and completion of Indian and non-Indian irrigation projects. *Cf.* Monique 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 (1992).

> The 1973 National Water Commission reported to the President and Congress:
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> > Following *Winters*, more than 50 years elapsed before the Supreme Court again discussed significant aspects of Indian water rights. During most of this 50-year period, the United States was pursuing a policy of encouraging the settlement of the West and the creation of family-sized farms on its arid lands. In retrospect, it can be seen that this policy was pursued with little or no regard for Indian water rights and the *Winters* doctrine. With the encouragement, or at least the cooperation, of the Secretary of the Interior—the very office entrusted with protection of all Indian rights—many large irrigation projects were constructed on streams that flowed through or bordered Indian Reservations, sometimes above and more often below the Reservations. With few exceptions the projects were planned and built by the Federal Government without any attempt to define, let alone protect, prior rights that Indian tribes might have had in the waters used for the projects. . . . In the history of the United States Government's treatment of Indian tribes, its failure to protect Indian water rights for use on the Reservation it set aside for them is one of the sorrier chapters.
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> U.S. NAT'L WATER COMM'N, *supra* note 205, at 474-75 (citations omitted); *see also* Sylvia F. Liu, *American Indian Reserved Water Rights: The Federal Obligation to Protect Tribal Water Resources and Tribal Autonomy*, 25 ENVTL. L. 425, 434-38 (1995) (arguing that the federal government has an obligation to promote a broad interpretation of the Indian reserved water rights doctrine in part based on redressing historical inequities).

226. *See* Brief for Tribal Respondents, *supra* note 108, at 6.

227. *See id.* at 7; Cross-Petition for a Writ of Certiorari to the Supreme Court of Wyoming at 2, City of Riverton v. United States, 492 U.S. 926 (1989) (No. 88-553).

228. *See* Brief for Tribal Respondents, *supra* note 108, at 7 (citing 3 BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, 1984 SUMMARY STATISTICS, PROJECT DATA 309 (1987)).

and non-Indian water projects highlights the insensitivity of an analysis that would further erode the existing rights of Indian tribes.

The inclusion of a practicality analysis also undermines tribal autonomy and sovereignty because it dictates how tribes could use their water resources. Indian reservations were created to provide permanent homelands where tribes could be economically self-sufficient. By requiring a tribe to use its water for inefficient and costly irrigation projects,[229] the practicality analysis would limit the ability of tribes to determine their own economic needs and priorities. Off-reservation water leasing, for example, has the potential to bring substantial economic benefit to tribes with a surplus of water due to an increasing demand for water in the urban West.[230] Because off-reservation water leasing would advance the longstanding goals of tribal sovereignty and self-sufficiency, it should be a permissible use of reserved Indian water.[231]

Although the Supreme Court has not directly spoken to whether off-reservation leasing would be consistent with the *Winters* doctrine,[232] the sensitivity analysis as expressed in Justice O'Connor's draft opinion would have essentially foreclosed this option. The reasonable likelihood of construction standard assumes that water awarded under the PIA standard is limited

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229. *See infra* Part IV.B.2.

230. *See* PETER SLY, RESERVED WATER RIGHTS SETTLEMENT MANUAL 12 (1988) [hereinafter SETTLEMENT MANUAL]; Sly, *supra* note 13, at 43.

The Department of the Interior has long recognized the potential that leasing water holds for Indian tribes. A 1983 letter from then Interior Solicitor William Coldiron to Patricia Nagel of the California Water Agencies stated:

> Marketing of Indian water rights off the reservation can generate substantial income to capitalize reservation development and provide the tribes with needed flexibility in their resource development planning. We see no reason why the Indians should not be permitted to reap the maximum benefit from their water resources just as they would from any other tribal resources.

Letter of William Coldiron, *cited in* CHARLES MEYERS ET AL., WATER RESOURCE MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY 833 (1988).

231. *See* David Getches, *Management and Marketing of Indian Water: From Conflict to Pragmatism*, 58 U. COLO. L. REV. 515 (1988); Lee Herold Storey, Comment, *Leasing Indian Water Off the Reservation: A Use Consistent with the Reservation's Purpose*, 76 CALIF. L. REV. 179 (1988); Christine Lichtenfels, Comment, *Indian Reserved Water Rights: An Argument for the Right to Export and Sell*, 24 LAND & WATER L. REV. 131 (1989).

232. Such a use, even if consistent with the *Winters* doctrine, would probably require congressional approval because 25 U.S.C. § 177 (1994) requires congressional approval for transfer of tribal real property.

to irrigation purposes. The premise of the practicality analysis—that tribes have been awarded more water than they could use based on historical uses of water[233]—does not make sense if tribes are allowed to use their reserved water for purposes other than irrigation. It is certainly not equitable to prohibit tribes from leasing their water. Many prior appropriation states allow agricultural water users to change the uses of their water or enter into exchanges with other water users.[234] There is no reason to deprive tribes of the same opportunities.

2. The Sensitivity Analysis Will Not Lead to the Efficient Use of Water

Leasing is important not only to tribal well-being and sovereignty, but also to the economically efficient use of western water. There can be no doubt that non-Indian economies would benefit from the leasing of Indian water rights. There is always a need for new sources of water in the arid West. The availability of Indian water (often with a valuable priority date) could satisfy these needs as well as stimulate the emergence of new ventures and uses of water.[235]

The "reasonable likelihood of construction" standard incorporated into the sensitivity analysis set forth by Justice O'Connor is wrongheaded in another important respect. By limiting the use of PIA-quantified water to irrigated agriculture, the sensitivity analysis, as described in the draft opinion, forces tribes to rely on an often inefficient and environmentally degrading use of water. For many tribes, irrigation projects make little sense. Agricultural projects do not always provide the employment opportunities or income needed on reservations, and other uses of water for tourism and recreation projects are economically preferable options.[236]

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233. *See* Draft Dissent, *supra* note 9, at 20, *reprinted in* Appendix *infra* p. 757.

234. *See* GETCHES, *supra* note 14, at 171-75.

235. *See* Storey, *supra* note 231, at 216.

236. *See* Robert A. Young & Roger Mann, *Cheap Water in Indian Country: A Cost-Effective Rural Development Tool?, in* INDIAN WATER IN THE NEW WEST 165, 182 (Thomas R. McGuire et al. eds., 1993) (stating that "tribal governments, Congress, and the Supreme Court would do well to rethink the whole issue of how to assure future Native American access to a fair share of scarce western water and to an acceptable standard of living without premature and wasteful expenditure on irrigation water projects"); Getches, *supra* note 231, at 544 (observing that for many

In addition, since the 1960s, it has become clear that irrigated agriculture is often an ecologically damaging way to use water.[237] Reallocation and better management of existing water supplies is now seen as a far superior way to deal with mounting demands for limited water resources.[238] It is senseless to commit scarce water to develop marginal agricultural lands in the West when "far more fertile lands in the midwestern states are now being removed from production due to poor market conditions."[239] Recognizing this trend, Indian tribes are looking toward other uses of their reserved rights, such as transfers or leases of water off reservations or the maintenance of in-stream flows for fisheries and recreational purposes. Permitting non-agricultural uses of reserved rights avoids further damage to an already scarred western landscape,[240] allows scarce water to be used more

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tribes the best use of tribal water may not involve irrigated agriculture).

237. Not only does irrigation constitute the greatest use of water in the West, comprising 85% of all water used annually, but it causes increased salinity, which reduces soil productivity and eventually results in the loss of land for agriculture altogether. *See* Norris Hundley, Jr., *The Great American Desert Transformed: Aridity, Exploitation, and Imperialism in the Making of the Modern American West, in* WATER AND ARID LANDS OF THE WESTERN UNITED STATES 21, 67-69 (Mohamed T. El-Ashry & Diana C. Gibbons eds., 1988). Salinity also harms downstream urban and industrial users, as well as wildlife. *See id.* at 68. Agricultural drainage water also contains toxic chemicals such as the naturally occurring selenium and residues from pesticides and fertilizers, resulting in contaminated fish and other wildlife, and threats to human health. *See id.*; *see also* DORIS OSTRANDER DAWDY, CONGRESS IN ITS WISDOM: THE BUREAU OF RECLAMATION AND THE PUBLIC INTEREST 113-56 (Studies in Water Mgmt No. 13, 1989) (discussing irrigation-induced problems in the West).

238. *See* Hundley, *supra* note 32, at 67. *See generally* U.S. NAT'L WATER COMM'N, *supra* note 205. In 1977, President Carter announced a new water policy that adopted a nonstructural approach to water development, emphasized environmental protection and conservation, and required more stringent criteria for project authorization and funding. *See* MCCOOL, *supra* note 225, at 195. President Reagan also attempted to increase presidential control over traditional water development interests in industry and state agencies, federal water development agencies, and key congressional subcommittees. *See id.* at 57, 197.

239. *In re* The General Adjudication of All Rights to Use Water in the Big Horn River System, 753 P.2d 76, 119 (Wyo. 1988) (Thomas, J., dissenting).

240. *See* Rusinek, *supra* note 4, at 410 (arguing that tribes must avoid the "hydraulic trap" of irrigated agriculture). The social and environmental problems associated with "hydraulic" society in the American West are documented in DONALD WORSTER, RIVERS OF EMPIRE: WATER ARIDITY AND THE GROWTH OF THE AMERICAN WEST (1985). For further discussion of the environmental problems associated with irrigated agriculture, see Mohamed T. El-Ashry & Diana C. Gibbons, *The West in Profile, in* WATER AND ARID LANDS OF THE WESTERN UNITED STATES 1-21 (Mohamed T. El-Ashry & Diana C. Gibbons eds., 1988); Harrison C. Dunning, *Confronting the Environmental Legacy of Irrigated Agriculture in the West: The Case of the Central*

efficiently, and enables Indian tribes to fulfill the purposes of their reservations.

In contrast, the sensitivity analysis set forth in Justice O'Connor's draft opinion will not promote the efficient use of water resources or the development of strong tribal economies. Already some courts have been encouraged to weaken the scope of Indian reserved rights. For example, the Wyoming Supreme Court decision that followed the *Wyoming* case, *Big Horn II*,[241] held that Indian tribes could not convert their water right reserved for future agricultural purposes to a right to maintain an in-stream flow for fishery purposes without regard to Wyoming state law.[242] This decision wholly overlooks the important economic and environmental benefits maintained by an in-stream flow right.[243] Not only would this right benefit the fishery, but the Tribes' dedication to in-stream flows would prevent them from diverting all the water to which they are entitled, making more water available to downstream users.[244]

Finally, the sensitivity analysis refuses to acknowledge the legitimacy of Indian claims to water, and this refusal will only fuel more litigation. The Court's four-to-four affirmance without opinion in *Wyoming v. United States* undermines the certainty that was previously associated with the PIA standard.[245] Prior to

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Valley Project, 23 ENVTL. L. 943 (1993).

