

WILL THERE BE WATER FOR THE NATIONAL FORESTS?

DAVID M. GILLILAN

[The Forest Service] is literally asking to extort water from the municipalities for renewing the permits This is clearly the greatest endangerment of Colorado water rights the state has ever faced

—Senator Hank Brown¹

This is a prime example of the war on the West, where they come to a dry, arid state and try to steal the water.

—Senator Hank Brown²

Water uses continue to be a welcome and legitimate use of the people's lands—just as they have been for decades. There is no conspiracy, strategy, or plan to do other than allow these uses to continue.

—Regional Forester Elizabeth Estill³

INTRODUCTION

Water resources, no less than trees, have been central to the national forests since the first “forest reserves” were established in 1891.⁴ The desire to protect high-elevation mountain watersheds played a leading role in the effort to create the national forest system, and the national forests have long been home to

1. Brown: *Forest Service Trying to 'Extort' Water, Boulder One of Several Cities Involved*, DAILY CAMERA (Boulder, Colo.), Jan. 2, 1993, at 6A.

2. Tom Kenworthy, *Administration Resisting 'Radical Change' in Water Rights Sought for West*, WASH. POST, Mar. 6, 1996, at A3.

3. Elizabeth Estill, U.S. Dep't of Agric., Forest Service, Regional Forester, Rocky Mountain Region, Summary of Statement Before the Senate Committee on Agric., Natural Resources, and Energy, Colo. State Legislature 1 (April 27, 1994) [hereinafter Statement of Elizabeth Estill 1994] (on file with author).

4. See, e.g., SAMUEL TRASK DANA & SALLY K. FAIRFAX, FOREST AND RANGE POLICY 41 (2d ed. 1980) (“Water has been at the heart of national concern about forest destruction from the very beginning of the conservation and preservation movement.”). The first forest reserves were established by the 1891 Creative Act, Act of Mar. 3, 1891, ch. 561, 26 Stat. 1095, 1103 (codified as amended at 16 U.S.C. § 471 (1976)), repealed by 90 Stat. 2792 (1976). “Forest reserves” were renamed “national forests” in 1907. See Act of Mar. 4, 1907, ch. 2907, 34 Stat. 1256, 1269.

extensive water developments such as dams, reservoirs, pipelines, and canals that store and deliver water supplies to cities, farms, and industry outside national forest boundaries. Waters flowing through the national forests provide habitat for fish and other aquatic species, create and sustain streamside habitat of importance to a variety of other terrestrial and avian species, support numerous recreational uses of the national forests, and are an integral part of the national forest environment for national forest visitors.

Water resources have also been at the heart of a great many controversies over national forest uses and policies. One of the latest controversies surrounds efforts by the Forest Service, the federal agency within the United States Department of Agriculture which manages the national forests, to write environmentally-protective conditions into the terms of water use permits that water developers must hold in order to own or operate water projects within the national forests.⁵ The writing of these conditions into water use permits is but one of several methods that the Forest Service has attempted to use to protect water-dependent resources and uses of the national forests. But these methods have frequently been opposed by other water users, and often by the states. Consequently, limitations have been placed on the methods used by the Forest Service to secure water flows within national forests. Thus the basic question has been raised: will the Forest Service be able to secure the water flows necessary to sustain statutorily mandated purposes, agency management goals, and current and future uses of the national forests?

The national forest system managed by the Forest Service now encompasses over 191 million acres of the federal public lands.⁶ This comment will focus on the water uses and policies of the national forests located in the eleven westernmost contiguous states⁷ and Alaska, which together comprise over eighty percent

5. This controversy is the subject of the quotations accompanying *supra* notes 1-3.

6. See FOREST SERVICE, U.S. DEPT OF AGRIC., LAND AREAS OF THE NATIONAL FOREST SYSTEM 1 tbl.1 (1994) [hereinafter LAND AREAS OF THE NATIONAL FOREST SYSTEM]. The 191 million acre total includes national forests, national grasslands, purchase units, land utilization projects, research and experimental areas, and miscellaneous other areas. See *id.* For simplicity, these lands will hereinafter be referred to as "national forests."

7. The eleven contiguous western states are Arizona, California, Colorado,

of the national forest system.⁸ Part I sets forth the statutory purposes of the national forests, Forest Service management goals, and the water needs associated with important current and future uses of the national forests. Part II delineates the principal methods potentially available to the Forest Service to satisfy these water needs—federal reserved water rights, water rights under state law, and administrative actions under the agency's land management authority—and the severe limitations that have been placed on the use of these methods. Part III describes the implications of these limitations for the protection of national forest purposes and uses. The comment concludes that without significant, widespread changes in existing laws that currently restrict the ability of the Forest Service to achieve national forest purposes, it will be necessary for the Forest Service to not only continue exercising the full extent of its land management authority, but also to seek an expansion of federal law that will provide the agency with an additional means of protecting national forest water resources.

I. PURPOSES AND WATER NEEDS OF THE NATIONAL FORESTS

A. *Purposes of the National Forests*

In order to answer the question of whether the Forest Service will be able to secure the water flows necessary to protect national forest purposes and uses, those purposes and uses must be clearly understood. The original motivation to withdraw forested regions of the nation's western public lands from the public domain was the growing awareness of the need to preserve the integrity of high-elevation forested watersheds and conserve disappearing timber resources.⁹ These motivations were reflected

Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming.

8. See LAND AREAS OF THE NATIONAL FOREST SYSTEM, *supra* note 6, at 15-38 tbl.4 (showing national forest system acreage for Alaska and the eleven westernmost contiguous states that totals 154 million acres, and a total system acreage of 191 million acres).

9. For a history of the origins of the national forest system, see CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS 202-04 (1987) (originally published with same title and pagination at 64 OR. L. REV. 1 (1985)); 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, 536-44 (1979).

in the Organic Administration Act of 1897 ("Organic Act"),¹⁰ which first set forth the purposes of the national forests and the management authority of the Forest Service. The Organic Act states that "[n]o 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"¹¹ The emphasis placed on watershed preservation recognized the fact that most of the water flowing in rivers and streams of the western states originates in the high-elevation forests of the federal lands.¹²

Although the Organic Act clearly established watershed protection and timber production as principal purposes of the national forests, from their inception the national forests have been used for other purposes as well.¹³ For example, development of water resources was explicitly authorized by the Organic Act, which stated: "All waters within the boundaries of national forests may be used for domestic, mining, milling, or irrigation purposes, under the laws of the State wherein such national forests are situated, or under the laws of the United States and the rules and regulations established thereunder."¹⁴ Other early development uses of the national forests included grazing and mining.¹⁵

10. Act of June 4, 1897, ch. 2, 30 Stat. 34 (codified as amended at 16 U.S.C. §§ 473-482, 551 (1994)).

11. 16 U.S.C. § 475 (1994).

12. See *United States v. New Mexico*, 438 U.S. 696, 699 n.3 (1978) ("More than 60% of the average annual water yield in the 11 Western States is from federal reservations."); U.S. PUBLIC LAND LAW REVIEW COMM'N, *ONE THIRD OF THE NATION'S LAND: A REPORT TO THE PRESIDENT AND TO THE CONGRESS BY THE PUBLIC LAND LAW REVIEW COMMISSION 140* (1970) (estimating that 61% of the natural runoff in the eleven conterminous western states originates on federal lands, with runoff from the national forests accounting for 88% of that amount).

13. See GEORGE CAMERON COGGINS ET AL., *FEDERAL PUBLIC LAND AND RESOURCES LAW* 622 (3d ed. 1993) ("[T]he Forest Service in fact has managed its lands on a multiple use basis from its inception.").

14. 16 U.S.C. § 481 (1994).

15. See DANA & FAIRFAX, *supra* note 4, at 87 ("[T]he earliest, most numerous settlers of the West and users of the national forests were livestock operators."); WILKINSON & ANDERSON, *supra* note 9, at 93-96 (describing the history of grazing on public lands even before the forest reserves were first created); COGGINS ET AL., *supra* note 13, at 622 (referring to ranchers, as well as timber operators and reclamation interests, as traditional users of the national forests). As for mining, the 1897 Organic Act states that "[n]or shall anything [herein] prohibit any person from entering upon such national forests for all proper and lawful purposes, including that

It is also likely that from the beginning lands within the national forests have been used for a variety of recreational, wilderness, and wildlife-related purposes.¹⁶ Naturalist John Muir wrote in 1898 of the "virgin" nature and "thousands of God's wild blessings" of the forest reserves,¹⁷ and the turn of the twentieth century saw a "surge of interest among Americans in primitive environments for purposes of recreation" during which time "[w]ilderness camping and mountain climbing became an important part of the widespread 'outdoor movement.'"¹⁸ The demand for recreational opportunities increased markedly after the widespread availability of automobiles made the national forests accessible to larger numbers of people.¹⁹

Commentators have noted that "the Forest Service from its inception has regarded wildlife as one of the major forest resources to be managed and protected like timber or watershed resources."²⁰ In the 1920s the Forest Service began managing wildlife habitat not only to provide game for hunters, but to provide aesthetic benefits for forest visitors.²¹ Forest Service employee Aldo Leopold, better known as a wildlife biologist and naturalist,²² was a leading advocate of recreational

of prospecting, locating, and developing the mineral resources thereof." 16 U.S.C. § 478 (1994).

16. See, e.g., MICHAEL FROME, *THE FOREST SERVICE* 141 (2d ed. 1984) ("Recreation use of national forests began long before the areas were established as such."); *id.* at 143 ("National forests are endowed with some of the greatest and most varied recreational opportunities on earth.").

17. RODERICK NASH, *WILDERNESS AND THE AMERICAN MIND* 138 (1967) (quoting John Muir, *The Wild Parks and Forest Reservations of the West*, *ATLANTIC MONTHLY*, Jan. 1898, at 15.).

18. NASH, *supra* note 17, at 153; see also HAROLD K. STEEN, *THE U.S. FOREST SERVICE: A HISTORY* 156 (1976) (describing Forest Service attention in the 1920s to summer homes, resorts, and family camping, as well as "the ever-increasing automotive onslaught"); WILKINSON & ANDERSON, *supra* note 9, at 312-24 (describing the evolution of recreation policy in the national forests).

19. See Scott W. Hardt, *Federal Land Management in the Twenty-First Century: From Wise Use to Wise Stewardship*, 18 *HARV. ENVTL. L. REV.* 345, 359 (1994) (citing DONALD W. BALDWIN, *THE QUIET REVOLUTION: GRASS ROOTS OF TODAY'S WILDERNESS PRESERVATION MOVEMENT* 45-48 (1972)).

20. COGGINS ET AL., *supra* note 13, at 859-60; see also MARION CLAWSON, *FORESTS FOR WHOM AND FOR WHAT?* 32 (1975) ("All forests serve as the home for wildlife. Most attention has focused upon mammals, especially the larger ones, and upon birds, but forests may be the home of various reptiles, insects, and other forms of life . . .").

21. See WILKINSON & ANDERSON, *supra* note 9, at 282.

22. See, e.g., ALDO LEOPOLD, *A SAND COUNTY ALMANAC* (1949).

and wildlife uses of the national forests early in the twentieth century.²³

The Forest Service commissioned a study of the recreational potential of the national forests in 1917.²⁴ That report recommended that sightseeing, camping, and hiking be given equal consideration with other criteria in managing the national forests.²⁵ Perhaps spurred in part by creation of the National Park Service in 1916, the Forest Service began to give "unprecedented publicity to scenery and outdoor recreation as major 'products' of the National Forests."²⁶ A 1933 report recognized recreation as "one of the major resources provided by the national forests."²⁷

The wilderness value of the national forests began receiving similar attention at about the same time. Popular support for wilderness preservation was so strong in the early twentieth century that Roderick Nash, an historian of the wilderness movement, referred to the wilderness preservation movement as "a national cult."²⁸ The appeal of wilderness may have been summed up by John Muir, who wrote that "thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life."²⁹

23. See generally NASH, *supra* note 17, at 182-91.

24. See *id.* at 184-85.

25. See *id.* at 185 & n.12 (citing FRANK A. WAUGH, RECREATION USES ON THE NATIONAL FORESTS 3, 10-11, 27-28 (1918)).

26. NASH, *supra* note 17, at 184-85. Nash implied that the Forest Service was jealous of the popularity of the new Park Service, and stated that the Forest Service may have also been concerned that some of the land in the existing national forests would be transferred to the new parks agency. See *id.* at 184; STEEN, *supra* note 18, at 158 (describing tension in the 1920s between the Park Service and Forest Service over recreation).

27. Hardt, *supra* note 19, at 360-61 & n.95 (referring to and citing A NATIONAL PLAN FOR AMERICAN FORESTRY: THE REPORT OF THE FOREST SERVICE OF THE AGRICULTURAL DEPARTMENT ON THE FOREST PROBLEM OF THE UNITED STATES, S. DOC. NO. 12 (1st Sess. 1933) (also called the Copeland Report)).

28. NASH, *supra* note 17, at 139-40.

29. *Id.* at 140 (quoting John Muir, *The Wild Parks and Forest Reservations of the West*, ATLANTIC MONTHLY, Jan. 1898, at 15). Another commentator expressed similar sentiments:

Public parks and forests . . . may be said to provide an antidote to the physical and psychological pressures of urban living. Expansive areas like the national forests afford a chance to exercise mind and body in

Preservation of wilderness was officially recognized as a beneficial use of the national forests as early as 1920, when Trappers Lake, located in a national forest in Colorado, was designated as an area to be kept roadless and undeveloped.³⁰ Forest Service regulations implemented in 1939 restricted roads and development on approximately 14 million acres of the national forests.³¹ By that time wildlife and recreation, including wilderness recreation, had become important goals of the agency, even if not given equal priority with commodity development purposes.³²

Congress explicitly recognized the variety of uses being made of the national forests, and the increased emphasis on recreation and wildlife, in the Multiple-Use Sustained-Yield Act of 1960 ("MUSYA").³³ MUSYA stated:

It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. The purposes of [this Act] are declared to be supplemental to, but not in derogation of, the purposes for which the national forests were established as set forth in [the Organic Act].³⁴

Sixteen years later Congress reemphasized, in the National Forest Management Act of 1976 ("NFMA"),³⁵ that the national

harmony with the great outdoors. Keeping things simple and direct, as national forests generally do, enables individuals to understand the mechanism of the land as a basis for desiring and supporting protection of the nation's resources.

FROME, *supra* note 16, at 143. Frome also stated that "[n]ational forests and other public lands in a sense maintain the opportunity for successive generations to learn firsthand the conditions that shaped the culture of the nation. Contacts of this type instill the vital spirit of pride in being an American." *Id.* at 144.

