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Federal Reserved Rights to Instream Flows in National Forests

by

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FEDERAL RESERVED RIGHTS TO INSTREAM FLOWS IN THE NATIONAL FORESTS

*Diane E. McConkey**

I. Introduction

Instream flows[1] and their effects on stream channels have in recent years been a focal point for the work of Forest Service hydrologists.[2] The study of changes in water flow has provided the basis for the federal government's newest claim to water rights in the national forests. This claim is the latest round in an ongoing struggle to determine the scope of the government's ability to use water on reserved federal lands.

Most of the debate concerns water rights in the West, where the states allocate what little water is available in accordance with the system of prior appropriation. Under this system, a person can acquire a water right by putting the water to beneficial use. The date of first use becomes the priority date for purposes of determining seniority among water users on a given stream. Consequently, junior users cannot interfere with those who have earlier priority dates.[3]

Water rights created by appropriation are clearly ascertainable; no appropriator has a right to more water than the amount actually in use. Thus, each user can determine the extent of the more senior users' claims and can plan accordingly. Appropriators who fail to continue beneficial use of the water forfeit their rights.[4]

The state prior appropriation systems are not, however, the last word on water rights. These systems have had to accommodate the growth of the judicially-created doctrine of federal reserved water rights. This doctrine holds that reservations of federal lands for particular purposes include reservations of water; it is based on the

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1 Instream flow has been defined as "a specific amount of water in a defined reach of a river or stream within a specified period of time." Joseph Q. Kaufman, *An Analysis of Developing Instream Water Rights in Oregon*, 28 Willamette L. Rev. 285, 286 (1992).

2 *See* United States v. Jesse, 744 P.2d 491, 498 n.8 (Colo. 1987).

3 *See* Robert H. Abrams, *Water in the Western Wilderness: The Duty to Assert Reserved Water Rights*, 1986 U. Ill. L. Rev. 387, 388-89; Kaufman, *supra* note 1, at 294.

4 *See* Daina Upite, Note, *Resolving Indian Reserved Water Rights in the Wake of* San Carlos Apache Tribe, 15 Envtl. L. 181, 182 (1984).

notion that in reserving federal land, Congress must implicitly have reserved sufficient water to fulfill the purposes of the reservation.[5]

Federal reserved rights differ from appropriative rights in that they do not depend on beneficial use. They are created when the land is set aside, and they persist even in disuse.[6] Because reserved water rights may lie dormant for decades, other water users may have difficulty in assessing competing claims on a given stream. Therefore, potential users may have to abandon some proposed uses because of uncertainty surrounding the volume of water available in the future.[7]

Federal reserved rights for lands set aside during the nineteenth century can be particularly disruptive. The date on which Congress reserved the lands by statute acts as the priority date for purposes of determining relative seniority.[8] Nineteenth-century reservations thus create water rights that are senior to any rights acquired this century under the system of prior appropriation.

The focus of this Note is on federal reservations of water in the national forests set aside by the Creative Act of 1891.[9] In the context of national forests, the question has arisen whether the federal government may claim rights to instream flows.[10] The Forest Service has repeatedly claimed that a minimum instream flow is necessary to fulfill the purposes of the forest reservations. In its view, control over instream flows is needed to ensure sufficient water for fish and other wildlife, to allow for recreation, and to maintain stream channels for flood control purposes.[11] The Supreme Court

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[5] *See* Abrams, *supra* note 3, at 389. The Supreme Court first recognized an implied reservation of water rights in the context of Indian reservations. *See* Winters v. United States, 207 U.S. 564 (1908). The doctrine was subsequently extended to non-Indian lands. *See* Federal Power Comm'n v. Oregon (Pelton Dam), 349 U.S. 435 (1955); Arizona v. California, 373 U.S. 546 (1963); *see generally* Todd A. Fisher, Note, *The* Winters *of Our Discontent: Federal Reserved Water Rights in the Western States*, 69 Cornell L. Rev. 1077, 1080-83 (1984) (tracing the judicial expansion of the doctrine of federal reserved water rights).

[6] *See* Upite, *supra* note 4, at 183.

[7] *See* Abrams, *supra* note 3, at 389.

[8] *See* Sally K. Fairfax & A. Dan Tarlock, *No Water for the Woods: A Critical Analysis of* United States v. New Mexico, 15 Idaho L. Rev. 509, 521 (1979).

[9] Creative Act of March 3, 1891, § 24, 26 Stat. 1103, *amended by* 16 U.S.C. § 471 (repealed 1976). The purposes and uses of the national forests were set forth in the Organic Administration Act of June 4, 1897, 30 Stat. 34, 16 U.S.C. § 475 (1988). *See* United States v. New Mexico, 438 U.S. 696, 706-07 (1978).

[10] The idea that a deliberate decision to leave a particular quantity of water in a stream could qualify as a "use" of that water is relatively new. *See* Fairfax & Tarlock, *supra* note 8.