241. *In re* The General Adjudication of All Rights to Use Water in the Big Horn River System and All Other Sources, 835 P.2d 273 (Wyo. 1992) (hereinafter *Big Horn II*).

242. *See id.* at 278-80 (Macy, J.); *id.* at 283-85 (Thomas, J., concurring specially); *id.* at 285-87 (Cardine, J., concurring in part and dissenting in part) (agreeing that a paper water right that has never been applied to PIA may not be transferred to in-stream flow, but that rights that have first been put to beneficial use for irrigation purposes may be transferred to in-stream flow under federal laws).

The dissent argued that restricting the use of the reserved water to agriculture contravenes the law established by the district courts in this case, that the PIA standard was used only as a measuring device and that once water was awarded, the Tribes could determine where and how they used the water. *See id.* at 288-89 (Brown, J., concurring in part and dissenting in part); *id.* at 292-95 (Golden, J., dissenting). The State of Wyoming had acknowledged that "[t]he rights received are no longer subject to the limitations of state law regarding continued use (without which they would be subject to abandonment) or transfer to different uses." Brief for the Petitioner, *supra* note 93, at 34.

243. *See* Berrie Martinis, *From Quantification to Qualification: A State Court's Distortion of the Law in* In Re General Adjudication of All Rights to Use Water in the Big Horn River System, 68 WASH. L. REV. 435, 451-52 (1993).

244. *See id.*

245. *See* Wyoming v. United States, 492 U.S. 406 (1989).

this decision the PIA standard's certainty was its "greatest virtue" because it gave parties the incentive to negotiate settlements.[246] The American West's ongoing transition from agriculture to urban water uses and a desire to foster greater economic prosperity and development on Indian reservations provide additional incentives.[247] The proposed sensitivity analysis removes these incentives to negotiation, undermining the little leverage currently possessed by Indian tribes.[248] It dooms Indian tribes to little or no water.[249]

Moreover, litigation of Indian reserved rights is tremendously costly. *Big Horn I* Special Master Teno Roncalio estimates the total cost of that litigation to be "well over" twenty million dollars.[250] The cost to the state of Wyoming alone to bring and maintain the action is estimated to be nine million dollars.[251] Certainly everyone can agree that this is not an effective use of the Tribes' or Wyoming's resources. Negotiated settlements represent a far more efficient use of state and tribal government resources. The four-to-four affirmance without opinion in *Wyoming v. United States* and the sensitivity analysis set forth in O'Connor's draft opinion, if not checked by a recognition of the legal and equitable claims Indian tribes have to water, threaten to promote more wasteful litigation.

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246. 4 WATERS, *supra* note 16, at 248.

247. *See generally* SETTLEMENT MANUAL, *supra* note 230, at 12.

248. Although nearly everyone—states, the United States government, some conservation groups, and academic advocates—support negotiated settlements, many tribal governments continue to prefer litigating their *Winters* rights due to a history of poor negotiation outcomes. *See* BURTON, *supra* note 49, at 30-32 (describing in one instance how after a series of negotiations, lack of congressional appropriation, and a legal opinion from the Department of the Interior, the Navajo's claim to about 787,000 acre-feet of water was reduced to 370,000 acre-feet, and the actual irrigation project remained only 17% completed eight years after it was authorized); MCCOOL, *supra* note 225, at 259 ("History tells us that we lose when we negotiate."). The Supreme Court's eroding support for Indian water rights, however, has persuaded some American Indian advocates to participate in negotiations. *See* BURTON, *supra* note 49, at 60.

249. In addition, imposing a sensitivity analysis onto the quantification of Indian reserved water rights will only further weaken the ability of Indian tribes to obtain "wet" water. Despite having theoretical rights to reserved water, Indian tribes have faced enormous hurdles in actually gaining access to the water (or "wet" water). *See* FELIX S. COHEN'S HANDBOOK OF FEDERAL INDIAN LAW 598 (Rennard Strickland ed., 1982).

250. Teno A. Roncalio, *The Big Horns of a Dilemma*, *in* INDIAN WATER IN THE NEW WEST, *supra* note 236, at 209, 211.

251. *See id.*

V. CONCLUSION

The adoption of the sensitivity analysis proposed by the draft opinion in *Wyoming v. United States* would represent a significant departure from Supreme Court precedent. However, this is not the only problem with O'Connor's proposed sensitivity analysis. The questionable sensitivity analysis embraced by Justice O'Connor could have as its motto: "[B]ut from him that has not shall be taken away even that which he has."[252] The analysis is not only inconsistent with existing case law but is also unjust. To be sure, the PIA standard is a crude method of quantifying water rights. Yet, it is an attempt to do justice for Indian people.[253] If the Supreme Court confronts the PIA standard again, it should take a closer look at its case law and the realities that surround issues of Indian water rights.

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252. Draft Dissent, *supra* note 9, at 1, Appendix *infra* p. 741 (quoting *Matthew* 25:29).

253. Professor Charles Wilkinson has recently written on the importance of moral judgments in Indian water rights litigation and settlements. *See* Charles F. Wilkinson, *Lessons and Directions, in* INDIAN WATER IN THE NEW WEST, *supra* note 236, at 221, 226.

APPENDIX

To: The Chief Justice
Justice Brennan
Justice White
Justice Marshall
Justice Blackmun
Justice Stevens
Justice Scalia
Justice Kennedy

From: **Justice O'Connor**

Circulated: _____
Recirculated: JUN 12 1989

2nd DRAFT

SUPREME COURT OF THE UNITED STATES

No. 88-309

WYOMING, PETITIONER *v.* UNITED STATES ET AL.

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF WYOMING

[June —,1989]

JUSTICE O'CONNOR delivered the opinion of the Court.[1]

The question presented in this case is whether the Wyoming Supreme Court erred in using the "practicably irrigable acreage" (PIA) standard to calculate Indian reserved water rights on the Wind River Reservation.

I

The Wind River Reservation is the home of the Shoshone and Northern Arapaho Tribes. It was established by the Second Treaty of Fort Bridger, July 3, 1868, 15 Stat. 673, and was located in what is now Wyoming. Presently consisting of approximately 2.5 million acres within the upper reaches of the Big Horn River, its topography includes nearly level terraces, steep mountain

1. [Eds: Justice O'Connor eventually recused herself from the case because of a potential conflict of interest, and this draft opinion was not adopted by the Court.]

slopes, high plateaus, rolling hills, and desert terrain. The region on which the Wind River Reservation is located contains "fertile river valleys [which are] conveniently irrigable," and is the "choicest and best-watered portion of Wyoming." *United States v. Shoshone Tribe*, 304 U.S. 111, 114 (1938).

In 1977, Wyoming initiated a general stream adjudication in state district court to determine the nature, extent, and relative priority of water rights, including Indian water rights, in the Big Horn River system. See Wyo. Stat. § 1-37-106 (1977). The adjudication was divided into three phases: Phase I (Indian reserved water rights); Phase II (non-Indian reserved water rights); and Phase III (state water rights). Phase II has been completed, and Phase III has yet to begin. This case involves only Phase I. In 1979, the district court appointed Special Master Teno Roncalio to take evidence, prepare a report, and recommend a decree addressing the entitlement of the Tribes to water. The Tribes were represented by counsel, and the United States participated in the proceedings as trustee for the Tribes.

After a lengthy trial, Master Roncalio, relying on the reserved water rights doctrine enunciated in *Winters v. United States*, 207 U. S. 564 (1908), found that the United States, through the Second Treaty of Fort Bridger, impliedly reserved enough water to fulfill the purpose of the Wind River Reservation. App. 432-437. That purpose, he found, was to create a "permanent homeland" and establish a "permanent civilization" for the Tribes, a purpose which included, but was not limited to, the development of a farming economy on the Reservation. Accordingly, Master Roncalio ruled that "to accomplish the purpose of the Reservation, Congress impliedly reserved water for agriculture, livestock, fish and wildlife, mineral development, municipal needs, industrial development, and protection and preservation of the aesthetic natural conditions" on the Reservation. App. 643. Master Roncalio concluded, however, that the reserved water rights did not extend to groundwater. App. 592-600, 684.

The amount of surface water reserved for agriculture was quantified under the PIA standard set forth in *Arizona v. California*, 373 U. S. 546, 600 (1963), decree entered, 376 U. S. 340 (1964) (*Arizona I*). Master Roncalio defined PIA as "those acres susceptible to sustained irrigation at reasonable costs." App. 534, 673. "Historic lands," *i. e.*, lands which had been irrigated or were currently being irrigated, were generally found

to be practicably irrigable if they were arable. App. 480-491, 643-672. No benefit-cost analysis was conducted for those historic lands for which there were uncancelled state water permits. App. 645. Master Roncalio recommended an award of 288,355 acre-feet of water per year for some 54,000 acres of historic lands. With regard to "future lands," *i. e.*, lands which had never been irrigated and which required five future irrigation projects to make cultivation possible, Master Roncalio applied a three factor test to determine practical irrigability. First, were the lands arable? Second, were proposed irrigation projects needed to water the lands feasible from an engineering standpoint? And third, could the lands be cultivated at a reasonable cost? App. 535, 544, 559, 673. The third factor was essentially a benefit-cost analysis which took into account the profit to be derived from farming the future lands and the costs of building the irrigation projects. App. 559-580. After hearing expert testimony and receiving documentary evidence on all three factors, Master Roncalio recommended an award of 188,397 acre-feet of water per year for some 48,000 acres of lands which could be irrigated in the future. App. 695. The development and investment costs for the five irrigation projects needed to bring water to future lands ranged from $1,837 per acre to $2,067 per acre. App. 553-554. Master Roncalio further recommended that the Tribes be awarded additional water rights—approximately 20,000 acre-feet of water, the right to prevent diversion, and the right to minimum stream flows—for non-agricultural uses. App. 696-702.

The district court accepted most of Master Roncalio's recommendations. It agreed that the Tribes had a reserved water right to surface water with a priority date of 1868, and that the right did not extend to groundwater. App. 172, 182. The district court concluded, however, that the sole purpose of the Wind River Reservation "was agricultural, which included related uses, domestic and livestock." App. 182, 219. The district court therefore refused to award water rights for non-agricultural purposes and held that the PIA standard was the sole measure by which to quantify the Tribes' water rights. App. 182, 262-263. The district court reduced the Tribes' award of water rights to 479,427 acre-feet of water for some 102,000 acres of historic and future lands. App. 169-182.