30. *See id.* at 186.

31. *See id.* at 206.

32. *See* Hardt, *supra* note 19, at 362; DANA & FAIRFAX, *supra* note 4, at 193 ("This intense recreational use occurs in spite of considerable agency bias against it. Although many people within the agency have long struggled to secure recognition of and appropriations for recreation use of the forests, the program was a residual one.").

33. 16 U.S.C. §§ 528-531 (1994).

34. *Id.* § 528.

35. Pub. L. No. 94-588, 90 Stat. 2949 (codified at 16 U.S.C. §§ 1600, 1602, 1604, 1606, 1608-1614 (1994) and other scattered sections of 16 U.S.C.).

forests were to be managed for a broad range of uses. Senator Hubert Humphrey, the Act's primary sponsor, stated:

The days have ended when the forest may be viewed only as trees and trees viewed only as timber. The soil and the water, the grasses and the shrubs, the fish and the wildlife, and the beauty that is the forest must become integral parts of resource managers' thinking and actions.³⁶

Recreation, though it did not appear as a statutory purpose of the national forests until the 1960 MUSYA, has become a primary, even dominant, use of many national forests.³⁷ The importance of recreation stems not so much from its statutory recognition in MUSYA and NFMA as from the actual use of the national forests, and the economic impact of that use. The total number of visits to national forest system lands for recreational activities such as camping, hiking, picnicking, swimming, fishing, hunting, wildlife viewing, photography, wilderness use, and boating was over 729 million in 1993.³⁸ The Forest Service recorded 263 million "visitor-days"³⁹ of recreational use in the national forests in 1990, reflecting a steady and dramatic increase from less than 50 million visitor-days in 1950.⁴⁰ The Forest

36. WILKINSON & ANDERSON, *supra* note 9, at 70 (citing 122 CONG. REC. 5618-19 (1976)).

37. See DANA & FAIRFAX, *supra* note 4, at xiii ("[I]t is clear that in the last 30 years there has been a gradual change in values. The center around which the debate turns has clearly shifted from a dominating concern for commodity production and economic development toward increasing attention to preservation and amenity values.").

38. See FOREST SERVICE, U.S. DEP'T OF AGRIC., THE FOREST SERVICE PROGRAM FOR FOREST AND RANGELAND RESOURCES: A LONG-TERM STRATEGIC PLAN: DRAFT 1995 RPA PROGRAM, at III-32 (1995) [hereinafter FOREST SERVICE RPA PROGRAM]; see also DANA & FAIRFAX, *supra* note 4, at 193 (noting that "[t]he national forests have always constituted a much larger component of federal recreation opportunities than have the parks in terms of user days").

39. See LAWRENCE J. MACDONNELL, DISCUSSION PAPER: THE CHANGING ECONOMICS OF THE PUBLIC LANDS 24 tbl.3 (Nat. Resources Law Ctr., Univ. of Colo. Sch. of Law, W. Lands Rep. No. 2, 1993) (defining "visitor-day" as a measure of recreation use based on a standard unit of 12 hours of visitation). Note that because visits may be for periods of time less than 12 hours, it is possible, as here, for there to be more total "visits" than "visitor-days."

40. See *id.* at 24 tbl.3, 25 tbl.4 (summarizing data from federal agencies' annual reports); see also DANA & FAIRFAX, *supra* note 4, at 190 ("Demand for recreation facilities in every category expanded dramatically at the end of the Second World War and continued to grow at an increasing rate for nearly two decades."); *id.* at 180 ("By far the most obvious of the new concerns in resource management was the

Service projects that population growth and changing preferences will increase the number of recreational visits to the national forests by sixty-four percent by the year 2045.⁴¹

Data on the economic impact of recreation are even more dramatic. The Forest Service has estimated that all of its programs combined contributed a total of approximately \$123.8 billion to the nation's gross domestic product ("GDP") in 1993 and will total \$130.7 billion in the year 2000;⁴² recreation (73.8%) is expected to account for the bulk of that amount.⁴³ Wildlife and fish will account for an additional 9.9%, while just 11.2% of the total will be accounted for by the "traditional" three uses of minerals (7.8%), timber (2.7%), and range (0.7%) *combined*.⁴⁴ The impact of recreation on employment⁴⁵ is proportionally similar to the impacts of recreation on GDP.⁴⁶ Forest Service projections indicate that the percentage contribution of recreation to both GDP and employment will increase slightly over the next fifty years.⁴⁷ Though recreation is but one of several purposes of the national forests, and was not made a statutory purpose of the national forests until 1960, as a practical matter the dominance of recreational uses of the national forests necessitates the elevation of recreation to a position of prominence in national forest policy and management.

emphasis given to recreation in the 1950s.").

41. See FOREST SERVICE RPA PROGRAM, *supra* note 38.

42. See *id.* at IV-1. GDP is the value of all domestically produced goods and services. The Forest Service determines the impact of its programs on GDP through use of IMPLAN, an input-output analytical program which tracks money flows and applies appropriate multipliers to calculate both the direct and indirect or secondary economic impacts of a given activity. For example, in calculating the effect of recreational uses in the national forests on GDP, money spent by recreationists on travel costs and purchases of equipment, lodging, food, guides, and other goods and services associated with the recreational use are added directly, while the secondary contributions to GDP resulting from purchases made by the suppliers of the goods and services are captured through use of the multipliers. For a description of the use of IMPLAN to assess the economic effects of recreation on local economies, see H. Ken Cordell et al., *Economic Effects of River Recreation on Local Economies*, 26 WATER RESOURCES BULL. 53 (1990).

43. See FOREST SERVICE RPA PROGRAM, *supra* note 38, at IV-1, IV-2 fig.IV.1.

44. See *id.*

45. The impact of recreation on employment comes not only from those hired directly by recreationists, but also from those who are hired by suppliers of goods and services to recreationists.

46. See FOREST SERVICE RPA PROGRAM, *supra* note 38, at IV-2, IV-3 fig.IV.2.

47. See *id.* at IV-1 to IV-3 & figs.IV.1, IV.2.

B. Forest Service Management Goals—Ecosystem Management

Roderick Nash noted that the “new” ideas concerning the recreational and environmental values of the national forests in the early 1900s were a challenge to the “traditional utilitarian objectives” of foresters.⁴⁸ Clearly, the objectives of the agency designated to manage the national forests will be an important factor in determining the ways in which the national forests are in fact managed. For that reason, it is important to note that “ecosystem management” has become the official management policy of the Forest Service.⁴⁹

The principles of ecosystem management appeared initially to be quite broad. In the 1992 Forest Service memorandum which established ecosystem management as the policy of the Forest Service, then Forest Service Chief Dale Robertson essentially defined ecosystem management to mean that “an ecological approach will be used to achieve the multiple-use management of the National Forests and Grasslands. It means that we must blend the needs of people and environmental values in such a way that the National Forests and Grasslands represent diverse, healthy, productive, and sustainable ecosystems.”⁵⁰ Robertson further identified four basic principles of ecosystem management: (1) take care of the land; (2) take care of the people and their cultural diversity; (3) use resources wisely and efficiently to improve economic prosperity; and (4) strive for balance, equity, and harmony between people and the land.⁵¹

It does seem clear that the adoption of ecosystem principles is intended, at the least, to recognize and enhance environmental values of the national forests. A 1993 memorandum from the Forest Service’s Acting Director of Ecosystem Management states that “[e]cosystem management seeks to sustain not only resource uses and products, but also the health, beauty, adaptability, and long term productivity of ecological systems.”⁵² A 1994 publica-

48. NASH, *supra* note 17, at 184.

49. See Memorandum from F. Dale Robertson, Chief, U.S. Forest Service, to Regional Foresters and Station Directors (June 4, 1992) (on file with author).

50. *Id.* at 1.

51. See *id.* at 2.

52. Memorandum from Ann Bartuska, Acting Director, Ecosystem Management, Forest Service, to Regional Foresters, Station Directors, and WO

tion states that "protecting biological diversity" means that the Forest Service will "care for the national forests and grasslands in ways that sustain populations of all native plants and animals; provide habitat for healthy populations of game animals and fish for recreation, subsistence, and commercial use; and protect threatened, endangered, and sensitive species."⁵³ A 1995 publication of the Forest Service states that ecosystem management means protecting "ecosystem function," which "includes protecting soils, air, and water," and "biological diversity."⁵⁴

These principles of ecosystem management are too new to have achieved a more concrete definition through application, therefore it is not yet clear how the adoption of ecosystem management principles will affect management of the national forests.⁵⁵ But whatever the precise contours that ecosystem management eventually achieves, this philosophy will guide Forest Service management in the immediate future. As Dale Robertson stated, "[e]cological management with a higher sensitivity to all of the environmental values of the National Forests is the next logical step in our mission of caring for the land and serving people."⁵⁶ The Forest Service's new emphasis on protecting biotic and other environmental components of natural systems is evidence that the Forest Service is responding to the directives of Congress, as spelled out in MUSYA and NFMA, and the desires of the public, as evidenced by uses being made of the national forests, to move beyond the mere securing of favorable conditions of water flows and furnishing of continuous supplies of timber called for in the 1897 Organic Act.

[Washington Office] Staff Directors 7 (Aug. 13, 1993) (on file with author).

53. FOREST SERVICE, U.S. DEPT OF AGRIC., A NATIONAL FRAMEWORK—ECOSYSTEM MANAGEMENT (1994), cited in DAVID W. CRUMPACKER, CONSERVATION BIOLOGY & U.S. FOREST SERVICE VIEWS OF ECOSYSTEM MANAGEMENT AND WHAT THEY IMPLY ABOUT POLICIES NEEDED TO ACHIEVE SUSTAINABILITY OF BIODIVERSITY 9, 10 n.24 (Nat. Resources Law Ctr., Univ. of Colo. Sch. of Law Pub. Land Pol'y Discussion Papers Series No. 3, 1996).

54. FOREST SERVICE RPA PROGRAM, *supra* note 38, at III-3.

55. For a useful overview of what ecosystem management might entail for the public lands, see SARAH BATES, DISCUSSION PAPER: MANAGING FOR ECOSYSTEMS ON THE PUBLIC LANDS (Nat. Resources Law Ctr., Univ. of Colo. Sch. of Law W. Lands Rep. No. 4, 1993). The Forest Service's ecosystem management policy has not been uniformly embraced. For a critical review of the policy, see Roger A. Sedjo, *Ecosystem Management: An Uncharted Path for Public Forests*, RESOURCES, Fall 1995, at 10.

56. Memorandum from F. Dale Robertson, *supra* note 49, at 3.

C. *Water Needs of the National Forests*

1. Introduction

Having described the purposes and uses of the national forests, it still must be determined how these purposes and uses translate into water needs. In fact, all of the national forest purposes and uses described above⁵⁷ have implications for the use of water in the national forests.

Before proceeding further, it is useful to make distinctions between different kinds of water uses. First, there is the distinction between water uses for which the Forest Service is responsible for obtaining water and those uses for which private parties are responsible for obtaining water.⁵⁸ In general, the responsibility for meeting the water needs associated with private economic activities and developments in the national forests, such as mining, grazing, and water projects that deliver water to users such as cities, farms, and industry outside national forest boundaries, belongs to individual developers rather than to the Forest Service, and must be obtained under state water allocation laws.⁵⁹

By contrast, the Forest Service is responsible for obtaining the water to meet the needs of the national forests, including water needed to provide fish and wildlife habitat, maintain the viability of stream channels, and supply recreational opportunities to the public. These water needs, and the Forest Service's efforts to obtain water under both state and federal law to meet these needs, are the focus of this comment.⁶⁰ The interaction between national forest water needs within the boundaries of the national forests, and private water needs occurring sometimes within, but more frequently outside national forest boundaries, underlies much of the conflict addressed in this comment.

57. See *supra* Part I.A.

58. "Obtaining" water refers to the necessity of obtaining a legally recognized right or privilege to the use of a specific quantity of water. Water rights and other legally-recognized methods of obtaining water are discussed in more detail *infra* Part II.

59. See, e.g., *United States v. New Mexico*, 438 U.S. 696, 716 (1978) (stockwatering rights in the national forests must be allocated under state law to individual stockwaterers).

60. Public water uses in the national forests are described *infra* Part I.C.2; the variety of methods the Forest Service has employed to obtain legally recognized rights or privileges to use water are described *infra* Part II.

A second useful distinction is that between offstream consumptive water uses and instream nonconsumptive uses. Offstream uses of water require the diversion of water from natural watercourses, and, as the name implies, take place outside of the stream channel. Prominent examples include water used by farms, cities, and industry. Most offstream water uses are at least partially consumptive, which means that at least part of the water is evaporated or transpired to the atmosphere as a consequence of its use, so that the amount of water remaining in the stream after use is less than the amount of water in the stream prior to the use.

By contrast, instream uses, as the name implies, take place within stream channels. Most instream uses, such as the provision of aquatic habitat, swimming, and boating, are nonconsumptive, which means that they do not reduce the total volume of water flowing in the river or stream.⁶¹ The amount of water remaining in the stream after use is the same as the amount of water in the stream prior to use.⁶² Conflicts over water in the national forests largely involve conflicts between public, nonconsumptive, instream uses on the one hand and private, consumptive, offstream uses on the other.⁶³

Consumptive water needs of the national forests are generally quite limited.⁶⁴ The Forest Service needs water for the domestic needs of Forest Service personnel and visitors, and for

61. One exception is the water taken from natural watercourses by the roots of trees and plants alongside or in the watercourse, and subsequently transpired to the atmosphere.

62. Water flowing in streams is subject to some evaporation from the water surface, so in reality the amount of water flowing in streams below these instream uses will be less than that above the uses. However, the amount of water evaporated is negligible relative to the total amount of water flowing in streams, and in any case is not "caused" by the instream uses.

63. For extended discussions of the issues and conflicts related to instream and offstream water uses in the West, see generally DAVID M. GILLILAN & THOMAS C. BROWN, *INSTREAM FLOW PROTECTION: SEEKING A BALANCE IN WESTERN WATER USE* (1997); *INSTREAM FLOW PROTECTION IN THE WEST* (Lawrence M. MacDonnell & Teresa A. Rice eds., 2d ed. 1993).

64. Most consumptive use of water running through the national forests takes place outside national forest boundaries. See Teresa Rice, *Beyond Reserved Rights: Water Resource Protection for the Public Lands*, 28 IDAHO L. REV. 715, 719 (1992). "Little consumptive water use occurs on public lands, but many public and private appropriators including cities, industries, farmers, and ranchers have depended on water diversions from national forest, and to some extent, BLM lands." *Id.* "This is particularly true in the national forests, because most headwaters are located inside the boundaries of national forests." *Id.* at 719 n.18.

firefighting and miscellaneous administrative purposes. Typically, these uses involve fairly small quantities of water, particularly in relation to the sizable amounts of water originating on national forest lands. The uses are, however, extremely important to the accomplishment of national forest purposes and goals.