[11] *See, e.g.*, United States v. Jesse, 774 P.2d 491, 498-99 n.8 (Colo. 1987) (quoting the affidavit of a Forest Service hydrologist that listed the long-term dangers of stream flow reductions).

rejected the first claim for minimum instream flows in *United States v. New Mexico*.[12] However, recent studies performed by Forest Service hydrologists have allowed the government's claim to be recast in a manner that is consistent with the *New Mexico* decision. As a result, new questions have arisen as to the feasibility and desirability of claiming reserved rights in this context.

This Note describes the evolution of instream flow claims in the national forests. Part II reviews the Supreme Court's treatment of such claims in *United States v. New Mexico*, as well as the Court's identification of the two "primary purposes" of national forests. Part III traces the development of hydrology-based claims for instream flows in the Colorado courts.[13] Part IV analyzes the most recent Colorado water court decision[14] and discusses the Forest Service's future options for controlling the use of water flowing through the national forests.

II. *United States v. New Mexico*

A. *Determination of National Forest Purposes*

The United States Supreme Court addressed the issue of reserved rights for instream flows in national forests in *United States v. New Mexico*.[15] The case began as a general adjudication of rights to waters of the Rio Mimbres River and its tributaries. As one of the interested parties, the United States claimed reserved water rights for minimum instream flows for the river's passage through the Gila National Forest.[16] Following the trial court's rejection of the government's claim, the case was appealed to the New Mexico Supreme Court.[17]

The New Mexico court approached the issue by determining the purposes for which the national forests had been established.[18]

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12 438 U.S. 696 (1978).

13 Colorado has been the testing ground for the Forest Service's newest theory of reserved instream flow rights. The *Jesse* decision in particular suggests that the government may possess a viable alternative to the line of argumentation rejected by the Supreme Court in *New Mexico*. United States v. Jesse, 744 P.2d 491 (Colo. 1987).

14 In Colorado, water rights cases are heard in the first instance by specialized water courts. The state is divided into seven divisions, each with a designated water judge. These judges possess exclusive jurisdiction over "water matters." Colo. Rev. Stat. Ann. §§ 37-92-201, 37-92-203 (West 1990). *See* James D. Anderson, Note, *Reinterpreting the Physical Act Requirement for Conditional Water Rights*, 53 U. Colo. L. Rev. 765, 767 n.6 (1982).

15 438 U.S. 696 (1978).

16 Mimbres Valley Irrigation Co. v. Salopek, 564 P.2d 615 (N.M. 1977).

17 *Id.* at 616.

18 *Id.* at 617.

Because the Creative Act of 1891[19] merely set aside lands without discussion of purpose, the court turned to the 1897 Organic Act,[20] which provided: "No national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States . . ."[21] From this section, the court derived three purposes of the national forests:

1) improving and protecting the forest,
2) securing favorable conditions of water flows, and
3) furnishing a continuous supply of timber.[22]

The New Mexico court rejected the government's claimed rights to minimum instream flows for "aesthetic, environmental, recreational and 'fish' purposes."[23] Such "uses," it found, should be distinguished from the "purposes" assigned to the forests under the Organic Act. The court concluded: "The fact that Congress has opened the national forests for the many diversified uses which are now allowed does not expand the purposes for which they were originally created."[24]

The United States Supreme Court, after a more detailed dissection of the language of the Organic Act, affirmed.[25] As the basis for its analysis, it adopted the following proposition:

> Where water is necessary to fulfill the very purposes for which a federal reservation was created, it is reasonable to conclude, even in the face of Congress' express deference to state water law in other areas, that the United States intended to reserve the necessary water. Where water is only valuable for a secondary use of the reservation, however, 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.[26]

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19 16 U.S.C. § 471 (repealed 1976).

20 *Id.* § 475 (1988).

21 *Id.*, *quoted in Mimbres Valley*, 564 P.2d at 617.

22 *Mimbres Valley*, 564 P.2d at 617.

23 *Id.*

24 *Id.* at 617-18.

25 United States v. New Mexico, 438 U.S. 696, 706-08, 718 (1978).

26 *Id.* at 702. This proposition was culled from a review of prior reserved rights doctrine cases, particularly Arizona v. California, 373 U.S. 546 (1963) and Cappaert v. United States, 426 U.S. 128 (1976). *See New Mexico*, 438 U.S. at 698-702.

The Court found that the legislative history supported only two national forest purposes: "securing favorable conditions of water flows" and "furnish[ing] a continuous supply of timber."[27] Thus, no other reason, whether designated as a "use" or a "purpose," could serve as the basis for a claim of an implied reservation of water rights.

The Supreme Court specifically rejected the third purpose listed by the New Mexico court. It held that the phrase "to improve and protect the forest within the boundaries" possessed no independent meaning[28] and should be construed merely as prologue, as if Congress had said: "We intend to improve and protect the forest, by which we mean protecting waterflow and timber." The Court interpreted the word "or" linking the "improve and protect" clause to the following clauses to mean "or, in other words." An earlier bill's employment of the phrase "for the purpose of" rather than the ambiguous "or" supported this interpretation.[29] Hence, the government's argument that improvement and protection of the forests constituted a third (and potentially quite broad) purpose did not withstand scrutiny.[30]

The *New Mexico* decision thus imposed a clear limitation on the Forest Service's ability to claim reserved water rights. With the purposes of the national forests limited to two, the government had to change its strategy. Arguments for a broad spectrum of forest purposes gave way to pressure for an expansive reading of the two purposes specifically accepted by the Court. The next debate would center on the interpretation of the phrase "favorable conditions of water flows."[31]

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[27] *New Mexico*, 438 U.S. at 707 n.14.