A divided Wyoming Supreme Court, by a 3-2 vote, largely affirmed. *In re General Adjudication of All Rights to Use Water*

in the Big Horn River System, 753 P.2d 76 (Wyo. 1988). The majority concluded that "the district court did not err in finding a reserved water right for the Wind River Indian Reservation." *Id.*, at 94. It agreed with the district court that the sole purpose of the Reservation was agricultural. *Id.*, at 96-99. The majority then examined the quantification of the reserved water rights. The majority agreed with Master Roncalio and the district court that the reserved water doctrine did "not extend to groundwater." *Id.*, at 100. With respect to future lands, the majority held that the determination of PIA entailed consideration of the following factors: whether the land is "susceptible of sustained irrigation (not only proof of the arability but also of the engineering feasibility of irrigating the land)" and whether the land is irrigable "'at reasonable costs.'" *Id.*, at 101. With respect to historic lands, the majority found that Master Roncalio had properly applied a presumption of practical irrigability for lands with uncancelled water permits. *Id.*, at 107-108. Master Roncalio had also correctly not awarded water rights for historic lands which had once been irrigated but were now idle and no longer arable. *Id.*, at 109-110. After making minor adjustments to the district court's quantification, the majority set the Tribes' water rights at 500,717 acre-feet per year, based on 54,216 acres of historic lands and 54,005 acres of future lands. The majority was not sure whether the "sensitivity" doctrine set forth in cases such as *Cappaert v. United States*, 426 U. S. 128 (1976), and *United States v. New Mexico*, 438 U. S. 696 (1978), applied to Indian reserved water rights, but concluded that even if it did, it had not been ignored by the district court. 753 P.2d, at 111-112.

Justice Thomas, joined by District Judge Hanscum, dissented on several issues. With respect to the quantification of reserved water rights, he argued, *id.*, at 119, that

> "there has to be some degree of pragmatism in determining practicably irrigable acreage. It is clear from the majority opinion that there was included in quantifying the water reserved to the Indian peoples lands not now irrigable but deemed to be practically irrigable acreage upon the assumption of the development of future irrigation projects. I would be appalled, as most other concerned citizens should be, if the Congress of the United States, or any other governmental body, began expending money to develop water projects for irrigating these Wyoming lands when far more fertile lands in

> the midwestern states are now being removed from production due to poor market conditions. I am convinced that, because of this pragmatic concern, those lands which were included as practically irrigable acreage, based upon the construction of a future irrigation project, should not be included for the purposes of quantification of the Indian peoples' water rights. They may be irrigable academically, but not as a matter of practicality, and I would require their exclusion from any quantification."

We granted certiorari to determine whether the Wyoming Supreme Court correctly quantified the reserved surface water rights of the Shoshone and Northern Arapaho Tribes on the Wind River Reservation. — U. S. — (1989). We now vacate the judgment in part and remand for further proceedings.

II

Any discussion of Indian reserved water rights must begin with the 1908 decision in *Winters*. In that case, this Court held that, in agreeing with the Gros Ventre and Assiniboine Tribes to establish the Fort Belknap Reservation in 1888, the Government had impliedly reserved a sufficient amount of water from the Milk River for irrigation "which would be necessarily continued through [the] years." 207 U. S., at 577. The Court noted that the Government desired to change the nomadic habits of the Indians and help them become "a pastoral and civilized people," and found it inconceivable either that the Indians had given up the waters on the arid land that was going to become their home or that the Government had failed to reserve any water for them. *Id.*, at 576-577. Subsequent decisions have restated the essence of *Winters*. When the "Government withdraws its land from the public domain and reserves it for a federal purpose, the Government, by implication, reserves appurtenant water then unappropriated to the extent needed to accomplish the purpose of the reservation. In so doing the United States acquires a reserved right in unappropriated water which vests on the date of the reservation and is superior to the rights of future appropriators." *Cappaert*, 426 U. S., at 138.

Winters was not a general stream adjudication. It did not involve—much less definitively settle—the question of quantification of Indian reserved water rights. As one of the lower court

opinions in the case made clear, there were about 30,000 irrigable acres on the Fort Belknap Reservation, but the Government only sought an injunction guaranteeing the Tribes a flow of 5,000 miners' inches from the Milk River. See 143 F. 740, 741 (CA9 1906). See also Sondheim & Alexander, Federal Indian Water Rights: A Retrogression to Quasi-Riparianism?, 34 So. Cal. L. Rev. 1, 24, n. 111 (1960) (*Winters* "was concerned only with the question of whether or not the particular facts called for an implied reservation of the right to use water"). Prior to the Court's 1963 decision in *Arizona I*, most lower courts apparently quantified the amount of reserved water rights on Indian reservations on the basis of irrigable acreage. See *Conrad Inv. Co. v. United States*, 156 F. 123, 129-132 (D. Mont. 1907); *Skeem v. United States*, 273 F. 93, 95 (CA9 1921); *United States v. Althaum Irrigation Dist.*, 236 F.2d 321, 326 (CA9 1956), cert. denied, 352 U. S. 988 (1957). But see *United States v. Walker Irrigation Dist.*, 104 F.2d 334, 340 (CA9 1939) (limiting water rights to Indians' existing use); Sondheim & Alexander, *supra*, at 29-34, and n. 151 (arguing that *Conrad* involved a refusal to apply the irrigable acreage test and that the basis for the award in *Skeem* was far from clear).

Arizona I, which involved extended litigation over rights to the waters of the Colorado River, is the only case in which this Court has attempted to quantify Indian reserved water rights. *Arizona I* began as an original action brought by Arizona against California and several of its public agencies. Later, Nevada, New Mexico, Utah, and the United States became parties. The major issue in the case was the apportionment of water among the lower basin States. A subsidiary question was the existence and measure of reserved water rights for five Indian reservations. See Brief for California et al. as *Amici Curiae* 6, 12 (in *Arizona I*, only 100 of over 2,000 pages of briefs before the Special Master and only 103 of some 1,400 pages of briefs before the Court were devoted to Indian reserved water rights).

The Special Master in *Arizona I* first concluded that the Government intended that the Tribes settle on the reservations and "develop an agricultural economy," and that the Government had reserved water rights under *Winters* for the Tribes. *Arizona I* Special Master's Report 260-261. On the question of quantification, the Special Master rejected Arizona's argument that an open-ended decree, under which each Tribe could divert at any

particular time all the water necessary for agricultural and related uses as against those who appropriated water subsequent to the reservation of the water rights, should be used as the measure of Indian water rights. "[S]uch a limitless claim would place all junior water rights in jeopardy of the uncertain and unknowable. Financing of irrigation projects would be severely hampered if investors were faced with the possibility that expanding needs on an Indian reservation might result in a reduction of the project's water supply." *Id.*, at 264. The Special Master concluded that the "most *feasible* decree" would be to establish a water right for each of the Reservations "in the amount necessary to irrigate all of the practicably irrigable acreage" on the reservations and "to satisfy related stock and domestic issues. This will preserve the full extent of the water rights created by the United States and will establish water rights of fixed magnitude and priority so as to provide certainty for both the United States and non-Indian users." *Id.*, at 265 (emphasis added). The Special Master went on to set forth the irrigable acreage on each of the reservations, but did not explain how such acreage was to be determined. *Id.*, at 267-274.

Only a single paragraph of the Court's 52-page opinion in *Arizona I* was devoted to the measure of Indian reserved water rights. After explaining the Special Master's reasoning, the Court said: "How many Indians there will be and what their future needs will be can only be guessed. We have concluded, as did the Master, that the only *feasible* and *fair* way by which reserved water . . . can be measured is irrigable acreage. The various acreages or irrigable land which the Master found . . . we find to be reasonable." 373 U. S., at 601 (emphasis added).

Article IX of the decree in *Arizona I* provided that the parties could apply for further relief and explicitly stated that the Court retained jurisdiction over the case. 376 U. S., at 353. In 1977 and 1978, pursuant to Article IX, the Government and the Tribes involved in *Arizona I* made claims for additional water rights for lands on the reservations. Their claims were based on the argument that the Special Master in *Arizona I* had improperly omitted certain lands in calculating PIA. The Special Master in *Arizona v. California*, 460 U. S. 605 (1983) (*Arizona II*), concluded that that there was additional irrigable acreage on the reservations, and accordingly awarded additional water rights to the Tribes. In calculating the amount of water to be awarded, the

Special Master found that PIA "very nearly mean[t] 'economically feasible.'" *Arizona II* Special Master's Report 94. See also *id.*, at 100 ("a finding that annual benefits exceed costs will suffice for a finding of practical irrigability"). The Court concluded that the Government and the Tribes could not, given finality and reliance interests, relitigate the PIA determination made 20 years earlier in *Arizona I*. 460 U. S., at 615-628. There was therefore no reason to address the general application of the PIA standard or whether that standard had been properly defined by the Special Master.

III

Wyoming asks us to revisit the PIA standard, arguing that it "not only creates problems of proof but also results in the award of water rights far in excess of a reservation's primary purpose (usually through awards for hypothetical 'future' irrigation projects) and causes massive dislocation among water users under state law." Brief for Petitioner 14. Contending that the PIA standard creates a windfall for the Tribes, Wyoming asks us to replace it with a multi-factor standard which would allow equitable tailoring to ensure that the primary purpose of a given reservation is not "entirely defeated." *Id.*, at 32. The standard proposed by Wyoming would take into account the extent of historic irrigation, lands which have not been irrigated, state water rights, the non-irrigation agricultural needs of the reservation, and the impact of reserved water rights on non-Indians. *Id.*, at 15-16, 48-49. The PIA standard, says Wyoming, should be reserved for situations in which there is no other way to quantify Indian reserved water rights. *Id.*, at 21-28. The *amici* in support of Wyoming are unanimous in their opposition to the PIA standard, but they differ considerably in the alternatives they propose in its place. To use but two examples, California suggests the open-ended decree rejected in *Arizona I*, and the Salt River Project postulates a "Solomonic balancing of a myriad of factors." See Brief for California et al. as *Amici Curiae* 19-20; Brief for Salt River Project et al. as *Amici Curiae* 18.