The more sizable water needs of the national forests, and the ones generating the most controversy, are almost entirely for in-stream, nonconsumptive uses. Though none of this water is actually "consumed" within the forest, and thus continues to be available for other uses after having left national forest boundaries, it is important to retain at least minimal levels of streamflow within the national forests to sustain a variety of resources. Among the important instream water uses necessary to sustain national forest uses are fish and wildlife habitat, recreation, aesthetics, and the maintenance of stream channels capable of delivering favorable conditions of water flows downstream.⁶⁵

2. Specific Water Needs of the National Forests

Among the important uses of water within the national forest is the creation and sustenance of habitat for fish and wildlife. The water needs of fish are mostly obvious; fish need water as a medium in which to take in oxygen, eat, migrate, spawn, and seek cover from predators and adverse environmental conditions—in short, to exist.⁶⁶ Dry stream channels do not provide good fish habitat. In general, greater water volumes create larger areas of fish habitat. However, the timing and duration of water flows are also important,⁶⁷ and the specific flow needs of fish vary widely among species and life stages. The importance of preserving habitat for fish and other aquatic organisms is evidenced by the Forest Service's plans to "improve

65. For a more extensive description of these and other instream uses than found here, as well as a description of methods used to quantify the amount of water needed for these uses, see GILLILAN & BROWN, *supra* note 63, at ch.3.

66. For further discussion of the streamflow needs of fish, see generally MICHAEL D. MARCUS ET AL., U.S. DEPT OF AGRIC., SALMONID-HABITAT RELATIONSHIPS IN THE WESTERN UNITED STATES: A REVIEW AND INDEXED BIBLIOGRAPHY GENERAL TECHNICAL REPORT RM-188 (1990).

67. The timing, duration, and volume of water flows are referred to collectively as the "flow regime."

the condition of aquatic systems in an aggressive way through the year 2045."⁶⁸

Terrestrial and avian wildlife also need water to support basic life processes, but the consumptive needs of wildlife relative to the amount of water flowing through the national forests are quite minimal.⁶⁹ The more important wildlife-related water need is for flow regimes that will create and maintain suitable habitat, both within and near stream channels. Streamflows play a major role in shaping sediment deposits and vegetation patterns in river beds, islands, and floodplains, all of which have great importance as habitat for a variety of species. The importance of riparian areas,⁷⁰ in particular, as habitat for wildlife species from insects to amphibians, reptiles, mammals, and birds is increasingly being recognized. The Forest Service has found that "[a]quatic ecosystems and surrounding riparian areas are centers for biodiversity, and as much as eighty percent of the sensitive plant and animal species on national forests depend on riparian areas to meet their needs."⁷¹ The Forest Service recently stated that "[i]n the future, aquatic and riparian ecosystems will receive increased emphasis in Forest Service programs,"⁷² and the agency has plans to designate some areas of the national forests as Riparian Conservation Areas.⁷³

Recreation has become the dominant use of many national forests⁷⁴ and generates a variety of water needs.⁷⁵ As a broad

68. FOREST SERVICE RPA PROGRAM, *supra* note 38, at III-9.

69. For a more detailed discussion of the relationship between streamflows and wildlife, see GILLILAN & BROWN, *supra* note 63, at 51-55.

70. "Riparian" is an adjective referring to anything on, or related to, the banks of a body of water. "Riparian areas" are lands in the transition zone between aquatic and terrestrial habitats; areas which are influenced by their proximity to water but which are not actually aquatic. Prominent, readily identifiable examples of riparian areas can be found anywhere in the West where trees and other vegetation near and along rivers and streams exist in densities that provide a noticeable contrast to the surrounding landscape.

71. FOREST SERVICE RPA PROGRAM, *supra* note 38, at III-3.

72. *Id.*

73. *See id.* at III-11.

74. *See supra* Part I.A.

75. For an extended discussion of the relationship between streamflow and recreation, see generally BO SHELBY ET AL., U.S. DEP'T OF AGRIC., STREAMFLOW AND RECREATION GENERAL TECHNICAL REPORT RM-209, (1992); DOUG WHITTAKER ET AL., U.S. DEP'T OF THE INT., INSTREAM FLOWS FOR RECREATION: A HANDBOOK ON CONCEPTS AND RESEARCH METHODS (1993); Thomas C. Brown et al., *Assessing the Direct Effects of Streamflow on Recreation: A Literature Review*, 27 WATER RESOURCES BULL. 979 (1991).

classification, water needs for recreation can be separated into "streamflow-dependent" recreation and "streamflow-enhanced" recreation.⁷⁶ Streamflow-dependent forms of recreation cannot occur without water. Primary examples of streamflow-dependent recreation include fishing, swimming, and boating. The quality, safety, and excitement of these recreational experiences are strongly affected by water depth and velocity. Water needs vary widely depending on the exact form of recreation, skill level, and type of experience desired. For example, the flow rate needed to provide a thrilling whitewater rafting experience is typically much greater than that needed to provide a pleasant and safe swimming or wading experience, which in turn may be more than is needed to sustain a minimal population of fish.

Streamflow-enhanced forms of recreation are those that are enriched by the presence of flowing water. Primary examples include hiking, camping, picnicking, wildlife observation, and photography. Wildlife observation is often directly affected by the presence of flowing water because flowing water creates good wildlife habitat. Other activities are affected indirectly, but importantly, through the aesthetic contributions of flowing water.⁷⁷ Riverine aesthetics affect all who recreate in or near running water and all who view riverine landscapes from afar. There seems little doubt that flowing streams play an important role in shaping the experiences of national forest visitors and the environment in which the visitors come to

76. See GILLILAN & BROWN, *supra* note 63, at 56-58.

77. For a discussion of the relationship between streamflow and aesthetics, see generally Thomas C. Brown & Terry C. Daniel, *Landscape Aesthetics of Riparian Environments: Relationship of Flow Quantity to Scenic Quality Along a Wild and Scenic River*, 27 WATER RESOURCES RES. 1787 (1991); Rachel Kaplan, *Down by the Riverside: Informational Factors in Waterscape Preference*, in PROCEEDINGS: RIVER RECREATION MANAGEMENT AND RESEARCH SYMPOSIUM 285 (U.S. Dep't of Agric. Forest Service Gen. Technical Rep. NC-28, 1977); R. Burton Litton, Jr., *Visual Fluctuations in River Landscape Quality*, in PROCEEDINGS: RIVER RECREATION MANAGEMENT AND RESEARCH SYMPOSIUM 46 (U.S. Dep't Agric. Forest Service Gen. Technical Rep. NC-28, 1977). With respect to forest aesthetics in general, one commentator stated that:

Most Americans like to see, and sometimes to visit, forested areas; they like to know that forests exist. Their concern is not merely that the forests exist, but that they be attractive in appearance. . . . This "use" of the forest is in many ways illusive and difficult to measure, yet forest owners and forest managers are ill-advised to take it lightly.

CLAWSON, *supra* note 20, at 31.

recreate.⁷⁸ The importance of aesthetics on the quality of a recreational experience was summed up by one recreationist who stated that without the surrounding streamflow-dependent environment, he "might as well simply float down a gutter or an irrigation ditch."⁷⁹

Finally, streamflow levels must be sufficient to transport sediments in national forest river channels. Sediments are introduced into river channels by a variety of natural and human processes, ranging from normal hillside erosion to erosion greatly accelerated by activities such as road building, agricultural practices, and sand and gravel mining in river beds.⁸⁰ A river is said to be in equilibrium when river flow is just adequate to transport the sediment introduced into the watercourse. When flows are reduced, sediments can accumulate, leading to narrower and shallower stream channels. Streamflow, therefore, plays an important role in keeping river channels free of excess sediment and vegetation, which in turn maintains the capacity of river channels to transport high water flows without excessive flooding.⁸¹ The Forest Service, and others, have invested substan-

78. The impact of running water on one visitor to a mountain stream was eloquently expressed by western author Wallace Stegner:

I gave my heart to the mountains the minute I stood beside this river with its spray in my face and watched it thunder into foam, smooth to green glass over sunken rocks, shatter to foam again. I was fascinated by how it sped by and yet was always there; its roar shook both the earth and me.

When the sun dropped over the rim the shadows chilled sharply; evening lingered until foam on water was ghostly and luminous in the near-dark. Alders caught in the current sawed like things alive, and the noise was louder. It was rare and comforting to waken late and hear the undiminished shouting of the water in the night. And at sunup it was still there, powerful and incessant, with the slant sun tangled in its rainbow spray, the grass blue with wetness, and the air heady as ether and scented with campfire smoke.

WALLACE STEGNER, *THE SOUND OF MOUNTAIN WATER* 42 (1980).

79. Stan Bradshaw, *The River Through the Recreationist Lens*, in *RIPARIAN MANAGEMENT: COMMON THREADS AND SHARED INTERESTS* 43, 43 (U. S. Dep't Agric. Forest Service Gen. Technical Rep. RM-226, 1993).

80. For a comprehensive but readable introduction to the topic of sediment transport and stream dynamics, see generally BURCHARD H. HEEDE, U.S. DEP'T OF AGRIC., *STREAM DYNAMICS: AN OVERVIEW FOR LAND MANAGERS GENERAL TECHNICAL REPORT RM-72* (1992). For a somewhat more technical, but still readable, introduction to these topics, see generally LUNA B. LEOPOLD, *A VIEW OF THE RIVER* (1994); NANCY D. GORDON ET AL., *STREAM HYDROLOGY: AN INTRODUCTION FOR ECOLOGISTS* ch.7 (1992).

81. See Gray F. Reynolds & Warren C. Harper, *Forest Service Land Management Responsibilities and Instream Flow Needs*, in *1989 PROCEEDINGS OF THE WESTERN REGIONAL INSTREAM FLOW CONFERENCE* 30, 31 (Suzanne P. Van

tial resources in the effort to determine optimal flow regimes for transporting sediment and keeping stream channels in good condition.

II. METHODS OF SECURING WATER FOR NATIONAL FOREST PURPOSES AND USES

A. *Introduction and Framework for Evaluation*

All of the water uses described in Part I are threatened when water resource development reduces or eliminates the volume, or alters the timing, of water flows in national forest rivers and streams.⁸² There are, however, a variety of methods the Forest Service has used, or attempted to use, to prevent, eliminate, or mitigate the threats that these developments cause to national forest resources and uses.

The effectiveness of these methods must be evaluated with respect to the three functions they should serve. First, national forest water-dependent resources and uses must be protected from threats arising within the national forests. Second, such resources and uses must also be protected from threats arising outside the boundaries of the national forests. Finally, to the extent that water flows within the forest have already been reduced below the levels necessary to sustain national forest resources and uses, opportunities must be created to increase streamflows to levels at which national forest purposes can be accomplished. The use of these three criteria makes it clear that Forest Service methods vary in their capacity to protect national forest uses and resources.

Gytenbeek ed.) ("The stability of stream channels can be achieved through maintaining sufficient volume and timing of stream flows which will provide for adequate sediment transport, maintenance of streambank stability and proper management of riparian vegetation.").

82. Water is diverted from rivers by physical structures such as low dams that direct some portion of a river's flow into canals or pipelines that then transport the water to some other site of use. Dams built to store water in reservoirs or generate electricity do not reduce the total volume of water that will eventually flow down the stream channel, but do reduce the amount of water flowing in streams, sometimes completely, during periods when dam outlets are closed in order to accumulate water behind the dams.

B. *Federal Reserved Water Rights*

1. Introduction

The federal reserved water rights doctrine is perhaps the most obvious potential source of protection for national forest water resources. The origin of the reserved water rights doctrine is usually said to be the 1908 United States Supreme Court decision in *Winters v. United States*,⁸³ which involved the water resources of an Indian reservation in Montana. The *Winters* Court held that when the federal government established the Fort Belknap Indian Reservation in 1888, the government had at the same time *impliedly* reserved, from waters then unappropriated, an amount of water sufficient to meet the purposes of the reservation.⁸⁴ It was not until the Supreme Court's 1963 decision in *Arizona v. California*⁸⁵ that it became clear that the same doctrine applied to all federal land reservations and not just to Indian reservations. The *Arizona* Court explicitly mentioned national forests, among other federal reservations, as being eligible for federal reserved water rights.⁸⁶

The general principles of the federal reserved water rights doctrine are that: (1) congressional intent to reserve water for a federal reservation should be *inferred* whenever water is necessary to accomplish the purposes for which the reservation has

83. 207 U.S. 564 (1908). Federal reserved water rights are sometimes referred to as *Winters* rights. However, three years before *Winters*, the Supreme Court had suggested the possibility that water rights would be associated with federal lands:

[I]n the absence of specific authority from congress, a state cannot, by its legislation, destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters, so far, at least, as may be necessary for the beneficial uses of government property.

United States v. Rio Grande Dam & Irrigation Co., 174 U.S. 690, 703 (1899).

84. See *Winters*, 207 U.S. at 575.

85. 373 U.S. 546 (1963).

86. See *id.* The Supreme Court ruled:

[T]he principle underlying the reservation of water rights for Indian Reservations was equally applicable to other federal establishments such as National Recreation Areas and *National Forests*. We agree with the conclusions of the [Special Master appointed by the Court to hear the case] that the United States intended to reserve water sufficient for the future requirements of the Lake Mead National Recreation Area, the Havasu Lake National Wildlife Refuge, the Imperial National Wildlife Refuge and the *Gila National Forest*.

Id. at 601 (emphasis added).

been created; (2) federal reserved water rights are created *at the time that lands are reserved*, even if the water is not used until much later, and thus are senior to rights based on uses initiated subsequent to the date of reservation; (3) the amount of water reserved is limited to the minimum amount of water that is unappropriated at the time of the reservation and necessary to fulfill the purposes of the reservation; and (4) federal reserved water rights arise under federal law, and therefore do not need to be perfected under state law.⁸⁷

Federal reserved water rights are one of the most powerful and controversial methods available to secure water for federal purposes. Both the power and the controversy stem from the second principle stated above: that the priority date of a federal reserved right is the date at which the land was first reserved, rather than the date at which the water was first put to use. In the West, where the doctrine of prior appropriation⁸⁸ dominates state water law and where federal land reservations for Indians, national forests, and national parks, among others, often predate other water uses, this principle means that the federal right can take priority over water rights created under state law in the years since a federal reservation was first created, even if the water has never been used on the federal reservation.⁸⁹

87. See generally *Cappaert v. United States*, 426 U.S. 128, 138-42 (1976) (discussing principles of the federal reserved water rights doctrine).