[28] *Id.*

[29] *Id.* at 708 (quoting H.R. 119, 54th Cong., 1st Sess. (1896)).

[30] *Id.* The Court's restrictive reading of national forest purposes has met with much criticism. *See, e.g.*, George C. Coggins et al., *The Law of Public Rangeland Management I: The Extent and Distribution of Federal Power*, 12 Envtl. L. 535, 581-83 (1982) (stating that "[a] natural reading indicates that Congress had broad purposes in mind"); James F. Elliott, Note, United States v. New Mexico*: Purposes That Hold No Water*, 22 Ariz. L. Rev. 19, 25-34 (1980) (criticizing the majority's excessive reliance on legislative history and its disregard for the statutory text); Fairfax & Tarlock, *supra* note 8, at 511 (arguing that "[t]he early forest reserves were conceptually and administratively indistinguishable from early park reservations"). *But see* Alan E. Boles, Jr. & Charles M. Elliott, United States v. New Mexico *and the Course of Federal Reserved Water Rights*, 51 U. Colo. L. Rev. 209 (1980) (approving the *New Mexico* result).

[31] The phrase "favorable conditions of water flows" is often used interchangeably with "watershed" in this context and can probably be understood as synonymous. *See* George C. Coggins, *Watershed as a Public Natural Resource on the Federal Lands*, 11 Va. Envtl. L.J. 1, 4-5 (1991).

B. *Instream Flows and Watershed Protection*

The *New Mexico* decision provides some support for the argument that the results obtained through instream flow protection are consistent with Congress' intention in "securing favorable conditions of water flows." In the course of rejecting the assertion that Congress intended to reserve instream flows for park-like purposes, the Court focused on the goal of watershed protection and provided some insight into its meaning. As the impetus to the enactment of the Creative Act, for example, the Court identified "the fear . . . that the forest lands might soon disappear, leaving the United States with a shortage both of timber and of watersheds with which to encourage stream flows while preventing floods."[32]

The passages from the legislative history which the Court chose to support its opinion also emphasize the need to preserve regular flows and prevent flooding:

> [F]orests exert a most important regulating influence upon the flow of rivers, reducing floods and increasing the water supply in the low stages . . . . With the natural regimen of the streams replaced by destructive floods in the spring, and by dry beds in the months when the irrigating flow is most needed, the irrigation of wide areas now proposed will be impossible, and regions now supporting prosperous communities will become depopulated.[33]

This and other passages suggest that preservation of timber was seen less as an end unto itself than as a means to the end of watershed protection.[34] The Court referred to the statements of several congressmen who believed that "national forests were necessary 'not to save the timber for future use so much as to preserve the water supply.'"[35] Thus, there is some evidence that, at least in the minds of Western congressmen, effective water management was the overriding goal.

Nothing in the Court's opinion sheds light on the issue of whether the claim for instream flow rights might succeed if placed under the rubric of "favorable conditions of water flows." Justice

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[32] *New Mexico*, 438 U.S. at 705 (citing J. Ise, The United States Forest Policy 62-118 (1972)).

[33] *Id.* at 712 (quoting S. Doc. No. 105, 55th Cong., 1st Sess. 10 (1897)).

[34] *See* Charles F. Wilkinson & H. Michael Anderson, *Land and Resource Planning in the National Forests*, 64 Or. L. Rev. 1, 203 (1985) (stating that "many congressmen considered watershed protection to be the paramount, if not exclusive, purpose of establishing forest reserves").

[35] *New Mexico*, 438 U.S. at 712 n.20 (quoting 30 Cong. Rec. 1007 (1897) (statement of Rep. Ellis)).

Powell, in dissent, noted that the opinion left open the possibility of pursuing such a strategy.[36] As Powell pointed out, New Mexico's brief actually invited the United States to make the argument:

> The State concedes, quite correctly on the Court's own theory, that even in this case "the United States is not barred from asserting that rights to minimum instream flows might be necessary for erosion control or fire protection on the basis of the recognized purposes of watershed management and the maintenance of timber."[37]

III. Instream Flows and National Forests in Colorado: The Hydrologists' Argument

A. United States v. City & County of Denver

The issue of reserved rights to instream flows in national forests arose in the Colorado water courts at the same time that *New Mexico* was being decided. Several Colorado water districts joined the United States in a series of general water rights adjudications beginning in the late 1960s.[38] The United States claimed reserved water rights for a total of seven national forests.[39] A water court ruled on the consolidated claims in 1978, finding that reserved water rights in the national forests did not include minimum instream flows.[40]

In its 1982 *United States v. City & County of Denver* decision, the Colorado Supreme Court upheld this finding.[41] The text of the decision, however, was ambiguous as to whether the United States had in fact claimed instream flow rights for watershed and timber protection purposes. Most of the court's discussion implicitly assumed that it had. The court found that scientific evidence to substantiate such a claim was lacking. Testimony presented by government witnesses consisted of conclusory statements that were of no use to the court in examining the link between instream flows

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[36] *Id.* at 724-25.