At the outset, we note that the PIA standard is not meant to be the sole method by which to quantify Indian reserved water rights. Each time we have applied the reserved rights doctrine we have "carefully examined both the asserted water right and

the specific purposes for which the land was reserved." *New Mexico*, 438 U. S., at 700. See also *id.*, at 702; *Cappaert*, 426 U. S., at 138. *Arizona I*, the only case in which we have applied the PIA standard, involved Indian reservations with agricultural purposes. Because agriculture in the arid West generally requires irrigation, it made sense to quantify the reserved water rights under the PIA standard. In *Arizona I*, however, we did not express any views on the calculation of reserved water rights for reservations whose purposes are non-agricultural. See generally Ranquist, The *Winters* Doctrine and How It Grew: Federal Reservation of Rights to the Use of Water, 1975 B. Y. U. L. Rev. 639, 657-662. Most courts and commentators agree that the quantification standard employed will depend on the purpose of the federal reservation at issue. See *State v. Confederated Salish & Kootenai Tribes*, 712 P.2d, 754, 764 (Mont. 1985) (quantification "standards differ depending upon the purpose for which the water was reserved"); F. Cohen, Handbook of Federal Indian Law 588 (1982 ed.) ("irrigation is not the exclusive measure of reserved Indian rights"); Note, Indian Reserved Water Rights: The *Winters* of Our Discontent, Yale L. J. 1689, 1697, n. 53 (1979) (non-agricultural purposes "would require a quantification standard other than practicably irrigable acreage"). Cf. *Colville Confederated Tribes v. Walton*, 647 F.2d 42, 48 (CA9) (finding that one of the purposes of the Colville Reservation was to preserve the Indians' access to fishing grounds, and quantifying the reserved right for that purpose as "the quantity of water necessary to maintain" a fishery), cert. denied, 454 U. S. 1092 (1981).

The PIA standard is not without defects. It is necessarily tied to the character of land, and not to the current needs of Indians living on reservations. For example, an agricultural reservation that has only a small amount of irrigable land may be awarded very limited reserved water rights even if it has a large population. Conversely, an agricultural reservation with large amounts of rich, fertile land may be awarded substantial reserved water rights even if its population is small and is consistently decreasing. See Brief for Salt River Project et al. as *Amici Curiae* 18-19, and n. 27. And because it looks to the future, the PIA standard, as it has been applied here, can provide the Tribes with more water than they need at the time of the quantification, to the detriment of non-Indian appropriators asserting water rights under state law.

According to some courts and commentators, Indian reserved water rights quantified under the PIA standard are not lost through nonuse. See, *e. g.*, Note, The *Winters* of Our Discontent, 69 Cornell L. Rev. 1077, 1077-1078 (1984) ("Water is the life-blood of the American West. . . . [Westerners] must decide how to allocate the limited quantity of available water among all the users and uses. . . . [The] prior appropriation system, based on continued beneficial use of appropriated water and strict quantification of the rights of users, insists that water may not be wasted or go unused. . . . Federal reserved rights exist independently of beneficial use or quantification; they are therefore fundamentally different in character from rights established by prior appropriation."); *Confederated Salish & Kootenai Tribes*, 712 P.2d, at 768 ("federal reserved water rights, like Indian reserved water rights, are immune from abandonment for nonuse"). See also *Arizona v. San Carlos Apache Tribe of Arizona*, 463 U. S. 545, 574 (1983) (STEVENS, J., dissenting) ("Unlike state-law claims based on prior appropriation, Indian reserved water rights are not based on actual beneficial use and are not forfeited if they are not used."). Others have argued that Indian reserved water rights can be leased or sold for use off the reservation. See, *e. g.*, Comment, Leasing Indian Water Off the Reservation: A Use Consistent with the Reservation's Purpose, 76 Cal. L. Rev. 179 (1988). This Court, however, has never determined the specific attributes of reserved water rights—whether such rights are subject to forfeiture for nonuse or whether they may be sold or leased for use on or off the reservation.

Despite these flaws and uncertainties, we decline Wyoming's invitation to discard the PIA standard. State and federal courts have employed that standard since our decision in *Arizona I* over a quarter of a century ago. Not surprisingly, the PIA standard has "generated significant expectations, reliance, and investment. . . . [I]t forms the basis of proof in ongoing litigation, or is the cornerstone of current settlement negotiations, in virtually all" water rights quantifications in the West. Brief for United States 48-49. See also National Water Commission, Water Policies for the Future 477 (1973) (assuming in making recommendations that Indian reserved water rights "may be measured by irrigable acreage" within a reservation). We are loath to introduce a new standard which will create a maelstrom in water rights adjudication. The PIA standard provides some measure of

predictability and, as explained hereafter, is based on objective factors which are familiar to courts. Moreover, no other standard that has been suggested would prove as workable as the PIA standard for determining reserved water rights for agricultural reservations.

IV
A

We have not previously addressed the factors that go into determining PIA. Since *Arizona I*, only the Wyoming Supreme Court, in the instant case, has attempted to expressly identify them. Compare *United States v. Superior Court*, 144 Ariz. 265, 272, 697 P.2d 658, 665 (1985) (stating, without further elaboration, that PIA is the proper standard under which to quantify Indian reserved water rights for purposes of irrigation); *Confederated Salish & Kootenai Tribes*, 712 P.2d, at 764-765 (same); *United States v. Adair*, 723 F.2d 1394, 1415-1416 (CA9 1983) (same).

In calculating PIA, the Wyoming Supreme Court differentiated between lands which had uncancelled state water permits, lands which had been or were being irrigated, and those that had never been watered. It approved Master Roncalio's findings that lands with uncancelled state water permits were presumed to be practically irrigable, and that there was no need to prove economic feasibility with respect to those lands. 753 P.2d, at 107-108. But the presumption was not applied blindly: 5,017 acres with uncancelled permits were excluded from PIA because they were no longer arable. *Id.*, at 108-109. Similarly, historically and currently irrigated lands were included as PIA unless they were not arable. *Id.*, at 109-111. We agree with the Wyoming Supreme Court that arable lands which have been or are currently being irrigated should generally be considered practically irrigable. Wyoming has not directly challenged the quantification by its courts of water rights for historically irrigated lands, and we have no reason to disagree with the findings of the courts below on that question.

Wyoming does contend that the allowance for future lands was excessive. See Brief for Petitioner 29-30. In addressing reserved water rights for lands which had never been irrigated, the Wyoming Supreme Court again first looked to see whether

the lands were arable. *Id.*, at 101-102. It then examined the engineering feasibility of the five future irrigation projects needed to bring water to those lands, including project efficiencies and whether there was enough water to serve the future projects. *Id.*, at 102-103. Finally, the economic feasibility of the future projects was considered by calculating the profit to be derived from cultivation of the future lands and the cost of the proposed projects. Noting the disagreement among experts as to the proper discount rate to be used calculating the present value of future profits and costs, the Wyoming Supreme Court concluded that Master Roncalio had not erred in accepting a 4% discount rate and in determining economic feasibility. *Id.*, at 103-105. We think Master Roncalio and the Wyoming Supreme Court properly identified three factors that must be considered in determining whether lands which have never been irrigated should be included as PIA: the arability of the lands, the engineering feasibility (based on current technology) of necessary future irrigation projects, and the economic feasibility of such projects (based on the profits from cultivation of future lands and the costs of the projects). As the Wyoming Supreme Court acknowleged, a determination of arability requires analysis of soil studies conducted by experts for the opposing parties in the adjudication to see whether lands can sustain long-term irrigation. Determination of engineering and economic feasibility also entails the culling of technical and scientific data. Master Roncalio found, see App. 559-560, 678, that economic feasibility will turn on whether the land can be irrigated with a benefit-cost ratio of one or better. See also App. 257 (district court finding that each of the future irrigation projects had a benefit-cost ratio of at least one). An important factor in the assessment of economic feasibility is the discount rate. As Master Roncalio noted in his report, "[f]ew matters are more complex, less exact, or certainly more divisive than the question of what is the appropriate discount rate." App. 574. See generally Burness, Cummings, Gorman, & Lansford, Practicably Irrigable Acreage and Economic Feasibility: The Role of Time, Ethics, and Discounting, 23 Nat. Resources J. 289 (1983) (explaining considerations involved in calculating discount rate). Again, Wyoming has not taken issue with the application of the three factors set forth above to future lands on the Wind River Reservation, and we do not undertake to review the findings with respect to those factors.

B

Wyoming argues that our post-*Arizona I* cases, specifically *Cappaert* and *New Mexico*, indicate that quantification of Indian reserved water rights must entail sensitivity to the impact on state and private appropriators of scarce water under state law. See Brief for Petitioner 35-39. We agree.

Cappaert involved Devil's Hole, a deep cavern in Nevada containing an underground pool inhabited by a unique species of desert fish. We unanimously held that in reserving Devil's Hole as a monument, the Government acquired by reservation water rights in unappropriated appurtenant water sufficient to maintain the level of the underground pool and preserve its scientific value. Citing *Arizona I*, we stated, however, that the implied reservation of water doctrine "reserves only that amount of water necessary to fulfill the purpose of the reservation, no more," and held that the injunction curtailing pumping from the pool had been "tailored . . . very appropriately, to minimal need." 426 U. S., at 141.

The question presented in *New Mexico* was whether the Government had reserved water in setting aside a national forest from other public lands. We answered the question affirmatively, but narrowly. We began by noting that in "the arid parts of the West, . . . claims to water for use on federal reservations inescapably vie with other public and private claims to the limiting quantities [of water] to be found in the rivers and streams." 438 U. S., at 699. In discussing *Winters*, *Arizona I*, and *Cappaert*, we stated that each time we had applied the implied reservation of water rights doctrine, we had "carefully examined both the asserted water right and the specific purposes for which the land was reserved, and concluded that without water the purposes of the reservation would be entirely defeated." *Id.*, at 700. It is reasonable to import to Congress an intent to reserve water "to fulfill the very purposes for which a federal reservation was created," but "[w]here water is only valuable for a secondary use of the reservation, . . . there arises the contrary inference that Congress intended, consistent with its other views, that the United States would acquire water in the same manner as any other public or private appropriator." *Id.*, at 702. The "reality" that federal reserved water rights reduce the amount of water available for needy state and private appropriators had "not

escaped the attention of Congress, and *must* be weighed in determining what, if any, water Congress reserved for use in the national forests." *Id.*, at 705 (emphasis added). Consequently, we concluded that Congress reserved water only where necessary to ensure the primary purposes of the national forests: to "preserve . . . timber or to secure favorable water flows for private and public uses under state law." *Id.*, at 718. Water rights for the secondary purposes of the national forests, *i. e.*, the sustenance of the wildlife and plants of the forests, had to be obtained under state law. *Id.*, at 716. Even the dissenters in *New Mexico* agreed 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." *Id.*, at 718 (Powell, J., dissenting in part).

The inclusion in the PIA quantification of arable lands not yet irrigated depends on the assumption that necessary future irrigation projects will be built to supply water to those lands. In this case, after calculating water rights for non-irrigated land on the Wind River Reservation based on five irrigation projects "incorporat[ing] state of the art technology," Master Roncalio stated: "As it is now, it appears that no matter what benefit-cost ratios are arrived at, or discount figure used, in the real world of today's interest and inflation and uncertainty in agriculture, doubt persists that much of the 'futures' land may ever be a part of any newly constructed irrigation project." App. 563, 584. Given that "federal reserved water rights will frequently require a gallon-for-gallon reduction in the amount of water available for water-needy state and private appropriators," *New Mexico*, 438 U. S., at 705, the existence of future projects cannot be taken for granted. Sensitivity to the impact on prior appropriators necessarily means that "there has to be some degree of pragmatism" in determining PIA. 753 P.2d, at 119 (Thomas, J., dissenting). We think this pragmatism involves 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.