88. The essential feature of the prior appropriation doctrine is that a water right is created by taking ("appropriating") water and putting it to a recognized beneficial use. The right endures so long as the use is maintained, a concept often referred to as "use it or lose it." An appropriative water right has priority over all water rights subsequently created, so that in times of shortage, prior ("senior") appropriators are entitled to the full measure of their water right before subsequent ("junior") appropriators receive any water. This principle is usually summed up as "first in time is first in right." This makes the priority date of a water right all-important in determining who actually gets water when there is not enough water to go around, which is commonly the case in the arid West. For brief summaries of prior appropriation principles, see DAVID H. GETCHES, *WATER LAW IN A NUTSHELL* 6-7, 74-77 (3d ed. 1997); GILLILAN & BROWN, *supra* note 63, at 17-21, 31.

89. See *United States v. New Mexico*, 438 U.S. 696, 705 (1978) ("When . . . a river is fully appropriated, 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."); Rice, *supra* note 64, at 716 ("The priority date of a reserved water rights is the date the reservation was established. All private appropriations after the date of the reservation, which in many parts of the West is all private appropriations, are junior to the reserved right.").

2. The Effectiveness of Federal Reserved Rights

When evaluated with respect to the three criteria presented above,⁹⁰ it becomes apparent that the effectiveness of a federal reserved water right in meeting national forest water needs is conditional: it is effective only to the extent that it predates water rights for competing water uses.⁹¹ Therefore the effectiveness of a federal reserved right in meeting the first two functions, protecting national forest water resources from threats arising either within (criterion one) or outside (criterion two) of national forest boundaries, will depend on the date of the right's establishment relative to the dates at which water rights for competing uses were established. If a federal reserved water right predates the water right associated with a water use that adversely affects national forest resources and uses, the Forest Service can enjoin the competing, "junior" water use. Conversely, the Forest Service has no remedy in water law to protect its resources from a damaging water use associated with a prior, "senior" water right.

For precisely the same reason, the effectiveness of a federal reserved right in accomplishing the third function, increasing streamflows that have already been diminished by competing water uses, is also dependent on the priority date of the federal reserved right. The Forest Service can only increase streamflows if it obtains a federal reserved right with a retroactive⁹² priority date that predates the initiation of competing water uses. A new water right with a contemporaneous priority date, that is, a water right that is not "retroactive," would be effective in protecting national forest resources from *subsequent* threats, but ineffective against *existing* threats, and thus incapable of increasing streamflows above current levels.

90. See *supra* Part II.A.

91. See *supra* note 88.

92. The water right would not truly be retroactive since a federal reserved right is said to arise by implication at the time the land is reserved, whether or not it has been claimed or recognized in the intervening years, and thus would have been in existence, even if not exercised, since the date of the initial land reservation. See *supra* Part II.B.1. (discussing the federal reserved water rights doctrine). However, especially from the perspective of those who have appropriated water in the years between when the reservation was established and when the water right was first claimed or enforced, the effect is much the same as a new water right with a retroactive priority date.

3. Federal Reserved Water Rights and the National Forests

Though powerful in concept, the possibility of using federal reserved water rights to protect national forest resources was dealt a severe blow by the Supreme Court's 1978 *United States v. New Mexico* decision.⁹³ At issue in *New Mexico* were federal reserved water rights claims of the Forest Service for instream flows for recreation, aesthetics, and wildlife preservation in the Gila National Forest in New Mexico.⁹⁴ The *New Mexico* Court distinguished between the primary and secondary purposes of the national forests⁹⁵ and held that federal reserved rights would be available only for primary purposes.⁹⁶ The Court then interpreted the 1897 Organic Act to include but two primary purposes of the national forests: (1) furnishing a continuous supply of timber; and (2) securing favorable conditions of water flows.⁹⁷ All other purposes, including fish and wildlife, recreation, and aesthetics, were said to be secondary, and hence ineligible for federal reserved water rights.⁹⁸ In what is probably dicta,⁹⁹ the *New Mexico* Court also stated that Congress did not intend to expand the purposes for which federal reserved water rights could be obtained when Congress passed the Multiple-Use Sustained-Yield Act of 1960.¹⁰⁰

93. 438 U.S. 696 (1978) (also referred to as the *Rio Mimbres* case).

94. *Id.* at 698, 704-05.

95. *Id.* at 715.

96. *See id.* at 702.

97. *See id.* at 707-08 (construing the 1897 Organic Act, Act of June 4, 1897, ch. 2, 30 Stat. 34 (codified as amended at 16 U.S.C. §§ 473-482, 551 (1994))):

98. *See* 438 U.S. at 711-13. "Not only is the Government's claim that Congress intended to reserve water for recreation and wildlife preservation inconsistent with Congress' failure to recognize these goals as purposes of the national forests, it would defeat the very purpose for which Congress did create the national forest system." *Id.* at 711-12. "Congress authorized the national forest system principally as a means of enhancing the quantity of water that would be available to the settlers of the arid West." *Id.* at 713. *But see id.* at 718-19 (Powell, J., dissenting) (agreeing that the 1897 Organic Act, Act of June 4, 1897, ch. 2, 30 Stat. 34 (codified as amended at 16 U.S.C. §§ 473-482, 551 (1994)), could not be read to include recreation or stockwatering purposes among those uses that would receive federal reserved water rights, but disagreeing that the Act did not evidence an intent to grant such rights for wildlife and plants).

99. *See* 438 U.S. at 718-19 n.1 (Powell, J., dissenting) (stating that the portion of the Court's opinion discussing the effect of MUSYA, 16 U.S.C. §§ 528-531 (1994), on national forest reserved water rights "appears to be dicta").

100. *See* 438 U.S. at 713-15 & n.21 (construing MUSYA, 16 U.S.C. §§ 528-531

The impact of *New Mexico* on the ability of the Forest Service to protect national forest values can hardly be overstated. By narrowing the scope of the federal reserved water rights doctrine to the point that it does not cover fish, wildlife, recreation, aesthetic, and other environmental purposes of the national forests, the Supreme Court limited the Forest Service's ability to protect precisely those water resources that are associated with the most valuable uses being made of the national forests. Since *New Mexico*, the Forest Service has succeeded in obtaining federal reserved water rights in modest amounts of water for administrative and firefighting purposes but has been almost completely rebuffed in its attempts to obtain water rights for broader purposes.¹⁰¹

Most recently, the Forest Service has tried to obtain federal reserved water rights by focusing on the use of streamflow for channel maintenance. The Forest Service has attempted to tie these claims to the second of the two primary purposes identified in *New Mexico*, securing favorable conditions of water flows. However, even this approach has been unsuccessful.¹⁰² In its most significant effort to date, an expensive and time-consuming adjudication in Colorado's South Platte River watershed, the Forest Service was completely denied any federal water rights for channel maintenance.¹⁰³

The Forest Service continues to modify and claim rights under its channel maintenance theory in other adjudications, and may still be able to claim federal reserved water rights under MUSYA.¹⁰⁴ At this point, however, it is unlikely that the Forest Service will be able to use the federal reserved water rights doctrine to protect instream water uses in the national forests in a comprehensive way.

(1994)).

101. See, e.g., Memorandum of Decision and Order, *In re Reserved Water Rights in the Platte River*, No. W-8439-76 (Colo. Dist. Ct., Water Div. No. 1, Feb. 12, 1993) (granting a water right for administrative and firefighting purposes, but denying in their entirety Forest Service claims for channel maintenance flows).

102. See GILLILAN & BROWN, *supra* note 63, at 87-93, for a more extensive history of the Forest Service's efforts to obtain federal reserved water rights for instream purposes.

103. See Memorandum of Decision and Order, *In re Reserved Water Rights in the Platte River*, No. W-8439-76 (Colo. Dist. Ct., Water Div. No. 1, Feb. 12, 1993).

104. See *supra* text accompanying notes 33-34, 99-100 for a discussion of MUSYA.

4. Federal Reserved Rights for National Forest Wilderness Areas

Although federal reserved water rights for national forest purposes have been severely limited, there remains the possibility of acquiring reserved water rights for instream flows in the national forests through wilderness designations. Wilderness areas designated pursuant to the 1964 Wilderness Act¹⁰⁵ are created only on existing federal lands, so that they overlay existing land reservations. Of the 154 million acres of national forests in the twelve western states, 32 million acres, or almost twenty-one percent,¹⁰⁶ have been designated as wilderness areas.

Wilderness designations may well be interpreted to include an implied reservation of waters. The Wilderness Act states that wilderness is to be left "unimpaired"¹⁰⁷ and "protected and managed so as to preserve its natural conditions,"¹⁰⁸ and free-flowing rivers are at least arguably an integral part of the natural environment that is to be protected. If so, wilderness areas within the national forests may provide the Forest Service with an additional opportunity to obtain federal reserved water rights that would help keep water in streams.

However, the assertion, or even contemplated assertion, of federal reserved water rights for wilderness areas has been extremely controversial.¹⁰⁹ Federal reserved water rights for wilderness areas have been the subject of conflicting decisions by the Interior Department Solicitor, the first decision concluding that wilderness rights do have federal reserved water rights and the second decision concluding that they do not.¹¹⁰ After the first

105. 16 U.S.C. §§ 1131-1136 (1994).

106. See LAND AREAS OF THE NATIONAL FOREST SYSTEM, *supra* note 6, at 107 tbl.9. The 32 million acre total was calculated by adding the national forest wilderness acreage reported for Alaska and the 11 westernmost contiguous states; dividing this total by 154 million yields 21%.

107. 16 U.S.C. § 1131(a) (1994).

108. *Id.* § 1131(c).

109. See generally Robert H. Abrams, *Water in the Western Wilderness: The Duty to Assert Reserved Water Rights*, 1986 U. ILL. L. REV. 387; John D. Leshy, *Water and Wilderness/Law and Politics*, 23 LAND & WATER L. REV. 389 (1988); Frank Trelease, *Federal Reserved Water Rights Since PLLRC*, 54 DENV. U. L. REV. 473 (1977); M. Gloria Tristani, Comment, *Interior Turns Off Tap for Wilderness Areas*, 29 NAT. RESOURCES J. 877 (1989).

110. A 1979 opinion known as the Krulitz opinion, 86 Interior Dec. 553 (1979), concluded that the Wilderness Act of 1964, 16 U.S.C. §§ 1131-36 (1994), implicitly included federal reserved water rights. A 1988 opinion known as the Tarr opinion,

of these two decisions, the Sierra Club sued the Forest Service to force the agency to assert federal reserved water rights for wilderness areas in national forests within Colorado. The federal district court in *Sierra Club v. Block* found:¹¹¹

Congress intended to reserve previously unappropriated waters in the wilderness areas to the extent necessary to accomplish these purposes. It is beyond cavil that water is the lifeblood of the wilderness areas. Without water, the wilderness would become deserted wastelands. In other words, without access to the requisite water, the very purposes for which the Wilderness Act was established would be entirely defeated.¹¹²

Sierra Club v. Block is the only case to specifically address the subject to date, and it was later overturned in *Sierra Club v. Yeutter*,¹¹³ on the ground that the case was not yet ripe for adjudication.

Even if wilderness areas were granted federal reserved water rights, the impact may be negligible.¹¹⁴ Federal reserved water rights arise by implication,¹¹⁵ so the existence of such rights for wilderness areas is disputed only for those wilderness designations in which Congress did not explicitly address the subject. The recent trend in wilderness designations has been for Congress to declare explicitly whether wilderness designations will or

M-36914 (Supp. III), U.S. Department of the Interior, concluded that the Wilderness Act's purposes are secondary to those of the underlying reservation, and thus, under the reasoning of *New Mexico*, 438 U.S. 696 (1978), ineligible for federal reserved water rights. The latter opinion was approved in a letter by the United States Attorney General. See Letter from Attorney General Edwin Meese III to Donald P. Hodel, Secretary of the Department of the Interior (July 28, 1988), cited in Tristani, *supra* note 109, at 878 n.11. For a discussion of the competing Solicitors' opinions, see generally Tristani, *supra* note 109; Kenneth R. Wallentine, *Wilderness Water Rights: The Status of Reserved Rights After the Tarr Opinion*, 4 BYU J. PUB. L. 181 (1989).

111. 622 F. Supp. 842 (D. Colo. 1985), *enforced and modified sub nom.* *Sierra Club v. Lyng*, 661 F. Supp. 1490 (D. Colo. 1987), *vacated on grounds of ripeness*, *Sierra Club v. Yeutter*, 911 F.2d 1405 (10th Cir. 1990).

112. *Sierra Club v. Block*, 622 F. Supp. 842, 862-63 (D. Colo. 1985) (referring to the Wilderness Act of 1964, 16 U.S.C. §§ 1131-1136 (1994)).

113. 911 F.2d 1405 (10th Cir. 1990).

114. See *Leshy*, *supra* note 109, at 395-98 (stating that the controversy over federal reserved water rights for wilderness areas may amount to nothing more than a "tempest in a teapot").

115. See *supra* Part II.B.1.

will not be accompanied by federal reserved rights.¹¹⁶ Furthermore, even where federal reserved water rights are not available, they are not necessarily needed. For example, Congress found that water rights were not necessary for national forest lands designated as wilderness in Colorado because of the location of wilderness in headwater areas unsuitable for water development.¹¹⁷

Water rights for wilderness would not have much impact on other water users. This is because: (1) most wilderness areas are in remote locations; (2) the priority date for wilderness water rights would be the date of wilderness designation, and hence junior to most existing water uses; and (3) wilderness areas are only designated on lands not already containing any significant water projects.¹¹⁸

For many of these same reasons, the possibility of securing federal reserved water rights for those portions of the national forests that have been designated as wilderness is not likely to be very helpful to the Forest Service in protecting national forest water resources. Not only is the bulk of national forest acreage not in designated wilderness areas,¹¹⁹ but many of the lands that are in wilderness areas are not those that are subject to compet-

116. See, e.g. Arizona Desert Wilderness Act of 1990, Pub. L. No. 101-628 § 101(g)(1), 104 Stat. 4469, 4473 (1990) (codified in relevant part in 16 U.S.C. § 1132 note (Supp. 1997)) ("With respect to each wilderness area designated by this title, Congress hereby reserves a quantity of water sufficient to fulfill the purposes of this title. The priority date of such reserved rights shall be the date of enactment of this Act."); Colorado Wilderness Act of 1993, Pub. L. No. 103-77 § 8(a)(2) 107 Stat. 756, 762 (1993) (codified in relevant part in 16 U.S.C. § 539(j) note (Supp. 1997)) ("The purpose of this section is to protect the wilderness values of the lands designated as wilderness by this Act by means other than those based on a Federal reserved water right.").