[37] *Id.* (quoting Brief for Respondent at 44 n.11).

[38] The McCarran Amendment, 66 Stat. 560, 43 U.S.C. § 666 (1988), opened the United States to involuntary joinder in state water rights adjudications. *See* United States v. City & County of Denver, 656 P.2d 1, 9 (Colo. 1982).

[39] The national forests at issue were Arapaho, Grand Mesa, Gunnison, Manti-La Sal, Routt, Uncompahgre, and White River. *City & County of Denver*, 656 P.2d at 11.

[40] *Id.* at 13.

[41] *Id.* at 35.

and protection of timber and watershed.[42] The court found that instream flow rights would be inconsistent with the Organic Act's goal of providing large quantities of water to western developers. It thus rejected the claim for minimum instream flows.[43]

In a footnote, however, the court referred to the water court's finding that the United States had not properly claimed the rights to instream flows. Although the United States' application recited timber and water flow protection as purposes for which "direct water rights, storage water rights, transportation rights, and well rights" were claimed, it did not include these purposes as the basis for its request for instream flow rights.[44] After reviewing this difficulty, the Colorado court concluded: "Because of our decision on instream flow rights we need not address whether the United States' applications were sufficiently explicit."[45] Nevertheless, it stated in another part of the opinion that it agreed with the water court's determination that the United States had not claimed any instream flow rights for watershed and timber protection purposes.[46] It ended by loosely affirming the lower court's finding that the United States had not "claimed or proved" a reservation of instream flow rights "necessary to satisfy national forest purposes."[47]

B. United States v. Jesse

The question of reservations of instream flow rights for watershed purposes was squarely presented to the Colorado Supreme Court in *United States v. Jesse*,[48] a case arising from a general adjudication of water rights involving the Pike and San Isabel National Forests.[49] The *Jesse* court began with the premise that in *City & County of Denver* the United States had failed to claim that minimum instream flows were necessary to the purposes spelled out in *New Mexico*.[50] In *Jesse*, however, the United States directly and explicitly made such a claim, arguing that:

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42 The following statements were apparently representative: "'If you . . . let the stream dry up you wouldn't be fulfilling the purposes of the watershed protection.'"; "'[t]rees growing next to the creek . . . are going to get more water.'" *Id.* at 22 n.35.

43 *Id.* at 23.

44 *Id.* at 23-24 & n.37.

45 *Id.* at 24 n.37.

46 *Id.* at 22.

47 *Id.* at 35.

48 744 P.2d 491 (Colo. 1987).

49 *Id.* at 497.

50 *Id.* The court below had read *City & County of Denver* to hold, as a matter of law, that the United States had no claim to reserved rights for instream flows. It thus deter-

> recent advances in the science of fluvial geomorphology demonstrate that minimum instream water flows are necessary to preserve efficient stream channels in the national forests and "to secure favorable conditions of water flows," one of the purposes for which the national forests were created . . . .[51]

The essence of the government's claim was that a certain minimum amount of instream flow preserves stream channels capable of handling higher flows. Without this minimum flow, sediment may accumulate in the bottom of the channels, reducing channel capacity. Subsequent high flows erode the stream banks, delivering large quantities of sediment downstream. Undesirable effects may include lateral movement of the channel, with a resulting shift in the flood plain; an increase in flood damage and the transformation of flows that normally would not have left the stream banks into flood flows; and greater deposits of sediments within water storage and diversion facilities, causing loss of capacity and the need for increased maintenance.[52]

The court found that genuine issues of fact existed regarding the existence of instream flow rights and reversed the water court's grant of summary judgment on this issue.[53] It directed that such rights be granted if, on remand, the water court found that "the purpose of the Organic Act will be entirely defeated unless the United States is allowed to maintain minimum instream flows over the forest lands."[54]

C. *Water Division No. 1*

The result in *Jesse* led to an elaborate and complex factual presentation in a Water Division No. 1 adjudication[55] concerning

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mined that the U.S. was collaterally estopped from relitigating the issue. *Id.* at 498. The Colorado Supreme Court rejected this interpretation of its earlier opinion, stating the language relied on by the water court was "dictum" and "not binding . . . in the present case." *Id.* at 502-03.

[51] *Id.* at 493.

[52] *Id.* at 498-99 n.8 (quoting affidavit of Hilton L. Silvey).

[53] *Id.* at 503.

[54] *Id.* The Colorado court relied on language from the *New Mexico* decision stating that implied reservations of water could only be found in cases where "without the water the purposes of the reservation would be entirely defeated." *Id.* (quoting *New Mexico*, 438 U.S. at 700 (emphasis omitted)).