Although some have argued that the Government has a duty to assert Indian reserved water rights, *e. g.*, Abrams, Water in the Western Wilderness: The Duty to Assert Reserved Water Rights,

1986 Ill. L. Rev. 387, no court has held that the Government is under a general legal or fiduciary obligation to build or fund irrigation projects on Indian reservations so that irrigable acreage can be effectively used. See *Gala River Pima-Maricopa Indian Community v. United States*, 684 F.2d 852, 864-865 (Ct. Cl. 1982) (*per curiam*); *White Mountain Apache Tribe v. United States*, 11 Cl. Ct. 614, 628, 637 (1987). Cf. *Scholder v. United States*, 428 F.2d 1123, 1126 (CA9 1970) (right of an Indian to allotment of land under law or treaty of the United States has no "guarantee of judicious administration of an irrigation project"). If money were plentiful, a finding of economic feasibility might suggest that the projects in question will be built. But massive capital outlays are required to fund irrigation projects, see *ante*, at 3, and in today's era of budget deficits and excess agricultural production, government officials have to choose carefully what projects to fund in the West. See, *e. g.*, 43 CFR § 426.4(1) (1987) (defining "irrigable land" for purposes of federal reclamation projects as "arable land under a specific project for which irrigation water is, can be, or is planned to be provided, and for which facilities necessary for sustained irrigation *are* provided or *are planned* to be provided") (emphasis added). Generally, only those projects which will produce the greatest net benefits will be be [sic] built. See Trelease, Uneasy Federalism—State Water Law and National Water Uses, 55 Wash. L. Rev. 751, 754 (1980). The Government may, however, decide to fund Indian irrigation projects whose "economic rate of return is less than the market average." F. Cohen, *supra*, at 590. Indeed, Indian water projects undertaken by the Bureau of Indian Affairs are classified in six categories based on the economic feasibility of the individual project, "the amount of federal funds involved in the operation of the . . . project[,] and the requirements for repayment of federal [operation and maintenance] charges." National Irrigation Committee, Report on the Current Status of Indian Irrigation Projects Administered by the Bureau of Indian Affairs 22 (1988).

By mentioning federal fiscal concerns, we do not mean to suggest that the practicability factor set forth above turns only on funding by the Government. It may be that the Tribes themselves, state agencies, or private investors have the means and intent to construct irrigation projects needed to bring water to future lands. Whether or not such projects will be undertaken will also depend in part on the nature of the demand. Thus, the

trier of fact must examine the evidence, if any, that additional cultivated acreage is needed to supply food or fibre to resident tribal members, or to meet the realistic needs of tribal members to expand their existing farming operations. The trier must also determine whether there will be a sufficient market for, or economically productive use of, any crops that would be grown on the additional acreage.

The Solicitor General, on behalf of the Tribes, asserts that there is a "good likelihood" that the future irrigation projects hypothesized for the Wind River Reservation will be built because they will bring in income to the Shoshone and Northern Arapaho Tribes. Tr. of Oral Arg. 27. That assessment may be correct, but because the "practicability" factor was not applied below and because further fact-finding may be required, we cannot be sure. Moreover, Master Roncalio doubted that future irrigation projects would be built. See *ante*, at 16. We therefore vacate the judgment insofar as it relates to the award of reserved water rights for future lands and remand the case to the Wyoming Supreme Court for proceedings not inconsistent with this opinion.

C

The question of how the Tribes can use the water awarded to them under the PIA standard was not before Master Roncalio, who remarked that the question was a "difficult matter" on which there was "bleak silence in existing law or decisions." App. 581. Cf. *Arizona I* Special Master's Report 265 ("The question of change in character of use is not before me."). The district court concluded that the Tribes could use the water in any way they saw fit on the Wind River Reservation, but could not sell it or lease it for exportation off the Reservation. App. 183, 221-222. The Wyoming Supreme Court found it unnecessary to address the questions of use or exportation. 753 P.2d, at 100. Because we denied certiorari on those questions, which had been presented by the Tribes, see Cross-Pet. for Cert. i, we likewise express no view on their proper resolution.

Vacated in part and remanded.

To: The Chief Justice
Justice White
Justice Marshall
Justice Blackmun
Justice Stevens
Justice O'Connor
Justice Scalia
Justice Kennedy

From: **Justice Brennan**

Circulated: _____
Recirculated: JUN 23 1989

2nd DRAFT

SUPREME COURT OF THE UNITED STATES

No. 88-309

WYOMING, PETITIONER *v.* UNITED STATES ET AL.

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF WYOMING

[June —,1989]

JUSTICE BRENNAN, with whom JUSTICE MARSHALL, and JUSTICE BLACKMUN join, dissenting.

The Court might well have taken as its motto for this case the words of Matthew 25:29: "but from him that has not shall be taken away even that which he has."

When the Indian tribes of this country were placed on reservations, there was, we have held, sufficient water reserved for them to fulfill the purposes of the reservations. In most cases this has meant water to irrigate their arable lands. Not infrequently, however, the Indians—lacking their own capital and not having received the massive amounts of federal funds that have been a prerequisite for virtually all significant irrigation projects in the West—have been unable to put to use the amounts of water reserved for their purposes. The Court now proposes, in effect, to penalize them for the lack of Government investment on their reservations by taking from them those water rights that have remained theirs, until now, on paper. The requirement that the tribes demonstrate a "reasonable likelihood" that irrigation

projects already determined to be economically feasible will actually be built—gratuitously superimposed, in the name of "sensitivity" to the interests of those who compete with the Indians for water, upon a workable method for calculating practicably irrigable acreage that parallels Government methods for determining the feasibility of water projects for the benefit of non-Indians—has no basis in law or justice. I cannot join in such a redistribution of rights at the expense of one of the most disadvantaged groups in American society—on the pretext that the Indians do not "need" the water rights we strip from them. I therefore dissent.

I

While purporting to maintain the practicably irrigable acreage (PIA) standard for quantifying *Winters* rights, the Court reaches out to disturb settled law on a question that no party had asked it to resolve and that was undisputed in the proceedings below. In so doing it replaces a tested and workable method of calculating PIA with a standard that is impractical, vague, and thus infinitely manipulable. The Court's newfound definition of PIA, moreover, has no foundation whatever in this Court's *Winters* doctrine jurisprudence.

The question of how PIA is to be quantified was one on which the parties were largely in agreement in the proceedings below. As the Special Master noted, "[i]n this lawsuit, one definition has been used and agreed upon by counsel for the State, the United States and the Tribes. Practicably irrigable acres are 'those acres susceptible to sustained irrigation at reasonable costs.'" App. to Pet. for Cert. 534a (hereinafter App.) (quoting hearing transcript). The same was true in the Wyoming Supreme Court. See *In re General Adjudication of All Rights to Use Water in the Big Horn River System*, 753 P. 2d 76, 101 (1988) ("Counsel for the State, the Tribes and the United States agreed upon a definition of practicably irrigable acreage: 'those acres susceptible to sustained irrigation at reasonable costs'"). Nor was there dispute about what was meant by "susceptible to sustained irrigation at reasonable costs." The Special Master explained:

> "The test for practicably irrigable acreage requires a two part analysis. First, the land in question must be susceptible

> to sustained irrigation. That determination is reached only after a consideration of several factors. The United States included soil analysis, drainage investigation, topographical and geological considerations, climate data, water availability determination, cropping patterns, and irrigation system designs in its attempt to establish susceptibility of sustained irrigation. The State, while disagreeing with certain approaches of, or applications made by, the United States, followed a similar approach.
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> "The second part of the analysis requires a determination that the irrigation be accomplished 'at reasonable cost.' The parties have interpreted this part of the definition to be an economic feasibility criteria and presented substantial economic evidence to support their positions." App. 534a.

The Wyoming Supreme Court agreed. 753 P. 2d, at 101.[1]

This Court suggests that, prior to the Wyoming Supreme Court in this case, no other court had attempted expressly to identify the components of a PIA analysis. *Ante*, at 12-13. If that is so, it merely reflects the uncontroversial, indeed technical, nature of the PIA determination. As *both* sides in this litigation acknowledge, the process of identifying practicably irrigable acres on the basis of a scientific study to identify arable lands, an engineering study to determine technical feasibility of the irrigation works, and an economic study to compare the project's benefits and costs "is conceptually identical to that employed by the United States Bureau of Reclamation" in the planning of irrigation projects. Brief for Petitioner 42; see also Brief for United States 41-42, and n. 38. See generally Sax, Federal Reclamation Law, in 2 Waters and Water Rights 111, 136-147 (R. Clark ed. 1967); Burness, Cummings, Gorman, & Lansford, United States Reclamation Policy and Indian Water Rights, 20 Natural Resources J. 807 (1980). Indeed, Wyoming quotes with apparent approval the Government's statement to the trial court that the manner of determining PIA in this case was "how the United States, and I might add, most other, if not all other in this country, major irrigation planners go about establishing whether or not land is capable of sustaining irrigation." Brief for Peti-

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1. The dispute below, as far as it concerned the extent of the Reservation's practicably irrigable acreage, was over the application of the accepted standard to the particular facts of the case.

tioner 42, n. 64.[2] To the extent the use of Bureau of Reclamation standards for determining PIA is at all open to debate, the question is whether the standard for PIA should be *broader* not narrower, than the Reclamation standard. See Ranquist, The *Winters* Doctrine and How it Grew: Federal Reservation of Rights to the Use of Water, 1975 B. Y. U. L. Rev. 639, 660 ("The need of the Indians to utilize the limited land base of their reservations should compel a less stringent standard of feasibility than is applied to non-Indian lands. It should be remembered that to the Indian his lands represent much of his heritage. Further, if he desires to maintain tribal ties, he generally cannot go elsewhere in search of better lands"); Burness, Cummings, Gorman, & Lansford, Practicably Irrigable Acreage and Economic Feasibility: The Role of Time, Ethics, and Discounting, 23 Natural Resources J. 289 (1983) (questioning the appropriateness of discounting future benefits in determining PIA); F. Cohen, Handbook of Federal Indian Law 589-590 (1982 ed.).

In accord with the Bureau of Reclamation procedures, the Special Master's determination of which reservation lands were practicably irrigable was based not only on a determination of the technical feasibility of irrigating those lands on a sustained basis, but also, above all, on a determination that this could be done "at a reasonable cost," *i. e.*, that the proposed irrigation projects could be operated profitably. That should have been the end of the case, as it was in the courts below. Instead, the Court mandates an additional inquiry into the "reasonable likelihood" that the irrigation projects will actually be built. Notwithstanding the Court's recognition that the Indians' water rights for future lands will now depend almost entirely on the Government's willingness suddenly, in "today's era of budget deficits" to make available the "massive capital outlays," *ante*, at 17, which it has not provided in the past, the Court effectively strips future generations of Indian tribes of their reserved rights to water for land that is certifiably "practicably irrigable" as that term has been universally understood until now.