117. See Colorado Wilderness Act of 1993, Pub. L. No. 103-77 § 8(a)(1)(A-B), 107 Stat. 756, 762 (1993) (codified in relevant part in 16 U.S.C. § 539(j) note (Supp. 1997)).

118. See Abrams, *supra* note 109, at 389 ("Reserved rights to protect wilderness streamflows often have little or no impact on potential development."); Leshy, *supra* note 109, at 395-98. Leshy suggests that opposition to wilderness water rights despite the lack of tangible harm to other water users probably stems from general opposition to the concept of federal reserved water rights, opposition to new wilderness designations, and possibly from ignorance and misunderstanding as to the true nature and effects of federal reserved water rights in wilderness areas. See Leshy, *supra* note 109, at 398-400.

119. See LAND AREAS OF THE NATIONAL FOREST SYSTEM, *supra* note 6, at 107 tbl.9; *supra* text accompanying note 106 (indicating that only 21% of national forest lands are within designated wilderness areas).

ing water demands.¹²⁰ The Forest Service has been explicitly barred from seeking federal reserved water rights for many wilderness areas,¹²¹ and the controversy surrounding the concept of federal reserved water rights in other wilderness areas would make it difficult for the Forest Service to actually obtain such rights. Even if the agency were successful in securing rights, the priority dates would be so junior as to be ineffective against virtually all existing water rights. This means that even if the Forest Service can get past legal and political objections, the opportunity to obtain federal reserved water rights for instream purposes under the Wilderness Act is not likely to significantly increase the legal protection of streamflows in those areas of the national forests where protection is truly needed.

C. *Water Rights Under State Law*

1. State Water Rights Are Theoretically Available

Theoretically, the Forest Service may also obtain protection for water uses in the national forests under state law. In general, federal agencies may apply for water rights under state law the same as any other private or public entity. This principle has been well accepted by both federal¹²² and state¹²³ courts. For example, the *New Mexico* Court explicitly recognized Congress' intent that the United States "would acquire water in the same manner as any other public or private appropriator" for water uses that constitute secondary uses of federal land reservations.¹²⁴ The *New Mexico* Court also noted that the Forest Service had believed, prior to the expanded applicability of the federal

120. See *supra* text accompanying note 117.

121. See *supra* text accompanying note 116.

122. See, e.g., *California v. United States*, 438 U.S. 645, 665 (1978) (recognizing that water rights for federal reclamation projects must be obtained under state law, whether through appropriation, purchase, or condemnation).

123. See, e.g., *In re Water of Hallett Creek Stream Sys.*, 749 P.2d 324 (Cal. 1988) (recognizing that the United States is entitled, like any other riparian land owner, to receive water rights under state water law); *Nevada v. Morros*, 766 P.2d 263 (Nev. 1988) (holding that the United States is entitled to obtain water rights under state appropriative water law).

124. *United States v. New Mexico*, 438 U.S. 696, 702 (1978), discussed in more detail *supra* text accompanying notes 93-100.

reserved rights doctrine announced in *Arizona v. California*,¹²⁵ that all of its water was to be obtained under state law.¹²⁶

2. Effectiveness of State Water Rights

State water rights have attributes that could make them effective in protecting national forest resources. The main such attribute is that water rights are a form of property¹²⁷ and are thus legally protected property interests. This means that state water rights, if available,¹²⁸ have the potential to meet the first two effectiveness criteria described above: protecting national forest water resources from threats arising either within or outside the boundaries of the national forests.¹²⁹

The degree of protection, however, may depend on whether the rights are granted under the prior appropriation doctrine¹³⁰ or riparian doctrine.¹³¹ When there is not enough water to satisfy all the rights under the prior appropriation doctrine, a water use is protected in its entirety from water uses with later priority

125. 373 U.S. 546 (1963), discussed *supra* text accompanying notes 85-86.

126. See *New Mexico*, 438 U.S. at 703 n.7.

127. See, e.g., *Nevada v. United States*, 463 U.S. 110, 124 (1983) (stating that in the arid-land states "it long has been established law that the right to the use of water can be acquired only by prior appropriation for a beneficial use; and that such right when thus obtained is a property right," (quoting *Ickes v. Fox*, 300 U.S. 82, 95 (1937))); *In re Water Rights of Turkey Cañon Ranch Ltd. Liab. Co.*, 937 P.2d 739, 748 (Colo. 1997) ("Water rights that are established by an appropriation combined with an intent to appropriate are property rights.").

128. See *infra* Part II.C.3.

129. See *supra* Part II.A.

130. The principles of the prior appropriation doctrine are discussed *supra* note 88.

131. The riparian doctrine allocates water rights based on ownership of land underlying or abutting a watercourse. All riparian lands have associated water rights. The validity of a riparian water right relative to other water rights on the same watercourse is based on the reasonableness of the water use rather than the priority date of the use. In times of shortage, deficits are shared among all water users along the watercourse; water is not allocated according to the date at which water uses were first initiated. Many western states originally followed the common-law riparian doctrine, but have largely switched to the prior appropriation doctrine. Most of the western states now rely exclusively on the appropriation doctrine, but Oregon, Washington, and especially California, while relying primarily on the appropriation doctrine, also recognize, in some circumstances, water rights created under riparian doctrine principles. For a short summary of riparian doctrine legal principles, see GETCHES, *supra* note 88, at 4-6, ch.2; GILLILAN & BROWN, *supra* note 63, at 13-16. For a short history of the replacement of the riparian doctrine by prior appropriation principles, see GILLILAN & BROWN, *supra* note 63, at 24-31.

dates. Therefore a junior water use may not receive any water in times of shortage, whereas a senior water use may receive its entire allocation. Under the riparian doctrine, water is allocated according to the reasonableness of the water use relative to other water uses on the watercourse, and all reasonable water uses are likely to continue to receive at least some of their water during times of shortage. Therefore, the effectiveness of a state water right in protecting national forest water resources from other water uses will depend on either the priority date (under the appropriative system) or reasonableness of the national forest water use relative to other water uses (under the riparian system).

With state water rights, the ability to accomplish the third criterion, increasing streamflows within the national forests, also depends on whether the rights are acquired under appropriative or riparian principles. A newly created appropriative right is inferior to all previously-recognized water rights, and therefore cannot be used to increase flows above existing levels.¹³² A newly created riparian right is on a par with all other riparian rights, and thus—assuming that the water use is found to be reasonable relative to other uses of water—can be used to acquire water that previously had been consumed in its entirety by other riparian water users.¹³³

3. The Reality: States Severely Limit Instream Flow Water Rights

Despite the theoretical availability of state water rights, most of the western states severely constrain the ability of federal agencies to obtain water rights for instream purposes. Most of the western states restrict the types of persons or entities that

132. But note that it may be possible to purchase, condemn, or receive through donation an *existing* appropriative right and thereby provide additional water for instream purposes in the national forests. See *infra* concluding paragraph, Part II.C.4.

133. However, all of the western states that recognize riparian rights also recognize appropriative rights, see *supra* note 131, and it is entirely possible that a riparian right will be deemed inferior to competing appropriative rights. See, e.g., *In re Waters of Long Valley Creek Stream Sys.*, 599 P.2d 656 (Cal. 1979) (holding that the state may give previously “unexercised” riparian rights a lower priority than appropriative rights granted prior to exercise of the riparian right).

may obtain instream flow water rights.¹³⁴ The only western states that allow federal agencies to obtain and hold instream flow water rights or reservations are Alaska,¹³⁵ Arizona,¹³⁶ Montana,¹³⁷ and Nevada.¹³⁸ California has recognized the right of the United States to seek water rights under the state's riparian water law doctrine.¹³⁹ It also permits holders of existing water rights to change the use of their water rights to instream purposes,¹⁴⁰ but has no provision for any person or entity to apply for *new* water rights for instream purposes.¹⁴¹ Colorado,¹⁴¹

134. See GILLILAN & BROWN, *supra* note 63 at 120-29 & tbl.5.1.

135. See ALASKA STAT. § 46.15.145(a) (Michie 1996) ("The state, an agency or a political subdivision of the state, *an agency of the United States* or a person" may apply for an instream flow reservation.) (emphasis added).

136. See ARIZ. REV. STAT. ANN. § 45-151(A) (West 1995 & Supp. 1997) ("Any person, the state of Arizona or a political subdivision thereof" may appropriate water for a variety of purposes including recreation, fish, and wildlife); *id.* § 45-181(2) ("'Person' means any individual, partnership, association, public or private corporation, city or other municipality, county or state agency, a recognized Indian tribe *and the United States of America* when claiming water rights established under the laws of this state.") (emphasis added).

137. See MONT. CODE ANN. § 85-2-316(1) (1997) ("The state, any political subdivision or agency of the state, *or the United States or any agency of the United States* may apply" to reserve minimum streamflows.) (emphasis added).

138. See NEV. REV. STAT. ANN. § 533.010 (Michie 1995) ("As used in this chapter, 'person' includes the United States and this state."); *Nevada v. Morros*, 766 P.2d 263 (Nev. 1988) (holding that the United States is to be treated the same as private landowners in the acquisition of water rights).

139. See *In re Water of Hallett Creek Stream Sys.*, 749 P.2d 324 (Cal. 1988) (recognizing that the United States is entitled, the same as any other riparian land owner, to receive water rights under state water law). *But cf. In re Waters of Long Valley Creek Stream Sys.*, 599 P.2d 656 (Cal. 1979) (holding that the state may give previously "unexercised" riparian rights a lower priority than appropriative rights granted prior to exercise of the riparian rights).

140. See CAL. WATER CODE § 1707 (West 1971 & Supp. 1997) ("Any person entitled to the use of water, whether based upon an appropriative, riparian, or other right, may petition the board . . . for a change for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in, or on, the water.").

141. See COLO. REV. STAT. § 37-92-102(3) (1997) ("[T]he Colorado water conservation board is hereby vested with the *exclusive* authority . . . to appropriate . . . minimum stream flows [N]o other person or entity shall be granted a decree . . . for instream flows.") (emphasis added). The Colorado Water Conservation Board was created primarily as a water development agency. See Steven O. Sims, *Colorado's Instream Flow Protection Program: Integrating Instream Flow Protection into a Prior Appropriation System*, in *INSTREAM FLOW PROTECTION IN THE WEST*, *supra* note 63, at 12-1:

Since its inception, the [Colorado Water Conservation Board] has been statutorily assigned a pro-development, pro-water project mission. . . . In giving the administration of the instream flow program to this pro-water development board, proponents of the instream flow program hoped to

Idaho,¹⁴² Oregon,¹⁴³ Utah,¹⁴⁴ Washington,¹⁴⁵ and Wyoming¹⁴⁶ allow only state agencies to obtain and hold water rights for instream purposes. New Mexico, the location of the Gila National Forest which gave rise to the *New Mexico* decision limiting the availability of federal reserved water rights for the national forests,¹⁴⁷ does not even recognize instream water uses as legally protectable beneficial water uses.¹⁴⁸ This makes the *New Mexico* Court's directive to the Forest Service to acquire water "in the same manner as any other public or private appropriator,"¹⁴⁹ an empty one at best.

A second major restriction on the use of state water rights concerns the purposes or uses for which instream rights or other protective measures can be obtained. The states vary widely in this regard. For example, Alaska¹⁵⁰ and Washington¹⁵¹ recognize

alleviate the fears of the water development community that the instream flow program would be insensitive to the needs of water users.

Id. at 12-2.

142. See IDAHO CODE §§ 42-1501 to -1504 (1996) (setting forth minimum stream flow provisions that give only the Idaho Water Resources Board the authority to apply for an instream water right).

143. See OR. REV. STAT. § 537.332 (1988 & Supp. 1996) (defining an instream water right as a water right held in trust by the state Water Resources Department); *id.* § 537.336 (authorizing only three state agencies to request that an instream water right be issued); *id.* § 537.341 (stating that instream flow certificates are to be issued in the name of the Water Resources Department).

144. See UTAH CODE ANN. § 73-3-3(11)(a) (1989 & Supp. 1997) (authorizing only the state Division of Wildlife Resources and Division of Parks and Recreation to file applications for a change of water use to instream uses); *id.* § 73-3-3(11)(f) (authorizing only the same two agencies to purchase water rights for instream purposes).

145. See WASH. REV. CODE ANN. § 90.03.247 (West 1992 & Supp. 1997) ("No agency may establish minimum flows and levels or similar water flow or level restrictions for any stream or lake of the state other than the department of ecology . . .").

146. See WYO. STAT. ANN. § 41-3-1003(c) (Michie 1995) ("The water development commission shall file applications *in the name of the state of Wyoming* for permits to appropriate water for instream flows . . .") (emphasis added).

147. 438 U.S. 696 (1978); see discussion *supra* text accompanying notes 93-100.

148. See Tim DeYoung, *Protecting New Mexico's Instream Flows*, in *INSTREAM FLOW PROTECTION IN THE WEST*, *supra* note 63, at 17-1 ("New Mexico admittedly is one of the few states that still does not recognize instream flows as a protectable beneficial use of water."). *But see generally id.* (describing *de facto* protection resulting from the state's water resources administration system).

149. *New Mexico*, 438 U.S. at 702 (1978); see *supra* text accompanying note 124.

150. See ALASKA STAT. § 46.15.145 (Michie 1996) (authorizing the reservation of instream flows for the protection of fish and wildlife habitat, recreation and park purposes, navigation and transportation, and sanitary and water quality purposes).

151. See WASH. REV. CODE ANN. § 90.22.010 (West 1992 & Supp. 1997)

a wide variety of legitimate instream purposes, while Wyoming recognizes instream rights only for the purpose of maintaining or improving fisheries.¹⁵² Colorado authorizes its state Water Conservation Board to appropriate minimum stream flows "to preserve the natural environment to a reasonable degree,"¹⁵³ but makes no provision for instream flows for purposes of recreation,¹⁵⁴ which is one of the most important instream water uses. Aesthetics, channel maintenance, riparian vegetation and habitat, and general environmental protection are often omitted from statutory lists of allowable water uses.¹⁵⁵

States have also restricted the quantity of water that may be claimed for instream purposes. Again there is substantial variation among the states, but as a general matter many states place special emphasis on the word "minimum" in statutes and regulations concerning instream flows.¹⁵⁶ While the effect of such language is not always clear, especially as actually applied, the intent in many cases seems to be to place greater restrictions on the amount of water that can be appropriated for instream uses than on the amount of water that can be allocated to offstream uses.¹⁵⁷ Sometimes these quantity restrictions are explicit. For example, the Idaho instream flow statute states that the approval of instream flow applications must be based upon a finding that the appropriation of minimum stream flow "is the minimum flow or lake level and not the ideal or most desirable flow or lake level."¹⁵⁸ The comparable Wyoming statute states that waters to be used for instream flows "shall be the minimum flow necessary to maintain or improve existing fisheries."¹⁵⁹ Colorado's statute is liberally sprinkled with the term "minimum" stream flow,¹⁶⁰

(authorizing the establishment of minimum flow levels for protecting fish, game, birds or other wildlife, recreational or aesthetic values, and water quality).