[55] *In re* Amended Application of the United States of America for Reserved Water Rights in the Platte River in Boulder, Clear Creek, Douglas, El Paso, Gilpin, Jefferson, Larimer, Park and Teller Counties (Arapaho, Pike, Roosevelt and San Isabel National Forests), No. W-8439-76 (Dist. Ct., Water Division No. 1, Feb. 12, 1993) [hereinafter Water Division No. 1].

reserved water rights on the South Platte River.[56] In *Jesse*, the United States had relied on the affidavit of a single hydrologist to oppose the motion for summary judgment.[57] In the Water Division No. 1 adjudication, the Forest Service submitted a brief providing 180 pages of explanation and illustration of the scientific principles on which it relied for its claim of instream flows.[58]

The water court denied the application for instream flow rights, resting its decision on two grounds, each of which was viewed as being independently sufficient to support the decision.[59] First, it concluded that the necessity of reserved rights for instream flows had not been shown because the Forest Service's instream flow goals had been met in the past and could continue to be met through the use of the administrative permit system.[60] Second, it found the Forest Service's scientific methodology to be inadequate to the task of accurately quantifying minimum instream flow needs.[61] The issues of alternative methods of control and of quantification are examined in the next section.

IV. Problems of Determining Necessity

A. *Permits or Reserved Rights?*

Reserved rights are not the government's only means of exercising control over water use in the national forests. The Forest Service has the authority to issue "special use permits" for water use.[62]

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56 This litigation involved federal claims in the Arapahoe, Pike, Roosevelt and San Isabel National Forests. *Id.* at 1.

57 *Jesse*, 744 P.2d at 498 n.8.

58 *See* United States' Brief on the Evidence Relating to the Science of Fluvial Geomorphology and Instream Flow Claims (Aug. 9, 1991).

An additional Forest Service brief discussed at length both the legislative history of the Creative and Organic Acts and additional sources intended to shed light on the late nineteenth-century understanding of watershed protection. *See* United States' Post-Trial Brief Concerning Purposes of the National Forests (Apr. 15, 1991). This paper does not address further the issue of congressional intent but focuses instead on the grounds for the water court's denial of reserved instream flow rights.

59 Water Division No. 1, *supra* note 55, at 32.

60 *Id.* at 20. Although the court expressed the view that "channel maintenance is necessary to effectuate a purpose of the national forests," it stated that reserved rights were not needed to accomplish such maintenance. *Id.*

61 *Id.* at 24-25.

62 Wilkinson & Anderson, *supra* note 34, at 213-14. General authority for administrative controls on water use is drawn from language in the 1897 Organic Act providing that "[a]ll waters on such reservations may be used for domestic, mining, milling, or irrigation purposes, under the laws of the State wherein such forest reservations are situated, or under the laws of the United States and the rules and regulations established thereunder." Organic Act, ch. 2, § 1, 30 Stat. 36 (1897) (current version at 16 U.S.C. § 481 (1988)); *see* Wilkinson & Anderson, *supra* note 34, at 212-13. Later enactments specifically authorized

When issuing the permits, the government may impose conditions on any diversion of water within a national forest.[63] Such conditions may include the maintenance of instream flows.[64]

In the recent Water Division No. 1 decision, the water court found that the availability of the permitting system as a mechanism for water use control obviated the need to reserve rights for instream flows.[65] Although the court did not make its reasoning explicit, the argument seems to proceed as follows. Reservations are "strictly limited to the minimum amount of water needed to ensure that the purposes of the reservation will not be entirely defeated."[66] Arguably, the purpose of maintaining "favorable conditions of water flows" would be defeated if instream flows fell below a certain level. Because the Forest Service has adequate administrative control over instream flows,[67] there is no danger that flows will ever fall below this level. Thus, according to the court, "necessity" has not been shown and the Forest Service's claim of reserved rights must fail. The Forest Service, as might be expected, disputed this analysis. The availability of alternatives, it argued, is irrelevant to the claim of reserved water rights.[68]

While acknowledging that higher courts have provided very little guidance on the issue, the water court cited *Sierra Club v. Yeutter*[69]

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the Forest Service to issue special use permits for water works. Federal Land Policy and Management Act of 1976, 90 Stat. 2776, 43 U.S.C. § 1761(a) (1988); Act of Feb. 15, 1901, ch. 372, 31 Stat. 790 (repealed 1976); *see* Wilkinson & Anderson, *supra* note 34, at 213.

63 *See* Wilkinson & Anderson, *supra* note 34, at 235-36.

64 *Id.* at 236-37. Wilkinson and Anderson cite as an example the Homestake II project in Colorado, in which the Forest Service required "environmental maintenance flows" sufficient to "protect fisheries, maintain channel stability, and enhance visual resources." *Id.* at 236-38 (quoting Forest Service, U.S. Dep't of Agriculture, Record of Decision for Homestake Phase II Project 3-4 (1983)).

65 Water Division No. 1, *supra* note 55, at 9-15. The court stated that

> [t]he Forest Service has broad powers to regulate the construction of irrigation structures within the national forests and, as a practical matter, to control the ability of others to make diversions within the forests. Permits are required to establish such structures and these permits must be renewed from time to time.