This action, taken in the name of "pragmatism" and practicality, is the more inexplicable in that it imposes a standard that is

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2. What Wyoming does challenge are many of the factual findings that went into the Special Master's PIA determination and that were upheld by two state courts. Brief for Petitioner 42-46.

utterly *impractical* of application. The Court's new requirement takes the existing inquiry—complex enough, but capable of resolution on the basis of clear and widely accepted scientific criteria—and adds as a new layer an inquiry that will be very difficult to resolve in an objective manner. The Court does not specify what is meant by a "reasonable likelihood" and how that is to be determined, nor does it tell us what time frame the inquiry is to assume. If there is little chance of a project being built under current economic or financial conditions, does it matter if there is a "reasonable likelihood" that those conditions will change in 10 years? Or 50 years? And is "reasonable likelihood" to be determined on the basis of objective economic criteria? Or is it to depend on whether or not the Indians have sufficient political support in Congress to assure a reasonable likelihood that the project will be built? If the latter, the Court's requirement of a "reasonable likelihood" that an irrigation project will be built may well, in this domain of logrolling and the pork barrel, give the acronym PIA a new meaning: *politically* irrigable acreage.

II

The Court's decision is not only gratuitous and unhelpfully vague; it replaces the law with the Court's own notions of equity. But the decision has no more basis in equity than it does in law.

A

In the name of sensitivity to non-Indian water users, the Court declares the need to be "practical," *ante*, at 17, in calculating the quantities of water to which the Indians are entitled. The Court thereby introduces an element of equity into the calculation of Indian reserved rights, which has no grounding in the *Winters* doctrine and which we have specifically rejected in the past.

The doctrine of federally reserved water rights, whether for Indian tribes or other federal reservations, has always been based on the implied intent of the Government in creating the reservation. That is equally true whether the reservation was created by Congress, as for example in the case of national parks or some Indian reservations, or by the Executive, as in the case of national monuments, or by treaty, as was done here. This fundamental

basis for the *Winters* doctrine has been expressed clearly in all of our cases. In *Winters* itself, for example, we made clear that the outcome was based "on the agreement of May, 1888, resulting in the creation of Fort Belknap Reservation," *Winters v. United States*, 207 U. S. 564, 575 (1908); we held that in concluding that treaty the Government had the power "to reserve the waters and exempt them from appropriation under the state laws," and that it had done so. *Id.*, at 577. In *Arizona v. California*, 373 U. S. 546, 600 (1963) (*Arizona I*), we characterized our holding in *Winters* as having "concluded that the Government, when it created that Indian Reservation, intended to deal fairly with the Indians by reserving for them the waters without which their lands would have been useless." In *United States v. New Mexico*, 438 U. S. 696 (1978), a non-Indian reserved rights case, we made crystal clear that the quantity of water reserved was "a question of implied intent," *id.*, at 698, based on "the specific purposes for which the land was reserved" *Id.*, at 700.

In the present case, as in *Winters* and *Arizona I*, the purpose of the reservation is agricultural. In *Arizona I* we established that the PIA standard was the appropriate measure of quantification in the case of an agricultural reservation. 373 U. S., at 600-601. But this standard was not plucked from the air; rather, it was logically implicit in the *Winters* doctrine itself. Thus Felix Cohen, our Nation's foremost scholar on Indian law, wrote in the original 1942 edition of his Handbook of Federal Indian Law that under *Winters* "there was impliedly reserved for the Indians, and withheld from subsequent appropriation by others, water of the streams of the reservations *necessary for the irrigation of their lands*," F. Cohen, Handbook of Federal Indian Law 316 (1942) (emphasis added), and that state-law appropriators could not take so much water as to "reduc[e] the amount of water in a stream within an Indian reservation below the amount necessary for irrigation of Indian lands." *Id.*, at 317.

It is clear that, under this Court's cases, the establishment of a reservation of a given size and of given physical characteristics determines the quantity of water that has been reserved, independently of the number of Indians who live there at any particular time, or of the interests of subsequent state-law appropriators competing for the same water. This is a matter of the Government's implied intent when it established the reservation, and in my view the establishment of the reservation created

a property right on behalf of the Indian tribes which, while subject to precise quantification in an appropriate proceeding like this one, is not subject to loss (except by act of Congress) on the ground that it is more than is needed. We have, thus, firmly rejected the argument that the size of the water right should be the subject of equitable considerations. When an effort was made to reopen the *Arizona I* award we stated:

> "The question of Indian water rights . . . was . . . decided by recourse to congressional policy rather than judicial equity. We held [in *Arizona I*] that the creation of the reservations by the Federal Government implied an allotment of water necessary 'to make the reservation livable.' . . . We rejected the argument, urged by the States, that equitable apportionment should govern the question. . . . [We held that] 'the Indian claims here are governed by the statutes and Executive Orders creating the reservations.' . . .
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> ". . . Our decision to rely upon the amount of practicably irrigable acreage contained within the reservation constituted a rejection of Arizona's proposal that the quantity of water reserved should be measured by the Indians' 'reasonably foreseeable needs' . . . ." *Arizona v. California*, 460 U. S. 605, 616-617 (1983) (*Arizona II*), quoting *Arizona I*, *supra*, at 599-600, 597.

Subsequently, in the non-Indian reserved rights case of *Cappaert v. United States*, 426 U. S. 128, 138-139 (1976), we rejected a similar argument proffered by the State:

> "Nevada argues that the cases establishing the doctrine of federally reserved water rights articulate an equitable doctrine calling for a balancing of competing interests. However, an examination of those cases shows they do not analyze the doctrine in terms of a balancing test. For example, in *Winters v. United States*, *supra*, the Court did not mention the use made of the water by the upstream landowners in sustaining an injunction barring their diversions of the water. The 'Statement of the Case' in *Winters* notes that the upstream users were homesteaders who had invested heavily in dams to divert the water to irrigate their land, not an unimportant interest. The Court held that when the Federal Government reserves land, by implication it reserves water rights sufficient to accomplish the purposes of the reservation."

While the Court purports to reject Wyoming's request that the Tribes' water rights be quantified through a process of "equitable tailoring," *ante*, at 9, its approach to the PIA standard comes close to determining those rights on the basis of relative need. It first criticizes the PIA standard, "as it has been applied here," for being susceptible of "provid[ing] the Tribes with more water than they need at the time of the quantification, to the detriment of non-Indian appropriators asserting water rights under state law." *Ante*, at 11. Because the Tribes' water rights may "'require a gallon-for-gallon reduction in the amount of water available for water-needy state and private appropriators,' " *ante*, at 16, quoting *New Mexico*, 438 U. S., at 705, the Court determines that "pragmatism" is required in fixing the Indians' rights. *Ante*, at 17. Thus, it must be determined whether there exists a "reasonable likelihood" that the necessary water projects will be built, and this apparently involves an inquiry into, *inter alia*, whether "additional cultivated acreage is needed to supply food or fibre to resident tribal members, or to meet the realistic needs of tribal members to expand their existing farming operations." *Ante*, at 18.[3]

This equitable tailoring has, needless to say, no basis in "the statutes and Executive Orders creating the reservations." *Arizona II*, *supra*, at 616. The Court thus cuts loose the quantification of Indian water rights from their moorings in congressional or Executive intent and makes them subject to an equitable weighing of needs. The equitable nature of the new PIA standard, unrelated to governmental intent and relying instead

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3. This inquiry into the Tribes' "needs" adds an additional layer of confusion to the Court's new PIA standard. Where earlier in its opinion the Court seemed to indicate that the relevant inquiry was whether or not the irrigation projects would, with reasonable likelihood, actually be built, *ante*, at 17, it seems to indicate here that the question is whether or not the projects are "needed." *Ante*, at 18. The answers to these two questions are, as the history of reclamation projects has shown, not always the same. See, *e. g.*, Power, An Economic Analysis of the Central Arizona Project, reprinted in part in J. Sax & R. Abrams, Legal Control of Water Resources 636-649 (1986).

The Court also directs that on remand an inquiry must be made into "whether there will be a sufficient market for, or economically productive use of, any crops that would be grown on the additional acreage." *Ante*, at 18. This directive is even more surprising, since the determination of market prices for potential agricultural products of the land to be irrigated is necessarily part of the benefit-cost analysis already undertaken to ascertain economic feasibility.

on "a balancing of competing interests," *Cappaert*, *supra*, at 138, is even more clearly illustrated in the concurring opinion: "In view of the scarcity of water in the arid West, a remote chance that more water will be needed on the reservation does not suffice to give the Tribes a perpetual call on twice as much water as they have ever used for irrigation. To do so would prevent others on the streams from perfecting reliable rights to the unused water. As our recent cases indicate, we must be sensitive to this reality." *Ante*, at 2 (WHITE, J., concurring). This despite the fact that this issue is not one of first impression for us: we previously have confronted and explicitly rejected such an approach to quantifying the Indians' reserved rights. See *Arizona I*, 373 U. S., at 600-601; *Arizona II*, *supra*, at 616-617. Cf. *Cappaert*, *supra*, at 138-139. Today's decision, far from a merely technical adjustment in the manner of quantifying practicably irrigable acreage, strikes at the heart of the *Winters* right itself.

B

Driving the Court's decision is, it seems, the newly christened doctrine of "sensitivity" to the needs of non-Indian water users. We have previously held that because of the scarcity of water in the arid West we must "carefully examin[e]" the "specific purposes for which the land was reserved." *New Mexico*, *supra*, at 699-700. While the Special Master in this case saw certain of the limitations he imposed on the Tribes' water rights as "an application of the 'Rehnquist doctrine' that reserved water rights should be applied with sensitivity," App. 583a, he did award the Tribes water for purposes other than agriculture because of his conclusion that the broad purpose of the reservation was "to provide a permanent homeland for the Indians so that they may, in whatever way most suitable to their development, establish a permanent civilization on the Wind River Indian Reservation." *Id.*, at 441a-442a. As the Court notes, *ante*, at 3-4, the District Court and the Wyoming Supreme Court disagreed with this conclusion and limited the award to the quantity of water necessary for agricultural purposes. While the question of the purposes for which the Reservation was established is not before

us,[4] it would seem to me that the state courts have gone at least as far as *New Mexico* requires in "carefully examin[ing] . . . the specific purposes for which the land was reserved." 438 U. S., at 700.[5] Never before have we suggested that, once the purpose of the reservation has been carefully established, the quantity of water necessary to fulfill that purpose may be called into question in the name of "sensitivity" to the needs of other water users.