152. See WYO. STAT. ANN. § 41-3-1001(a) to (b) (Michie 1995).

153. COLO. REV. STAT. § 37-92-102(3) (1997).

154. See GILLILAN & BROWN, *supra* note 63, at 119 ("Colorado does not yet recognize recreation as a valid purpose for seeking an instream flow water right, so the Colorado Water Conservation Board will not apply for, nor accept donations of, water rights for recreational purposes.").

155. Some of these uses have, however, been recognized by some states through expansive interpretation of statutory provisions by administrative agencies. See *id.*

156. See *id.* at 129-32.

157. See *id.*

158. IDAHO CODE § 42-1503 (1996).

159. WYO. STAT. ANN. § 41-3-1001(d) (Michie 1995).

160. COLO. REV. STAT. § 37-92-102(3) (1997). Cf. *id.* § 37-92-103(4) (describing the "beneficial use" of waters by other appropriators as limited to "the use of that

and regulations adopted by the Colorado Water Conservation Board prohibit the agency from seeking or accepting water in greater than "minimum" amounts even if more is available free of charge from someone wanting to donate water rights to the state for instream purposes.¹⁶¹

Many of the western states place a variety of other special restrictions on instream flow protection measures. For example, Alaska and Montana, two of the four states that even allow federal agencies to obtain instream flow protection, grant only water "reservations" rather than water rights for instream purposes.¹⁶² The disadvantage of reservations, from the reservation holder's perspective, is that unlike water rights, reservations are reviewed periodically and can be modified or even revoked in light of changed circumstances.¹⁶³ Similarly, Wyoming allows the state engineer to condition for future review permits issued for instream purposes.¹⁶⁴ Montana makes only specific river basins available for reservations,¹⁶⁵ and limits the amount of water that can be reserved on gauged streams to fifty percent of the average annual flow.¹⁶⁶ Utah does not allow instream rights to be created through the appropriation of unappropriated waters;¹⁶⁷ instream rights in Utah may be created only through the transfer of existing water rights from other purposes, and purchases of existing rights can be made only with legislative approval.¹⁶⁸

amount of water that is *reasonable* and *appropriate* under reasonably efficient practices to accomplish without waste the purpose for which the appropriation is lawfully made . . .") (emphasis added).

161. See GILLILAN & BROWN, *supra* note 63, at 131.

162. See ALASKA STAT. § 46.15.145 (Michie 1996); MONT. CODE ANN. § 85-2-316 (1995).

163. See, e.g., ALASKA STAT. § 46.15.145(f) (Michie 1996) ("At least once each 10 years the commissioner shall review each reservation If the commissioner determines that the purpose, or part or all of the findings, no longer apply to the reservation, the commissioner may revoke or modify the certificate reserving the water"); MONT. CODE ANN. § 85-2-316(10) (1995) ("The department shall, periodically but at least once every 10 years, review existing state water reservations When the objectives of a state water reservation are not being met, the department may extend, revoke, or modify the reservation.").

164. See WYO. STAT. ANN. § 41-3-1006(e) (Michie 1995).

165. See MONT. CODE ANN. § 85-2-316(2) (1995).

166. See *id.* § 85-2-316(6).

167. See UTAH CODE ANN. § 73-3-3(11)(g) (1989 & Supp. 1997).

168. See *id.* § 73-3-3(11)(f) (requiring that purchases of water rights for transfer to instream purposes be accomplished only with funds specifically appropriated by the legislature for that purpose). This restriction does not apply to water rights that are donated to the state. See *id.*

Idaho requires legislative approval of all new instream rights.¹⁶⁹ Arizona law generally allows the transfer of water rights from one purpose to another, but declares that if rights are to be transferred to the instream purposes of recreation, wildlife, and fish, transfers can be made only to the state or its political subdivisions.¹⁷⁰

4. State Efforts to Accommodate Federal Agencies, and Colorado's Snowmass Creek

Some state laws contain provisions designed to accommodate federal agencies and other parties in the instream flow protection process. For example, Idaho's statute declares that a "federal agency may, in writing, request that the board consider the appropriation of a minimum stream flow of the unappropriated waters of any stream."¹⁷¹ Colorado's instream flow protection law contains several provisions designed to accommodate parties other than the Colorado Water Conservation Board ("CWCB"). Colorado law enables the CWCB to accept through "grant, purchase, bequest, devise, lease, exchange, or other contractual agreement, from or with any person, including any governmental entity, such water, water rights, or interests in water as the board determines may be required for minimum stream flows . . ."¹⁷² The statute further states that any such contract or agreement "shall be enforceable by either party thereto,"¹⁷³ and that prior to the initiation of instream appropriations, the CWCB "also shall request recommendations from the United States Department of Agriculture and the United States Department of the Interior."¹⁷⁴

However, these limited accommodations are not likely to alleviate federal agency concerns about the narrow availability of instream flow protection measures under state law. First, these measures fail to address the limitations on instream flow

169. See IDAHO CODE § 42-1503 (1996) (stating that approved applications shall not become finally effective until affirmatively acted upon by concurrent resolution of the Idaho legislature or unless the legislature fails to act on the application prior to the end of the legislative session).

170. See ARIZ. REV. STAT. ANN. § 45-172 (West 1995 & Supp. 1997).

171. IDAHO CODE § 42-1504 (1996). *But cf. id.* ("There shall be no right of review of any board decision rejecting a request under this section.")

172. COLO. REV. STAT. § 37-92-102(3) (1996).

173. *Id.*

174. *Id.*

purposes, quantities, and other restrictions described above. Second, these accommodations fail to address fully the central issue: federal agencies' lack of control over water rights that are obtained through state law. Concerns arising from having ownership and control of a water right in some other entity, which may or may not have and respond to substantially similar interests, are illustrated by recent events surrounding an instream flow appropriation by the CWCB on Colorado's Snowmass Creek. Though not involving a federal water interest, the events and the resulting court decisions in *Aspen Wilderness Workshop v. Colorado Water Conservation Board*¹⁷⁵ may well give pause to any federal agency contemplating the desirability of obtaining instream flow water rights under state law in a state that does not allow federal agencies to hold and control the right.

In June 1980, the CWCB obtained a decree¹⁷⁶ for an instream flow water right on Snowmass Creek.¹⁷⁷ In 1991, the appropriation was questioned by officials of Pitkin County¹⁷⁸ after the Aspen Skiing Company sought to acquire senior water rights to expand its snowmaking operation.¹⁷⁹ In response, the instream flow coordinator of the Colorado Division of Wildlife conducted an investigation and ultimately determined that, due to a computational error, the existing instream appropriation was too high during the winter and too low during the summer.¹⁸⁰ These findings were eventually accepted by the CWCB, which on

175. 901 P.2d 1251 (Colo. 1995). For background information on these events, see generally Jane E. Lein, *Protection of Instream Flows: The Aspen Wilderness Workshop Decision*, 24 COLO. LAW. 2577 (1995); Sims, *supra* note 141 at 12-12 to 12-13.

176. In all of the western states except Colorado, appropriators of water apply to a state agency for a permit, a certificate, or both that establishes a vested water right. In Colorado, appropriators of water apply to specially-designated district courts known as "water courts" for a decree specifying the terms of the water right. See, e.g., COLO. REV. STAT. §§ 37-92-201 to -204 (1997) (creating the water divisions and courts); *id.* §§ 37-92-301 to -306.1 (1997) (detailing the determination and administration of water rights).

177. See *Aspen Wilderness Workshop*, 901 P.2d at 1253.

178. See *id.* at 1254.

179. See *id.* at 1255-56 n.9 ("The record indicates that the Aspen Skiing Company was interested in increasing its snowmaking operations on Snowmass Creek, and that it would be able to do so if the Conservation Board's winter appropriation for Snowmass Creek was reduced."); Sims, *supra* note 141, at 12-12.

180. See *Aspen Wilderness Workshop*, 901 P.2d at 1254-55. Final recommendations of the Division of Wildlife divided the 17-mile stream segment into three segments, each with corresponding winter and summer flow recommendations. See *id.*

September 15, 1992, after public comment, decided that it would not enforce its full water right during periods of the year that the appropriation was too high and would apply to the water court for additional appropriations for periods during which the existing appropriation was too low.¹⁸¹

The CWCB's action was vigorously opposed by some members of the public.¹⁸² Eventually a citizen group, the Aspen Wilderness Workshop, brought suit against the CWCB in Colorado District Court seeking to require the CWCB to fully enforce its Snowmass Creek water right.¹⁸³ The district court granted a motion for summary judgment in favor of the CWCB, holding that the CWCB "was acting within its . . . implied authority to modify its appropriation . . . [and] that the Board, as any holder of a water right, need not enforce its rights and may voluntarily not use that portion of its decreed water rights in excess of the amount needed

...¹⁸⁴

These events might well lead a federal agency, such as the Forest Service, to be wary about trying to protect its water rights through state law in situations in which a state agency, rather than the federal agency, will be holding the water right. Though the original instream appropriation on Snowmass Creek may well have been based on a computational error, it will not likely be comforting to a federal agency to know that a state agency holding the water right may unilaterally, even in the face of public opposition, decide to enforce less than the full measure of its instream right, and that a state court will uphold that decision.

The Colorado District Court's decision was eventually reversed by the Colorado Supreme Court, which held that the CWCB must return to the water court for a modified decree rather than independently choosing to exercise less than the full measure of the existing decree.¹⁸⁵ But there are at least three reasons that the Snowmass Creek situation will not likely ease

181. *See id.* at 1255.

182. *See id.* at 1255 n.7.

183. *See Aspen Wilderness Workshop, Inc. v. Colorado Water Conservation Bd.*, No. 92-CV-6091 (Denver Dist. Ct., July 2, 1993), *cited in Aspen Wilderness Workshop*, 901 P.2d at 1252-53.

184. *Aspen Wilderness Workshop*, 901 P.2d at 1256.

185. *See id.* at 1253 ("[W]e hold that the Board must implement the terms of the 1980 decree unless and until that decree is modified by order of the issuing water court.").

the potential concerns of the Forest Service or other federal agencies about using state law to protect national forest water resources. First, the natural constituencies of state agencies, and the persons and entities to which the state agencies respond, are typically citizens, interests, and entities of the state.¹⁸⁶ This makes it possible, perhaps even likely, that state agencies will overlook or minimize federal agency concerns should state and federal interests be in conflict.¹⁸⁷

Second, other courts, unlike the Colorado Supreme Court in the *Aspen Wilderness Workshop* decision, may well support the broad discretion of state agencies to administer their water rights in a manner that may include the nonenforcement of particular rights. In this respect it is interesting to note not only that the Colorado District Court granted the CWCB's motion for summary judgment,¹⁸⁸ but that the Colorado Supreme Court was split 4-3 in overturning the district court,¹⁸⁹ with the dissent ready to hold that the CWCB did not have to seek modification of its decree in court before deciding not to enforce its full right.¹⁹⁰

Finally, state legislatures may be willing to support state agencies in similar situations, even if the courts are not. For example, the Colorado legislature amended its instream flow statute soon after the *Aspen Wilderness Workshop* decision to provide a procedure by which the CWCB could decrease an instream appropriation.¹⁹¹ Consequently, federal agencies are not

186. For example, the Colorado Supreme Court noted that "the General Assumbly vested the Board with the obligation to act 'on behalf of the people of the state of Colorado.'" *Id.* at 1260 n.16 (quoting COLO. REV. STAT. § 37-92-102(2) & (3) (1996) (emphasis added)).

187. When it comes to water issues in the West, federal and state governments are often in conflict. *See, e.g.*, GILLILAN & BROWN, *supra* note 63, at 223 ("Conflicts between the federal and state governments over the control of water resources are frequent and widespread and are much in evidence with respect to instream flow protection activities.").

188. *See Aspen Wilderness Workshop*, 901 P.2d at 1256; *supra* text accompanying note 184.

189. *See id.* at 1252 n.1.

190. *See id.* at 1261.

191. *See* COLO. REV. STAT. § 37-92-102(4)(a) (1997) ("Utilizing a public notice and comment procedure, the board, in its discretion, may determine whether or not to appropriate minimum stream flows . . . or decrease such an appropriation, to preserve the natural environment to a reasonable degree.") (emphasis added). The Colorado Supreme Court had stated that "[o]ther holders of water rights may elect to not use all of their decreed water rights," *Aspen Wilderness Workshop*, 901 P.2d at 1259 n.15; however, because the Conservation Board "is imbued with *unique*

likely to feel secure in relying on state water law to meet their water needs, even in those few situations in which limitations on instream flow purposes and quantities, and other miscellaneous restrictions, have not already eliminated or substantially thwarted such opportunities.

All of these restrictions affect the ability of the Forest Service to obtain and use instream water rights under state law. It should be noted that these restrictions affect the ability of the Forest Service not only to obtain new water rights, but also to hold, transfer to new purposes, and use water rights that it might obtain through purchase or condemnation of existing, consumptive water rights in an effort to provide new water for instream purposes. In total, the restrictions on instream flow water rights under the laws of most of the western states create serious obstacles for the Forest Service in its efforts to protect national forest instream water resources.

D. Using Administrative Land Management Authority to Protect Water Resources

1. Introduction

The Forest Service has substantial authority in its capacity as proprietor and designated land manager to protect instream flows in the national forests.¹⁹² This protection has been accomplished primarily through exercise of the agency's authority to issue, deny, or condition permits for the development of water projects within the national forests.¹⁹³ The Forest Service has used this authority to condition permits for water development on the holder's agreement to allow specified amounts of water to pass through ("bypass") water diversion and storage structures. The purpose of the bypass is to keep enough water within the stream channel to protect instream resources.

statutory responsibilities and, because its *authority is circumscribed by statute*, it therefore must be held to a different standard than other appropriators." *Id.* at 1259 (emphasis added). By amending the relevant statute, the Colorado Legislature effectively reworked the statutory responsibilities of the CWCB to allow the future reduction of water rights held by the Board.