Id. at 9.

66 *Id.* at 24 (citing *New Mexico*, 438 U.S. at 701-03).

67 Testimony during the trial cast some doubt on the fungibility of permit conditions with reserved rights. One forester testified that permit conditions were a "short term" solution that lacked many of the benefits of adjudicated water rights. Water Division No. 1, *supra* note 55, at 9. Permit conditions are imposed on a case-by-case basis. Reserved rights that are fixed and quantified in a large-scale adjudication have the advantage of providing advance notice of the amount of water that will be unavailable to other users. *Id.* at 10.

68 *Id.* at 12.

69 911 F.2d 1405 (10th Cir. 1990).

in support of the proposition that federal reserved water rights should not be recognized where administrative measures are adequate to serve the reservation's purposes.[70] Closer inspection of *Yeutter*, however, reveals that it cannot be taken as precedent for the water court's holding.

In a series of cases leading up to the *Yeutter* decision, the Sierra Club sought an order compelling the Forest Service to claim federal reserved water rights in Colorado wilderness areas.[71] The Forest Service defended by arguing that it could adequately protect the wilderness through other methods.[72] Acting under orders from a district court, the Forest Service submitted two reports designed to show that the alternative methods were sufficient to meet its statutory obligation to protect wilderness water resources.[73]

The Tenth Circuit, on appeal, was presented with the limited question of "whether the Forest Service's failure to assert wilderness water rights is irreconcilable with its duties under the Wilderness Act."[74] Applying the two-prong *Abbott Laboratories* ripeness test,[75] the court initially considered whether the question presented was "fit for judicial resolution."[76] The court noted that the question was not purely legal and pointed to the factual dispute over whether the administrative controls detailed in the Forest Service's report were adequate to preserve wilderness water values.[77] It then found that the Forest's Service failure to claim reserved water rights was not clearly "final agency action":

> The Forest Service's principal position is not that federal reserved water rights do not exist, but rather that their assertion at this time is unnecessary and possibly counterproductive. Indeed, the Forest Service stated in the second report that the assertion of federal reserved water rights based on the Wilderness Act was a possible option . . . .

[70] Water Division No. 1, *supra* note 55, at 11.

[71] *Yeutter*, 911 F.2d at 1408.

[72] *Id.* at 1408-10.

[73] *Id.* at 1409-10. The district court rejected the first report as deficient for the purpose of review of the agency's decision, and the court ordered the Forest Service to submit a more explicit report. *Id.* at 1409. This second report included "administrative land use controls" as an alternative to the assertion of reserved water rights. *Id.* at 1410.

[74] *Id.* at 1417.

[75] *See* Abbott Laboratories v. Gardner, 387 U.S. 136 (1967). The first factor, "fitness for judicial resolution," requires the court to determine whether the issue presented is purely legal and whether the agency action complained of was final. The second factor requires the court to consider the likelihood that the parties will experience hardship if the court refuses to hear the case. *See Yeutter*, 911 F.2d at 1415.

[76] *Yeutter*, 911 F.2d at 1417.

[77] *Id.*

> Even if we were to rule in favor of Sierra Club's request for a declaratory judgment that the Wilderness Act creates federal reserved water rights, the Forest Service is not obligated to assert those rights in the absence of a threat to the wilderness characteristics of the Colorado wilderness areas.[78]

Proceeding to the second factor, the court found that no substantial hardship would be imposed by waiting "until there is a more imminent threat to wilderness water values."[79] Thus, the court concluded that the case was not ripe for adjudication and vacated the judgment below.[80]

In reaching its conclusion, the Tenth Circuit did not say that the availability of alternatives precludes a claim of reserved water rights. Rather, it said that the Forest Service may prefer administrative action over assertion of any reserved rights it may possess, as long as the decision does not threaten wilderness values.[81] Assertion of reserved water rights remains an option, even where administrative alternatives are available.

Thus, the Forest Service's position that the existence of alternative methods of control is irrelevant seems legally justified. It appears to be within the agency's discretion to choose the preferred method from among those available in any given area. One Forest Service employee compared the methods of water control to the tools available in a carpenter's toolbox: "Most carpenters I know carry more than just one hammer, because there are different jobs to be done. They have big hammers and little hammers . . . ."[82]

The choice between placing conditions in permits and asserting a right to a fixed amount of instream flow may, however, create substantially different impacts on water users. Reserved rights for national forests set aside in the 1890s would be senior to all twentieth-century claims. Such rights would apply to vast areas, without regard for individual circumstances. Permit conditions, on the other hand, would affect only future diversions on a case-by-case

78 *Id.* at 1418 (footnote omitted).

79 *Id.*

80 *Id.* at 1421. The court also stated that although the district court did not act improperly in ordering the Forest Service to prepare the reports, the Forest Service was not bound by the policy statements contained in the reports. *Id.*

81 *Id.* at 1418. For an argument that government agencies have an affirmative duty to assert reserved water rights, see Abrams, *supra* note 3.