But there is also a more fundamental objection to the Court's application of the "sensitivity doctrine." Never before has this doctrine been applied to the quantification of Indian reserved water rights. Both *New Mexico* and *Cappaert*,[6] on which the Court relies, see *ante*, at 15-17, were non-Indian cases involving, respectively, the Government's reserved water rights for a national forest and a national monument. Notwithstanding the doctrinal kinship of Indian and non-Indian reserved rights, it would be error to overlook the fact that Indian rights are in some respects more substantial. Sixteen years ago the congressionally established National Water Commission, in its final report to Congress and the President, "took as settled" the following proposition:

> "Indian water rights are different from Federal reserved rights for such lands as national parks and national forests, in that the United States is not the owner of the Indian rights but is a trustee for the benefit of the Indians. While the United States may sell, lease, quit claim, release, or otherwise convey its own Federal reserved water rights, its powers and duties regarding Indian water rights are constrained by its fiduciary duty to the Indian tribes who are beneficiaries of the trust." National Water Commission, Water Policies for the Future 477 (1973).

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4. We have not yet acted on the Tribes' cross-petition for certiorari, No. 88-492, in which this question is raised.

5. *New Mexico* also requires that the basis for "the asserted water right" itself be carefully examined, 438 U. S., at 700, but there is no suggestion in the present case that this was not done.

6. The Court's reliance on *Cappaert* as a basis for the sensitivity doctrine is, in my view, quite erroneous. While we did make the unremarkable observation in *Cappaert* that the quantity of water reserved was only what was "necessary to fulfill the purpose of the reservation, no more," *Cappaert v. United States*, 426 U. S. 128, 141 (1976), we emphasized that "balancing the equities is not the test." *Id.*, at 139, n. 4. See *supra*, at 8.

See also Ranquist, 1975 B. Y. U. L. Rev., at 655. In addition, the reach of state jurisdiction is far more limited on Indian reservations than on most other federal lands. Compare *McClanahan v. Arizona State Tax Comm'n*, 411 U. S. 164, 168 (1973) ("[t]he policy of leaving Indians free from state jurisdiction and control is deeply rooted in the Nation's history"), with *Kleppe v. New Mexico*, 426 U. S. 529, 543 (1976) ("Absent consent or cession a State undoubtedly retains jurisdiction over federal lands within its territory"). See generally F. Cohen, Handbook of Federal Indian Law 581-585 (1982). And, in many cases, including this one, Indian reservations were created by treaty rather than unilateral action of the Government, so that it is the intent of both parties that forms the basis for the reservation of water rights.

Most important for present purposes is this: It is one thing for the Court to exercise "sensitivity" to the needs of certain groups and individuals when that sensitivity works to limit what belongs to the Government. In that case the entire population shares the loss. Here, however, the Court proposes to be "sensitive" to the rights of one discrete group of people *at the expense of another*. The rights of both groups are created by law—one by state law, the other by federal law. We should ascertain those rights using established principles of legal analysis. We should see that the Indians are awarded all of the water that, under that analysis, they are legally entitled to, "no more," *Cappaert*, 426 U. S., at 141, and no less. "Sensitivity" to the interests of one of the two groups is an illegitimate thumb on the scales.

C

The Court's "sensitivity" to the interests of one group appears to be matched by a suspicion that the other is getting more than it deserves. The Court finds it a "defect" that the PIA standard, as heretofore applied, might award a tribe with large amounts of rich, fertile land . . . substantial reserved water rights even if its population is small and is consistently decreasing." It thus "can provide the Tribes with more water than they need at the time of quantification, to the detriment of non-Indian appropriators asserting water rights under state law." *Ante*, at 11. One wonders whether it would occur to those who consider this a defect to apply the same "to each according to his needs" perspec-

tive to a non-Indian farmer or rancher, to whom an applicable legal standard has left more than he "needs."[7]

In any event, the factual assumption that the PIA standard provides the Tribes with more water than they need is—at least as applied to this case—outrageously wrong. It is true that the Wyoming courts awarded the Tribes water to irrigate about twice as many acres as have ever been irrigated in the past. To suggest, however, that the acreage irrigated in the past is an accurate measure of tribal needs, see Brief for Petitioner 28-29, is inappropriate for several reasons. In the first place, what historical usage measures, more than anything else, is the extent to which the Tribes' agricultural development has been subsidized by the Federal Government. See Note, Indian Reserved Water Rights: The *Winters* of Our Discontent, 88 Yale L. J. 1689, 1703 (1979) ("actual use of Indian water on the reservation depends largely on congressionally authorized funding"); F. Trelease, Federal-State Relations in Water Law 169 (National Water Comm'n Legal Study No. 5, 1971) ("in a great many cases Indian development will wait until Congress appropriates funds for projects"). On Indian reservations, as elsewhere, "[i]t became clear a long time ago that the limit on the development of irrigated agriculture in the West was not water, but money. . . . Large dams, reservoirs and ditches for transportation simply would not be built without public financing." J. Sax & R. Abrams, Legal Control of Water Resources 628 (1986). Money has, to be sure, been spent on the Reservation—about $4.4 million over the past 80 years. See Bureau of Indian Affairs, U. S. Department of the Interior, Special Irrigation Report and Recommendations 27 (July 1988) (hereinafter Special Irrigation Report). What Wyoming calls "massive" expenditures, Brief for Petitioner 29, must, however, be seen in context. The neighboring Riverton Irrigation Project, which serves a non-Indian population considerably smaller than the tribal population of the Reservation, has been the beneficiary of some $72 million from the Federal

7. Cf. Brief for Petitioner 16, in which the State of Wyoming urges a "sensitive application of the reserved water right doctrine" that would yield only enough water to insure "that the reservation's *minimal* agricultural needs are met, that its primary purpose will not be *entirely* defeated, and that its Indian residents maintain a *moderate* standard of living . . ." (emphasis added). The State evidently attributes to the parties to the Second Treaty of Fort Bridger—the United States and the Shoshone Tribe—the intent to enable the Indians to live only at subsistence level.

Government—over 16 times what has been spent for the Indian project. Bureau of Reclamation, U. S. Department of the Interior, 1984 Summary Statistics, Vol. III, Project Data 309 (hereinafter Reclamation Statistics); Bureau of Reclamation, U. S. Department of the Interior, Project Data 1981, at 986, and Region Revision 9/83, at 4; Brief for United States 35-36, 38, n. 34. The Riverton project, which was begun in 1920, is essentially complete and is serving its intended 64,000 acres. Reclamation Statistics 309. At Wind River, on the other hand, while some $2.3 million were spent between 1905 and 1915, the project has more recently languished. The BIA estimates that more than $20 million will be required to complete it,[8] and based on average expenditures over five years the projected completion date is listed as "indefinitely." Special Irrigation Report 27.[9]

It seems reasonable to assume that if the Government were to spend what was necessary to complete the Wind River project—not to mention to irrigate the rest of the Reservation's irrigable acreage as identified by the Special Master—the acreage under irrigation would increase significantly. This has been the experience elsewhere.[10] Why are funds comparable to those invested in the Riverton project not spent on Indian irrigation? One commentator has remarked: "The policy of most western states favoring water development merges with the interests of large private users, who feel threatened by an expansive definition of Indian reserved rights. Thus the political constituency of most western congressmen does not encourage support for the

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8. In addition, the BIA estimates that another $3 million will be necessary to rehabilitate and improve already completed portions of the project. Special Irrigation Report 27. The agency explains that "[m]any projects . . . have been under construction for so long that the completed portion of the project needs rehabilitation and/or modernization, and the actual cost to complete such projects must be considered the sum of this cost and the cost of rehabilitation and modernization . . . ." *Id.*, at 33.

9. Of all Indian irrigation projects listed in the BIA's 1988 statistics, about half were assigned a completion date of "indefinitely," based on average expenditures for five years—an apparent indication that little or nothing is currently being spent to complete those projects. *Id.*, at 27-32.

10. In the *Arizona I* litigation, the Special Master found that the Colorado River Indian Reservation contained approximately 107,500 practicably irrigable acres. Only about 30,000 acres had ever been irrigated. Since this Court's 1963 decision quantifying the Indians' reserved rights, the Reservation has increased its irrigation to an annual average of over 71,000 acres. See Brief for United States 17-18, n. 9; Special Irrigation Report 29.

cause of Indian water." Note, 88 Yale L. J., at 1703. I do not mean necessarily to endorse this explanation or otherwise to assess the political realities confronting Indian and non-Indian competitors for water project funding,[11] but only to suggest this: reliance on what the Government chooses to spend on Indian water projects is no way to determine the extent of rights that flow from an 1868 treaty.

Nor is there any reason to think that the Tribes do not "need" to irrigate any more land than they have until now. The need for economic development on the Wind River Reservation should be obvious from one statistic alone. As the record in this case demonstrates, the rate of unemployment on the reservation has, over the past 10 years, remained constant at a level of about 45 percent. App. 568a-569a. Accordingly, an integral part of the Government's feasibility studies for the future irrigation projects, which the Special Master accepted, was the use of theretofore unemployed members of the Tribes for farm labor and, gradually through a training program, for management positions. *Id.*, at 568a-571a.

The "need" for further irrigation also emerges from the fact that the historically irrigated lands on the reservation amount to only about 12 acres per capita—which, in light of population forecasts credited by the Special Master, *id.*, at 607a-608a; Brief for United States 35-36, and n. 30, will decline to 8.3 acres in 2000 and 5.6 in 2020. This level of cultivation currently yields a gross agricultural production of less than $500 annually per capita. Brief for Petitioner 10, n. 7; Brief for United States 36. Even if the Tribes should receive water to irrigate all of the future lands awarded them by the Wyoming Supreme Court, there would be enough for only about 24 irrigated acres per person. By way of contrast, the treaty creating the reservation authorized agricultural allotments of up to 320 acres for heads of families and 80 acres for individual Indians. Art. VI, Treaty between the United States of America and the Eastern Band of Shoshonees and the Bannack Tribe of Indians, 15 Stat. 675 (1868). That is

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11. I do note, however, that, to the extent the just-quoted assessment of the political influence of Indian and non-Indian water users is correct, the Court has now created an additional incentive for political opposition to funding Indian water projects: if such funding is not "reasonably likely" to be forthcoming, the Indians will lose their reserved water rights to those who, arguably, have more political influence with western legislators.

presumably some indication of what the Federal Government thought necessary for an irrigated farming operation (as is the total of 145,000 acres for which the United States obtained state-law water permits between 1905 and 1915[12]). As—by way of contrast—to what non-Indians seem to "need," the Reclamation Act of 1902, 32 Stat. 389, 43 U. S. C. § 431, which limits the amount of subsidized irrigation water available per person from federal reclamation projects, until recently set this limit at 160 acres. In 1982 Congress increased the acreage limitation to permit an individual to obtain subsidized water from reclamation projects for up to 960 acres, Reclamation Reform Act of 1982, § 204, 96 Stat. 1265, 43 U. S. C. § 390dd, reasoning that "the [160-acre] limitations of existing law are too restrictive, given today's economy, to support a viable farming operation." H. R. Rep. No. 97-458, p. 9 (1982).