192. See *infra* Part II.D.2 to II.D.4.

193. See 43 U.S.C. § 1761 (1994) discussed in greater detail *infra* Part II.D.3.

2. The Potential Effectiveness of Administrative Measures in Protecting Instream Flows

Again, it is useful to evaluate the effectiveness of this method with reference to the three criteria specified above.¹⁹⁴ "Bypass flow" requirements can be an effective means of protecting instream resources from water development threats arising within the national forest (criterion one). No development can take place on national forest lands without a permit, therefore those developments which pose a potential threat to national forest instream resources can be conditioned to alleviate, or at least mitigate, the harm. However, because the ability to require bypass flows stems not from a property interest, but rather from the Forest Service's authority to regulate the occupancy and use of *national forest lands*, this method cannot be used to protect instream resources from threats caused by developments occurring either outside the national forest (criterion two), or on private holdings within national forest boundaries.¹⁹⁵

The ability to meet criterion three, increasing the amount of water flowing in national forest streams beyond existing levels, depends on whether projects that cause streamflow depletions arise on national forest land, and on whether the Forest Service is authorized to exercise its permitting authority on existing, previously-permitted water development projects that do not already contain bypass flow conditions.¹⁹⁶ The Forest Service may be able to prevent further depletions, but it will not be able to reverse existing depletions if the agency is restricted to placing permit conditions only on new water development projects. If, however, the Forest Service is allowed to place conditions on existing, previously unconditioned developments, the agency may be able to ensure that additional amounts of water are available to support national forest instream resources and uses. Given the inapplicability of the federal reserved water rights doctrine to most national forest water uses,¹⁹⁷ and the severe constraints imposed on instream flow protection efforts under state water

194. See *supra* Part II.A.

195. See WILKINSON & ANDERSON, *supra* note 9, at 236 ("Regulating water diversions in this manner does not protect a watercourse as fully as would setting an instream flow. Diversions jeopardizing the streamflow level still can be made upstream from the national forests or on private holdings within the forests . . .").

196. The controversy surrounding this issue is discussed *infra* Part II.D.4.

197. See *supra* Part II.B.

law,¹⁹⁸ bypass flow requirements may represent the most important remaining measure available to protect instream flows in the national forests.

3. Sources of the Forest Service's Land Management Authority

The Forest Service's land management authority stems ultimately from the Property Clause of the United States Constitution, which states that "[t]he Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States."¹⁹⁹ The United States Supreme Court, in *Kleppe v. New Mexico*,²⁰⁰ stated:

[T]he [Property] Clause, in broad terms, gives Congress the power to determine what are "needful" rules "respecting" the public lands. And while the furthest reaches of the power granted by the Property Clause have not yet been definitively resolved, we have repeatedly observed that "[t]he power over the public land thus entrusted to Congress is without limitations."²⁰¹

Congress, in the 1897 Organic Act,²⁰² delegated to the Secretary of Agriculture²⁰³ the authority to "make such rules and regulations and establish such service as will insure the objects of [the national forests], namely to regulate their occupancy and use and to preserve the forests thereon from destruction."²⁰⁴ The constitutionality of this delegation of authority to the Secretary was upheld in 1911 by the United States Supreme Court in *United States v. Grimaud*.²⁰⁵ In a companion case, *Light v. United*

198. See *supra* Part II.C.

199. U.S. CONST. art. IV, § 3, cl. 2.

200. 426 U.S. 529 (1976).

201. *Id.* at 539 (quoting *United States v. San Francisco*, 310 U.S. 16, 29-30 (1940)).

202. Act of June 4, 1897, ch. 2, 30 Stat. 34 (codified as amended in 16 U.S.C. §§ 473-482, 551 (1994)).

203. Originally the Secretary of the Interior was given this responsibility; management of the national forests (then "forest reserves") was transferred to the Department of Agriculture by the Act of Feb. 1, 1905, ch. 288, § 1, 33 Stat. 628 (codified in relevant part at 16 U.S.C. § 551 (1994)).

204. 16 U.S.C. § 551 (1994).

205. 220 U.S. 506 (1911).

States,²⁰⁶ the Supreme Court upheld regulations promulgated by the Forest Service pursuant to the Organic Act. The *Light* Court held quite definitively that “[t]he United States can prohibit absolutely or fix the terms on which its property may be used.”²⁰⁷

Despite the general policy of Congress to defer to the states in matters related to the allocation of water,²⁰⁸ it has been clear since at least the Supreme Court’s 1917 decision in *Utah Power & Light Co. v. United States*²⁰⁹ that state law governing the development of water resources on national forest lands must yield to federal law controlling the occupancy and use of the national forests if the state and federal laws are incompatible.²¹⁰ In *Utah Power & Light* the Court stated:

[T]he inclusion within a State of lands of the United States does not take from Congress the power to control their occupancy and use, to protect them from trespass and injury and to prescribe the conditions upon which others may obtain rights in them A different rule . . . would place the public domain of the United States completely at the mercy of state legislation.”²¹¹

NFMA²¹² and the Federal Land Policy Management Act of 1976 (“FLPMA”)²¹³ provide more recent authority for the Forest Service’s water development permitting activities. NFMA requires the Secretary of Agriculture to develop management plans for the national forests,²¹⁴ and states that “[r]esource plans and permits, contracts, and other instruments for the use and

206. 220 U.S. 523 (1911).

207. *Id.* at 536.

208. See *California Or. Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142 (1935) (holding that the Desert Lands Act of 1877, Act of Mar. 3, 1877, ch. 107, 19 Stat. 377 (codified at 43 U.S.C. §§ 321-23, 325, 327-29 (1994)) severed water from the land, and that state water law controls the allocation of water, even on the public lands). For a brief history of the relationship between the federal government and the states in matters concerning the allocation of water, see generally *California v. United States*, 438 U.S. 645, 653-63 (1978).

209. 243 U.S. 389 (1917).

210. *Id.*; see also Rice, *supra* note 64, at 720 n.19 (“It is well established that congressional deference to state control over water does not carry with it any right to the use of public lands to access the water right.”).

211. 243 U.S. at 405 (quoting *Camfield v. United States*, 167 U.S. 518 (1897)) (emphasis added).

212. 16 U.S.C. §§ 1600-1614 (1994).

213. 43 U.S.C. §§ 1701-1784 (1994).

214. 16 U.S.C. § 1604(a) (1994).

occupancy of National Forest System lands shall be consistent with the land management plans."²¹⁵ NFMA also provides that "resource plans and permits . . . shall be revised as soon as practicable to be made consistent with such plans."²¹⁶ FLPMA authorizes the Secretary of Agriculture to "grant, issue, or renew rights-of-way over, upon, under, or through [the national forests] for . . . reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other facilities and systems for the impoundment, storage, transportation, or distribution of water."²¹⁷ FLPMA further states that after October 21, 1976, "no right-of-way for the purposes listed in this subchapter shall be granted, issued, or renewed . . . except under and subject to the provisions, limitations, and conditions of this subchapter."²¹⁸ Of most importance to this comment, FLPMA states that rights of way are to contain terms and conditions that will, among other things, "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment."²¹⁹

4. The Bypass Flow Controversy—Will This Method Continue to Be Available?

The Forest Service has been using bypass flow requirements to protect instream resources since at least 1960.²²⁰ In Colorado, administrative measures available to the Forest Service pursuant to its land management authorities have been recognized to such

215. *Id.* § 1604(i).

216. *Id.*

217. 43 U.S.C. § 1761(a)(1) (1994). *But see id.* § 1761(c) (authorizing the Secretary to grant permanent easements for water systems constructed for irrigation and livestock purposes prior to the date of enactment if certain conditions apply).

218. *Id.* § 1770(a).

219. *Id.* § 1765(a).

220. *See Rice, supra* note 64, at 723 n.30 ("[B]ypass flow conditions are not a new idea. As early as 1960, the Forest Service required the City of San Francisco to maintain bypass flows as a condition of an amended right-of-way authorization."); Letter from R. Max Peterson, Chief, U.S. Forest Service, to Michael L. Strang, Congressman, U.S. House of Representatives 1 (Mar. 17, 1986) (on file with author) ("The Forest Service has for many years included bypass flow requirements as stipulations before special use permits or easements were issued for proposed reservoirs or diversions on Forest Service lands."). *But cf.* FEDERAL WATER RIGHTS TASK FORCE, REPORT OF THE FEDERAL WATER RIGHTS TASK FORCE CREATED PURSUANT TO SECTION 389(D)(3) OF P.L. 104-127 at IX-3 (1997) (indicating that the bypass flow authority has rarely been used, perhaps only 15 times out of 8370 water facility permits issued).

an extent that both federal²²¹ and state²²² courts have cited the existence of the Forest Service's permitting authority as evidence of the lack of need for federal reserved rights to protect national forest resources.

However, the Forest Service's use of bypass flow requirements flared into controversy²²³ in the early 1990s over a handful of water developments in the Arapaho and Roosevelt National Forests in Colorado.²²⁴ No bypass flow requirements had previously been imposed on the permits issued for water projects owned by Fort Collins, Greeley, Loveland, and the Water Supply and Storage Company, but preliminary discussions with Forest Service personnel had led the project owners to believe that

221. See *Sierra Club v. Yeutter*, 911 F.2d 1405 (10th Cir. 1990) (accepting the argument raised by the Forest Service that it was not necessary to obtain federal reserved water rights to protect a wilderness area given the availability of administrative measures that could adequately preserve wilderness characteristics).

222. See Memorandum of Decision and Order at 9-13, *In re Reserved Water Rights in the Platte River*, No. W-8439-76 (Colo. Dist. Ct., Water Div. No. 1, Feb. 12, 1993) (discussing the availability of Forest Service permitting authority and stating that the permit system has proven adequate to control development and preserve "favorable water flows" in the national forests without resort to reserved water rights).

223. See, e.g., John Brinkley, *Brown Accuses EPA of Trying to Steal Water*, ROCKY MTN. NEWS (Denver), Feb. 25, 1994, at 23A; Carol Chorey, *Permits Upset Environmentalists*, DAILY CAMERA (Boulder, Colo.), Dec. 13, 1992, at 15A; Kenworthy, *supra* note 2; Jon Margolis, *In the U.S. West, Water Is Far More Than a Mere Liquid*, CHI. TRIB., June 13, 1994 (North Sports Final Ed.), at 21; Kevin McCullen, *Agency 'Extorts' Water Rights, Brown Says*, ROCKY MTN. NEWS (Denver), Apr. 8, 1993, at 22A; Bill Scanlon, *Cities Win Battle to Keep Water: Fish Habitat at Risk, Forest Service Claims*, ROCKY MTN. NEWS (Denver), Oct. 29, 1992, at (Local) 10.

224. The description and chronology of events constituting the Colorado bypass flow controversy that follows have been drawn from multiple sources, many unpublished, including: FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at III-1 to III-2; FOREST SERVICE, U.S. DEP'T OF AGRIC., RECORD OF DECISION, LAND-USE AUTHORIZATION FOR JOE WRIGHT DAM AND RESERVOIR AND AMENDMENT TO THE LAND AND RESOURCES MANAGEMENT PLAN (July 29, 1994) [hereinafter RECORD OF DECISION] (on file with author); GILLILAN & BROWN, *supra* note 63, at 208-12; David H. Getches, Background: Imposition of By-Pass Flows as a Condition of National Forest Special Use Permits for Water Facilities and Creation of the Water Rights Task Force, Address at University of Colorado Natural Resources Law Center Hot Topics Luncheon (Feb. 3, 1997) (on file with author); David H. Getches, Public Land Management Decisions Affecting Water Rights: The Issue of Requiring By-Pass Flows as a Condition of National Forest Special Use Permits for Water Facilities, Speech Delivered at the University of Colorado Natural Resources Law Center's Conference "Who Governs the Public Lands: Washington? The West? The Community?" (Sept. 28-30, 1994) [hereinafter Getches, Who Governs] (transcript on file with the Univ. of Colo. Nat. Resources L. Ctr.).

bypass flows might be imposed as a condition of permit renewals.²²⁵

Taking a closer look at one particular project involved helps to focus the controversy. Joe Wright Dam and Reservoir, on Joe Wright Creek, a tributary of the Cache la Poudre River in northern Colorado, was built in 1904 with a capacity of about 800 acre-feet.²²⁶ The reservoir was originally used for irrigation purposes but was acquired by the City of Fort Collins for municipal purposes in 1972, and expanded by the city in 1978.²²⁷ The original water right, for 797.36 acre-feet, dates to 1904, while the water right for the enlargement, for 6,363.60 acre-feet, dates to 1971.²²⁸ Joe Wright Dam is 140 feet high and 2,400 feet long, and the surface of the reservoir, at high water, is approximately 154 acres.²²⁹ The dam and reservoir are located within the Arapaho National Forest. Prior to resolution of the "bypass flow controversy," the dam was operated in a manner that left little, if any, water in Joe Wright Creek below the dam from October to May.²³⁰

A right-of-way for the dam and reservoir was first issued in 1908.²³¹ A ten-year special-use permit for the reservoir was issued by the Forest Service in 1977 in conjunction with the 1978 expansion. The expiration date of the permit was later extended to 1994 to allow the city and the Forest Service time to evaluate the environmental impacts of the operation.²³² The 1977 permitting process had included an environmental assessment of the expansion and planned operations, which concluded that there would be no significant environmental effect; the permit that was issued did not contain any minimum bypass flow requirements.²³³

The City of Fort Collins became concerned that the minimum bypass flows sought by the Forest Service during the next permitting process, after the 1977 permit was due to expire, would not only cause the city to lose some of its water rights, but would cost upwards of one million dollars in construction

225. See sources cited *supra* note 224.

226. See RECORD OF DECISION, *supra* note 224, at 1-2.

227. See *id.*

228. See Letter from Mary Mead Hammond, Counsel for City of Fort Collins, to Austin Condon, U.S. Forest Service 2 (Nov. 24, 1992) (on file with author).

229. See RECORD OF DECISION, *supra* note 224, at 2.

230. See *id.* at 7.

231. See Letter from Mary Mead Hammond, *supra* note 228.

232. See RECORD OF DECISION, *supra* note 224, at 2.

233. See Letter from Mary Mead Hammond, *supra* note 228, at 2-3.

expenses to modify the dam's outlet works to accommodate year-round bypass flows.²³⁴

The owners of the other projects at issue in the controversy had similar concerns.²³⁵ The project owners took their concerns to Congress, and in the summer of 1992, eleven members of Congress wrote to the Secretary of Agriculture, Edward Madigan, stating their opposition to the use of bypass flow requirements by the Forest Service.²³⁶ Secretary Madigan replied, telling the congressmen that "[t]he Forest Service will reissue permits for existing water supply facilities for 20 years New bypass flow requirements will not be imposed on existing water supply facilities."²³⁷ A copy of this letter was forwarded to officials of the Arapaho and Roosevelt National Forests.²³⁸

The Secretary's letter caused some confusion for Arapaho-Roosevelt officials, as it appeared to direct action that was not entirely consistent with existing law.²³⁹ Rather than issuing the

234. See Letter from Mary Mead Hammond, *supra* note 228, at 4 (noting that "[t]he Forest Service's imposition of bypass flows will cause the City to lose valuable vested water rights and the annual yields on which the City depends," and that the "physical features and outlet works of Joe Wright Reservoir make it physically impossible to bypass flows in cold weather months").