82 Water Division No. 1, *supra* note 55, at 11 (testimony of Gray Francis Reynolds, Director of Watershed and Air Management).

basis.[83] The implications of choosing one approach over the other will be considered next in conjunction with the problem of quantification.

B. Quantification

1. The Need for Quantification

In the Water Division No. 1 decision, the water court stated that reserved water rights should not be quantified absent a "vital need to do so."[84] It added: "quantification of [reserved] rights is substantially at odds with efficient use of the waters from the forests for irrigation and domestic purposes."[85] By these statements it apparently meant that, assuming reserved rights to instream flows do exist, they are best left indefinite until an actual conflict arises.

This position seems inconsistent with the goal of general water rights adjudications and the rationale for the federal government's joinder in such proceedings. Prior to 1952, the doctrine of sovereign immunity prevented the United States' claims to water rights from being decided in state court adjudications.[86] The Colorado Supreme Court previously described the uncertainties caused by the United States' non-participation as follows:

> We have a situation in which the federal sovereign claims water rights which are nowhere formally listed, which are not the subject of any decree or permit and which, therefore, are etheric in large part to the person who has reason to know and evaluate the extent of his priorities to the use of water. To have these federal rights in a state of uncorrelated mystery is frustrating and completely contrary to orderly procedure . . . .[87]

This description suggests that existing and potential water users place considerable value on knowing the exact nature of the fed-

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[83] *See* Wilkinson & Anderson, *supra* note 34, at 232-38. It is possible that the Forest Service could exercise authority to set minimum instream flows outside of the permitting process. Determination of the necessary flow would be site-specific; interested parties would be notified and have an opportunity to comment. The date of public notice would serve as the priority date, and prior existing rights would not be affected. Thus, the impact of these "non-reserved" water rights would be far less than that of the asserted reserved water rights. *See id.* at 231-35.

[84] Water Division No. 1, *supra* note 55, at 13.

[85] *Id.*

[86] *See* United States v. City & County of Denver, 656 P.2d 1, 8-9 (Colo. 1982).

[87] United States v. District Court for Eagle County, 458 P.2d 760, 772 (Colo. 1969), *aff'd*, 401 U.S. 520 (1971), *quoted in City & County of Denver*, 656 P.2d at 8-9.

eral government's claims.[88] Specifically, a water user would wish to know not only what streams were affected, but also the priority dates and particularly the quantity of water involved.

Through the McCarran Amendment,[89] enacted in 1952, Congress opened the United States to involuntary joinder in state water rights adjudications.[90] This action was viewed as a means of consolidating litigation[91] and of formally recognizing the Western states' control over administration of water rights within their boundaries.[92] The waiver of sovereign immunity allowed state adjudications to lift the air of "uncorrelated mystery" surrounding the scope of federal reserved water rights.[93]

Thus, the trend has been toward encouraging greater certainty as to the extent and nature of the federal government's rights to water use. Quantification, generally speaking, probably benefits other users. The question remains, however, whether large-scale quantification of instream flows is currently a practical possibility.

2. *Is Quantification Possible?*

Assuming that reserved rights exist, and that quantification is a desirable goal, the next step is to determine the level of instream flow required for national forest purposes. This type of determination has often been fraught with controversy. Debate over the proper method of quantification of reserved rights dates back to the 1963 *Arizona v. California*[94] decision, in which the extent of reserved rights for particular Indian reservations was at issue. In

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[88] There is extensive commentary on the planning difficulties created by the existence of Indian reserved rights of uncertain magnitude. *See, e.g.*, Susan M. Campbell, Note, *A Proposal for the Quantification of Reserved Indian Water Rights*, 74 Colum. L. Rev. 1299, 1304 (1974) (stating that "[t]he uncertainty created by these rights has hampered the development of industry, agriculture, and other consumptive uses by non-federal appropriators"); Roger Florio, Note, Arizona v. California: *Finality as a Water Management Tool*, 33 Cath. U. L. Rev. 457, 458 n.10 (1984) (noting that "[a]s a consequence of this uncertainty, state administrators and potential appropriators often cannot determine what waters are available for appropriation, and what state-created water users may be displaced by the exercise of prior reserved rights").

Both sides may gain from a procedure that fixes the exact extent of "paper" rights. *See* Upite, *supra* note 4, at 199 (concluding that negotiation wins more "wet" water for Indian tribes while providing other users with much-needed certainty).

[89] 43 U.S.C. § 666 (1988).

[90] *City & County of Denver*, 656 P.2d at 9.

[91] Upite, *supra* note 4, at 192.

[92] *Id.*

[93] *See District Court for Eagle County*, 458 P.2d at 772, *quoted in City & County of Denver*, 656 P.2d at 8-9.

[94] 373 U.S. 546 (1962).

this seminal decision, the Court held that Indian reserved rights were to be calculated on the basis of irrigable acreage within the reservation.[95] Although the irrigable acreage approach thus received the Court's seal of approval, it was not the only possible solution.[96] Critics pointed out that this amount exceeded probable future use and would, if actually diverted, cripple municipal users.[97]

The quantification of minimum instream flows is equally controversial. The Colorado Supreme Court instructed its inferior courts to "determine the *precise* quantity of water necessary to satisfy [national forest] purposes."[98] It is somewhat unclear as to whether "precise" measurement is currently feasible; mere estimates raise questions of fairness and may make a determination of reserved rights unworkable.