The "needs" for which water was reserved for the Indian Tribes by the Second Treaty of Fort Bridger included the needs of the future as well as those of the present. We recognized this principle in *Arizona I*, agreeing with the Special Master's finding "that the water was intended to satisfy the future as well as the present needs of the Indian Reservations." 373 U. S., at 600. The Report of the *Arizona I* Special Master, which we accepted in this regard, speaks eloquently to this point, and its conclusion follows logically:

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12. The concurring opinion deems "of considerable importance . . . the fact that state rights to water far beyond the acreage historically irrigated were obtained but later relinquished." *Ante*, at 1. I agree that the Federal Government's decision in 1905 to obtain water permits under state law to irrigate 145,000 acres—far more than the 108,000 which the Wyoming courts have now held to be practicably irrigable—is strong evidence that the state courts' PIA determination in this case is not, to say the least, out of line. Even at a time when irrigation technology was less advanced than it is today, the Federal Government evidently thought that the Reservation contained 145,000 irrigable acres.

I do not agree with JUSTICE WHITE, however, about the significance to be attached to the Government's relinquishment of the state water permits. Just as the Government's acquisition of the permits in 1905 was a result of the unsettled state of the law just prior to the *Winters* decision, so the Government allowed many of the permits to lapse following this Court's articulation of the PIA standard in *Arizona I* in 1963. Wyoming has recognized this, see Pet. for Cert. 6; and while the relinquishment of the state water rights may indeed be of "considerable importance," it is as evidence of the Government's and the Tribes' reliance on legal standards established by this Court.

> "[W]herever I have found an intent to reserve water, I have inferred, absent evidence to the contrary, that the reservation was not limited to the needs of the population then resident upon the land, nor to the acreage being irrigated when the Reservation was created. I have concluded that enough water was reserved to satisfy the future expanding agricultural and related water needs of each Indian Reservation. Invariably the United States intended that the Indian tribes settled on a Reservation would remain there for generations, and the possibility that other Indians would be settled on the Reservation could not be excluded. Certainly the possibility of expanding populations, expanding agricultural development, and hence expanding water needs must have been apparent at the time each Reservation was created. It is unreasonable to attribute to the United States an intention or an expectation that the Indians would remain stagnant or die out when they were settled on a Reservation. . . .
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> ". . . Rather than assuming that the United States intended to put the Indians in the position of having to leave their Reservations as their water needs increased if they were unable to satisfy these needs by acquiring appropriative rights under state law, I have concluded that reservations of water by the United States included enough to supply expanding needs regardless of state water law.
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> "This brings us to the question of quantity. . . . I have concluded that the United States effectuated the intention to provide for the future needs of the Indians by reserving sufficient water to irrigate all of the practicably irrigable lands in a Reservation . . . . *The magnitude of the water rights created by the United States is measured by the amount of irrigable land set aside within a Reservation*, not by the number of Indians inhabiting it." Report of Special Master, O. T. 1963, No. 8 Orig., pp. 260-262 (emphasis added).

I cannot agree with the Court that a portion of the water rights which the United States reserved for the future needs of the Indian Tribes, and which were vested in them upon creation of the Reservation, may be extinguished for all time because "in today's era of budget deficits and excess agricultural production, government officials have to choose carefully what projects to fund in the West," *ante*, at 17, or because "'federal reserved water rights will frequently require a gallon-for-gallon reduction in the amount of water available for water-needy state and private

appropriators.'" *Ante*, at 16, quoting *New Mexico*, 438 U. S., at 705.

D

In addressing the question the Court has chosen to answer, it is important to separate quantification of the reserved rights from the question of actual use of the water awarded. Quantification is a matter of determining what lands are irrigable "at a reasonable cost," *i. e.*, for what lands "annual benefits [will] exceed costs." Report of Special Master in *Arizona II*, O. T. 1982, No. 8 Orig., p. 100. Once the quantity of water is fixed, the question of what the Indians may do with it is a separate one. The Court arrives at what, in my view, is a misguided result in this case by mixing these two questions. The premise guiding its analysis is that too much water has been awarded the Tribes if they are not able to put it to use in irrigation projects. But whether they are able to put it to agricultural use now, in five years, or in sixty years, is not relevant to the *quantity of* water to which they have a right. It is relevant to the question the Court touches on in its closing paragraph—whether Indian reserved water rights may be sold or leased for export off the Reservation. *Ante*, at 19. The Court purports not to decide that question, but in fact it has assumed the answer all along. If the Tribes were free to export water they did not immediately need for agricultural purposes, then the Court's premise that they had been awarded more water than they could use would be clearly untenable. Indeed, the water would be used twice: first by the Tribes as a source of income; and then by the purchaser for irrigation or other purposes. Of course the Indians would make money without lifting a finger. But I have never known this Court to object to such an application of the principles of free enterprise by one who markets an asset which is hers by virtue of the operation of a legal rule.[13]

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13. Notwithstanding the concurrence's view, *ante*, at 2-3, the transfer of water rights by sale or lease, while raising many difficult and partially unresolved legal issues, is not at all a novel idea but has become a widely accepted practice in western water law. There is an extensive literature on the question. See, *e. g.*, C. Meyers & R. Posner, Market Transfers of Water Rights: Toward an Improved Market in Water Resources (National Water Comm'n Legal Study No. 4, 1971); R. Higginson & J. Barnett, Water Rights and Their Transfer in the Western United States (Report to

I agree with the Court that the question whether Indian reserved water rights may be sold or leased off the reservation should be left to another day. I do not, however, assume the answer to that question. More fundamentally, I do not agree with the Court that the question whether the Tribes will likely be able to use their reserved rights for irrigation any time soon is relevant to the question of how extensive those rights are.

III

Prior to the creation of the Wind River Reservation, the Shoshone Tribe had been a nomadic people who lived from hunting and fishing. In 1868 they entered into a treaty with the United States under which they agreed to abandon their rights to the 44-million-acre territory in which they had lived, in what is now Wyoming, Colorado, and Utah. In exchange, the Shoshone, who had long been military allies of the United States,[14] were granted a 3-million-acre Reservation for their use, along with other tribes that might later be admitted to it—as were, subsequently, the Northern Arapaho. The Second Treaty of Fort Bridger clearly envisaged that the Shoshone would give up their nomadic way of life and become an agricultural people. That is what the United States wanted; and that is what the Tribe agreed to. The site selected for the Reservation was well suited to agriculture. While, like most of the West, it was too arid for

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the Conservation Foundation, May 1984); Burness & Quirk, Water Law, Water Transfers, and Economic Efficiency: The Colorado River, 23 J. L. & Econ. 111 (1980); Dunning, Reflections on the Transfer of Water Rights, 4 J. Contemp. L. 109 (1977); Trelease & Lee, Priority and Progress—Case Studies in the Transfer of Water Rights, 1 Land & Water L. Rev. 1 (1966); Ellis, Water Transfer Problems: Law, in Water Research 233 (A. Kneese & S. Smith eds. 1966); Anderson & Leal, Going with the Flow: Marketing Instream Flows and Groundwater, 13 Colum. J. Environmental L. 317 (1988); Anderson, The Market Alternative for Hawaiian Water, 25 Natural Resources J. 893 (1985). The unsettled question, for our purposes, is only whether Indian reserved rights may be transferred in the same way as State-created water rights. On this question see Palma, Considerations and Conclusions Concerning the Transferability of Indian Water Rights, 20 Natural Resources J. 91 (1980); Leaphart, Sale and Lease of Indian Water Rights, 33 Mont. L. Rev. 266 (1972); Clyde, Special Considerations Involving Indian Rights, 8 Natural Resources Lawyer 237, 250-252 (1975).

14. Justice Cardozo wrote in *Shoshone Tribe of Indians v. United States*, 299 U. S. 476, 486 (1937): "The loyalty of the Shoshone tribe to the people of the United States has been conspicuous and unfaltering. A fidelity at least as constant and inflexible was owing in return."

cultivation without irrigation, it was well watered by numerous streams and rivers fed by the snow-melt of the Wind River Mountains. The creation of the Wind River Reservation came at a time when, despite the increasing westward population movement of the post-Civil War period, there was little non-Indian settlement in the area. It was several weeks before the Territory of Wyoming was formed and 22 years before that Territory became a State.

As in *Winters*, "[t]he lands were arid and, without irrigation, were practically valueless," 207 U. S., at 576, for agriculture—the purpose for which the Reservation had been created. In establishing the Reservation, the Government presumably set aside that amount of arable land that would be sufficient to accomplish the agricultural purpose of the Reservation, in the future as well as the present. To say now that the Government reserved less water than is necessary to irrigate that amount of land would be in effect to nullify the Government's 1868 decision—incorporated in a treaty with the Shoshone Tribe—as to the Reservation that was necessary.

Nor were there, at the time the Reservation was established and the waters reserved, any significant numbers of white settlers in the area, competing for the supplies of water; and those settlers who later "took up lands in the valleys of the stream were not justified in closing their eyes to the obvious necessities of the Indians already occupying the reservation below." *United States v. Walker River Irrigation Dist.*, 104 F. 2d 334, 339 (CA9 1939).[15] The Court, rather than invoking "sensitivity" to non-Indian water users in depriving the Tribes of rights they acquired upon the establishment of the reservation, might do well to ask itself: Who, after all, was there first?

When the Court decided the *Winters* case in 1908, it may have been less difficult than it is now to hold that an Indian tribe possessed significant reserved water rights, for there was at that time less pressure from white competitors for scarce water. Even in 1963, the Court may have been able to reaffirm the *Winters* principle and adopt the PIA standard of quantification without realizing how painful this decision would be for the municipal

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15. Settlers arriving after 1905 should also have been put on notice of existing Indian water rights by the water permits for 145,000 acres, which the United States had acquired for the Tribes under state law.

water systems of southern California. For my part, I believe those decisions were absolutely correct. But if the Court now thinks that our prior assessment of what the Government intended in creating the Indian reservations was wrong, then let it say so frankly and overrule *Arizona*, or even *Winters*. If not, then let us stick to them even if it means the Indians get more water than we think they "need." In *Arizona I*, 373 U. S., at 600, we wrote: "The Court in *Winters* concluded that the Government, when it created that Indian Reservation, intended to deal fairly with the Indians by reserving for them the waters without which their lands would have been useless."

Do we still believe it?