In the Water Division No. 1 decision, the water court found the government's measurements to be anything but precise and devoted a substantial portion of its opinion to questioning the reliability of the Forest Service's methodology.[99] It noted, for example, that the claimed necessary flow was calculated on the basis of four different equations of doubtful utility: "When applied to a given quantification point, the four equations frequently gave widely differing results. The applicant chose the result it deemed most appropriate. . . . In the court's view this exercise in essence gave a scientific tone to what was essentially speculation."[100]

The court questioned whether accurate quantification was a practical possibility in view of the Forest Service's assertion that greater accuracy would require a staggering investment of time and money.[101] It concluded, in any event, that the government's current attempt at quantification was unsatisfactory.[102] Thus, it held that the Forest Service had "failed to establish the minimum amount of water needed to ensure that the purposes of the reserva-

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[95] *Id.* at 600-01.

[96] One alternative would be to determine water rights in accordance with "reasonably foreseeable needs." *See id.* at 600-01 (proposal by state of Arizona). This approach has been defended as being less disruptive of the expectations of other water users than the irrigable acreage approach. Campbell, *supra* note 88, at 1313-14.

[97] *See* Campbell, *supra* note 88, at 1312.

[98] United States v. Jesse, 744 P.2d 491, 503 n.11 (Colo. 1987) (emphasis added).

[99] *See* Water Division No. 1, *supra* note 55, at 24-30.

[100] *Id.* at 25.

[101] *Id.* at 29. Measurements would have to be taken at each quantification point over a number of years. Approximately 12-15 years of such measurements would be required before the mean annual flow could be established to an accuracy level of plus or minus 10%. *Id.*

[102] *Id.* at 26.

tion of the national forests in Water Division No. 1 will not be entirely defeated."[103]

The benefits to be expected from quantification of federal water rights are not so great that *any* estimate of the amount of water needed for primary forest purposes will suffice. The reserved rights doctrine requires that the right extend only to "that amount of water necessary to fulfill the purpose of the reservation, no more."[104] A high-end estimate, chosen from among widely varying results produced by different methods of calculation,[105] probably does not meet this requirement.

V. CONCLUSION

The Forest Service's apparent failure to provide sufficient data to allow the Division 1 water court to quantify its reserved rights presents an interesting dilemma. Some definite, but currently unascertainable, quantity of instream flow is necessary to fulfill national forest purposes. This necessity gives rise to reserved water rights; the existence of administrative controls does not abrogate such rights. The question, then, is what can be done in the face of the infeasibility of determining the scope of these rights in the context of a general adjudication.

The Forest Service could continue its effort to persuade the courts that the data currently available are sufficient for quantification. If the argument were ultimately to succeed, other water users would have the benefit of certainty but would have to contend with senior claims throughout the area in question. If, on the other hand, the argument were consistently rejected, the Service might find it financially impractical to spend a great deal of time and money on additional studies.

A second alternative would be for the Forest Service to abandon its claims and seek to protect instream flows through other means. If so, other water users' existing rights would not be affected. New appropriations within the national forests would confront the issue of instream flow requirements as part of the administrative permit process.

[103] *Id.* at 32. The court conceded that "channel maintenance is necessary to effectuate a purpose of the national forests." *Id.* at 20. It denied the applications on the basis of its findings that, first, administrative controls were sufficient, and, second, even if they were not, no allocation of water could be made when the minimum amount of water needed had not been proved to the court's satisfaction. *Id.* at 11-13, 32.

[104] Cappaert v. United States, 426 U.S. 128, 141 (1976).

[105] *See* Water Division No. 1, *supra* note 55, at 25.

A final alternative would be for the water court to retain continuing jurisdiction for purposes of deciding reserved rights claims in future. The Forest Service could use a claim of reserved rights as a last resort in particular cases where administrative controls proved insufficient and actual harm was demonstrable. Evidence that actual harm was imminent would likely be more persuasive to a court than abstract calculations as to minimum amounts of flow. Ideally, such evidence would be presented in time to forestall any serious effects.

The ongoing possibility of new claims by the Forest Service would leave other water users with some degree of uncertainty. Yet successful claims of this type would likely be few and far between;[106] hence, the effect on other water users would be limited. Such users might well prefer the lingering threat of a senior claim in a small number of cases to the reality of generously calculated instream flow rights throughout the area in question.

The possibility of individualized showings of actual necessity would provide a compromise between two positions that appear unjustified: an outright rejection of rights to instream flows and a quantification of rights based on currently available data. The Forest Service would retain reserved rights in its toolbox, ensuring that favorable conditions of water flows would not be neglected.

106 *See, e.g., id.* at 24 ("If actual rather than theoretical necessity is the test, then necessity has not been shown in this case.").