235. See, e.g., Letter from Nancy A. Munns, Water Resources Manager, City of Greeley, to M. M. Underwood, Forest Supervisor, Arapaho and Roosevelt National Forests, at 6 (Nov. 24, 1992) (copy on file with author) ("The bypass flow requirement constitutes a clear injury and potential loss of water to the City Storage rights to supplement base river flows are absolutely critical to insure a dependable water supply."); Memorandum from Bennett Raley, Office of Senator Hank Brown, to Senator Hank Brown, U.S. Senate, U.S. Forest Service Authority to Require Instream Flows as a Condition of a Special Use Permit 1 (Aug. 13, 1992) (copy on file with author) ("[T]he effect of such a requirement by the USFS is to divest the right-of-way applicant of its ability to utilize a portion of its vested state water rights . . .").

236. Letter from Malcolm Wallop et al., United States Congress, to Edward R. Madigan, Secretary, U.S. Department of Agriculture (Aug. 12, 1992) in FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at app. B.

237. Letter from Edward Madigan, Secretary, U.S. Department of Agriculture, to Senator Hank Brown, U.S. Senate 1 (Oct. 6, 1992) in FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at app. B.

238. Cf. RECORD OF DECISION, *supra* note 224, at 6 (quoting from the Secretary's letter, and indicating that is was one of the factors considered in making the permitting decision for Joe Wright Dam and Reservoir); Getches, Who Governs, *supra* note 224, at 2 (stating that the Secretary of Agriculture subsequently directed officials of the Arapaho and Roosevelt National Forests to reissue the permits).

239. See Getches, Who Governs, *supra* note 224, at 9-10 (stating that local Forest Service officials, on advice of counsel, decided that the permits could not be issued without first complying with procedures required by the National Environmental Policy Act). Forest Supervisor M. M. Underwood, in his effort to deal with Secretary Madigan's letter, later wrote:

permits immediately, the officials began consideration of the permit renewals within the context of procedures established by the National Environmental Policy Act²⁴⁰ and the Endangered Species Act.²⁴¹

In the meantime, three of the project owners,²⁴² with a total of four projects in the Cache la Poudre River watershed, developed a voluntary measure known as the Joint Operations Plan ("JOP"), in which they would cooperatively manage their projects in such manner as to ensure greater flows in the mainstem Cache la Poudre River during the winter.²⁴³ In return, they asked the Forest Service to forego the imposition of bypass flows on their permits, reasoning that the JOP would do more to improve aquatic habitat in the national forest than would the provision of bypass flows below the dams on the relatively short segments of the tributary channels on which the projects were located.²⁴⁴

When the permits were finally issued in July 1994, only two of the permits,²⁴⁵ including the permit for Fort Collins' Joe Wright

[F]ormer Secretary Madigan directed the Forest Service to "reissue permits for existing water supply facilities for 20 years with provisions to recognize and respect both the rights of the applicants and the multiple-use objectives of the National Forests. New bypass flow requirements will not be imposed on existing water supply facilities The permits will also obligate the permittee to accommodate resource goals of the Forest. This accommodation will be to the extent feasible without diminishing the water yield or substantially increasing the cost of water yield from the existing facility."

I read this letter as one which encourages me to work within the confines of existing law to meet its objectives. . . .

When, in my judgment, voluntary mitigation will not reduce significant resource damage to minimum acceptable levels, I will not be able to implement the Madigan letter consistent with applicable laws.

RECORD OF DECISION, *supra* note 224, at 6 (first ellipsis altered from original).

240. 42 U.S.C. §§ 4321-4370 (1994).

241. 16 U.S.C. §§ 1531-1543 (1994). Though Endangered Species Act provisions played an important role in the terms of the permits that were eventually issued, due largely to the presence of four threatened or endangered species downstream along the Platte River in Nebraska, endangered species authorities and issues are not specific to the Forest Service or to the national forests, and are not further addressed in this comment. For a brief discussion of the impact of the Endangered Species Act on western water rights, see GILLILAN & BROWN, *supra* note 63, at 267-77; for a more extended discussion, see A. Dan Tarlock, *The Endangered Species Act and Western Water Rights*, 20 LAND & WATER L. REV. 1 (1985).

242. The City of Fort Collins, the City of Greeley, and the Water Supply and Storage Company.

243. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at pt. VIII; sources cited *supra* note 224.

244. See sources cited *supra* note 224.

245. There were seven permits originally at issue; five permits were issued

Dam and Reservoir, contained bypass flow requirements.²⁴⁶ Forest Supervisor Skip Underwood reasoned that participation in the JOP alone was not sufficient to meet Forest Service requirements for the reservoir:

The revised JOP would deliver more water to the Cache la Poudre River, but still did not provide water in Joe Wright Creek below Joe Wright Reservoir. . . .

I did not find the JOP acceptable for Joe Wright Reservoir because it does not offer any mitigation for aquatic habitat in Joe Wright Creek between Joe Wright Reservoir and Chambers Lake. There remained up to eight months of zero or near zero flows. In the half-mile section immediately below the reservoir the habitat potential for all life stages of all fish species was zero.²⁴⁷

The entire process of evaluating the permits in the face of conflicting pressures proved difficult for the Forest Service. In the permit decision for Joe Wright Dam and Reservoir, Forest Supervisor Underwood wrote:

The decision before me was a difficult one which has required considerable consultation, deliberation, and reflection in search of the proper balance of multiple uses on Federal lands

I had before me: the Secretary's letter to authorize the uses without additional bypass flows; a good faith effort and proposal by several facility owners to mitigate effects in the Cache la Poudre River; FLPMA directing me to put terms and conditions in land-use authorizations to protect fisheries; the Forest Plan directing me to require bypass flows and meet aquatic habitat standards; and many interested parties' comments and opinions.

during the summer of 1994 and the other two were postponed indefinitely. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at III-1.

246. See RECORD OF DECISION, *supra* note 224, at 1. The other permit requiring a bypass flow was for the City of Loveland's Idylwilde reservoir, dam, and pipeline in the Big Thompson River watershed. See FOREST SERVICE, U.S. DEPT OF AGRIC., DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT, LAND-USE AUTHORIZATION FOR IDYLWILDE RESERVOIR, DAM, AND PIPELINE AND AMENDMENT TO THE LAND AND RESOURCE MANAGEMENT PLAN (July 29, 1994) (on file with author). The bypass flow requirement for the Idylwilde project consists of a requirement that Loveland operate the project in compliance with a Memorandum of Agreement between the City of Loveland and the Colorado Department of Wildlife that requires a year-round flow below the dam. See *id.* at 11.

247. RECORD OF DECISION, *supra* note 224, at 9.

Water uses continue to be a welcome and legitimate use of the public's lands, just as they have been for decades. . . . I desire to accept voluntary measures that reasonably protect resources on public land. If collaboration does not produce a plan that minimizes damage as required by FLPMA, then I must require different or additional mitigation. My job is to find a balance between the use of NFS lands for water facilities and protection of aquatic resources.²⁴⁸

As implied by Supervisor Underwood's comments, the careful, balancing approach used by the Forest Service in evaluating the permit applications took place amidst an ongoing and very public debate about the propriety of using bypass flow requirements for water projects located in the national forests. The issue received substantial media attention,²⁴⁹ was the subject of hearings before the Colorado legislature,²⁵⁰ and continued to receive attention from some members of Congress.²⁵¹ Colorado's Senator Hank Brown proposed the "Brown Amendment" to the 1996 Farm Bill,²⁵² subsequently adopted by the United States Senate, that would not only have amended FLPMA to, among other things, make bypass flow conditions in permit renewals unlawful,²⁵³ but would also have prohibited the imposition of any other conditions that would increase the cost of water to water rights holders.²⁵⁴

248. *Id.* at 10.

249. *See, e.g.*, sources cited *supra* note 223.

250. *See, e.g.*, Statement of Elizabeth Estill 1994, *supra* note 3; Statement of Elizabeth Estill, Regional Forester, Rocky Mountain Region, U.S. Dep't of Agric., Forest Service, Before the Interim Committee on Water and State School Lands, Colo. State Legislature (July 9, 1993) (copy on file with author).

251. *See generally* Pamela Baldwin, Congressional Research Service, Memorandum: Farm Bill Language on Federal/State Water Rights (Feb. 27, 1996) (describing House and Senate reports and legislative amendments concerning the issue of Forest Service bypass flow requirements) (copy on file with author).

252. *See id.* at 1-2.

253. *See id.* (referring to S. 1541, 142 Cong. Rec. S1036, which passed the Senate on February 7, 1996 (originally proposed as an amendment to FLPMA, 43 U.S.C. §§ 1701-84 (1994))). As originally proposed, but not passed, the amendment would have applied to the issuance of permits for new projects as well as for permit renewals on existing projects. *See* Baldwin, *supra* note 251, at 2.

254. *See id.* at 2. The Brown Amendment stated:

[T]he Secretary of Agriculture may not require, as a condition of, or in connection with, the renewal of a right-of-way under this section, a restriction or limitation on the operation, use, repair, or replacement of an existing water supply facility which is located on or above National Forest lands or the exercise and use of existing water rights, if such condition would reduce the quantity of water which would otherwise be made available for use by the owner of such facility or water rights, or

A compromise on the proposed Farm Bill language was eventually reached. As enacted and subsequently amended, the Federal Agricultural Improvement and Reform Act of 1996²⁵⁵ declared that there would be a twenty-month moratorium on the imposition of bypass flow requirements by the Forest Service.²⁵⁶ It also provided for the establishment of a seven-member Water Rights Task Force to study and make a report on national forest water issues.²⁵⁷ The statute provides:

The Task Force shall study and make recommendations on—

(A) whether Federal water rights should be acquired for environmental protection on National Forest lands;

(B) measures necessary to protect the free exercise of non-Federal water rights requiring easements and permits from the Forest Service;

(C) the protection of minimum instream flows for environmental and watershed management purposes on National Forest land through purchases or exchanges from willing sellers in accordance with State law;

(D) the effects of any of the recommendations made under this paragraph on existing State laws, regulations, and customs of water usage; and

(E) measures that would be useful in avoiding or resolving conflicts between the Forest Service's responsibilities for natural resource and environmental protection, the public interest, and the property rights and interests of water holders with special use permits for water facilities, including the study of the Federal acquisition of water rights, dispute resolution, mitigation, and compensation.²⁵⁸

5. Task Force Conclusions and Aftermath of the Bypass Flow Controversy

The Water Rights Task Force completed its report in August 1997.²⁵⁹ Anyone expecting the task force to cooperatively and

cause an increase in the cost of the water supply provided from such facility.

Id.

255. Pub. L. No. 104-127 (Apr. 4, 1996), as amended Pub. L. No. 104-180 (Aug. 6, 1996) (codified in relevant part at 16 U.S.C. § 526 note (Supp. 1997)).

256. *See id.* § 389(a).

257. *See id.* § 389(d). The resulting report is FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220.

258. *Id.* § 389(d)(3).

259. FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220.

effectively "solve" the bypass flow controversy was likely, however, to have been disappointed. Although there were a few areas of agreement,²⁶⁰ the task force divided sharply along partisan lines in most of the report,²⁶¹ with the three-member minority choosing to write a dissenting section of the report.²⁶² The chairman of the task force had been an active participant in the controversy, first as a staff member to Senator Hank Brown,²⁶³ and later as attorney for one of the water project owners,²⁶⁴ the bulk of the task force report reads much like a legal advocacy brief directed against the Forest Service.²⁶⁵

260. See *id.* at IX-4 to IX-5 (identifying areas of agreement between majority and minority members of the task force).

261. The Speaker of the House and Majority Leader of the Senate each appointed two members of the task force, and the Secretary of Agriculture, Minority Leader of the House of Representatives, and Minority Leader of the Senate each appointed one member, for a total of seven members. See 16 U.S.C. § 526 note (Supp. 1997), at § 389(d)(2). The four-member majority was composed of those members appointed by the majority leaders of Congress, while the three-member minority consisted of the two members appointed by the minority leaders of Congress and the single member appointed by the executive branch.

262. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at pt. IX (describing the "separate views" of Elizabeth Ann Rieke, David H. Getches, and Richard Roos-Collins).

263. See, e.g., Memorandum from Bennett Raley, Office of Senator Hank Brown, to Senator Hank Brown, *supra* note 235. Bennett Raley was chairman of the Federal Water Rights Task Force. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at cover page.

264. See, e.g., *In Re Land-Use Authorizations for Barnes Meadow Reservoir Enlargement and Peterson Lake Reservoir*, Appeal to the Reg'l Forester, Rocky Mountain Region (Region 2), U.S. Forest Service 1 (Sept. 12, 1994) (on file with author) (showing signature of Bennett W. Raley as attorney for the City of Greeley).

265. See, e.g., FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at Executive Summary (defining the start of the controversy as "the attempt by the Forest Service to use its permitting authority to require that urban and agricultural water users relinquish a part of their water supply in order to provide water for the secondary purposes of the National Forest"); *id.* at II-1 ("Attempts by federal agencies to avoid recognition of non-federal water rights is not a new development in the relationship between states and the federal government."); *id.* at II-3:

Frustrated by the fact that federal water rights must be exercised in priority, and therefore do not allow the Forest Service to control the use of water belonging to senior water rights used for non-federal purposes, the Forest Service has turned to its regulatory authority in an attempt to control the diversion and use of water owned by others.

Cf. id. at IX-6 (indicating task force dissenters' disagreement with "the tone, premises, and conclusions of the majority report"). In general, compare Memorandum from Bennett Raley to Office of Senator Hank Brown, *supra* note 235, FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at pts. I to VII, X.

The dissenting members of the task force characterized Forest Service actions, and the resulting controversy, much differently:

The agency has usually attempted to respect the equities of companies and cities who were granted privileges to use the federal lands and streams for their water facilities and at the same time to fulfill its legal responsibilities for protecting public resources. It has tried to accommodate facilities that have a long tradition of using public land and water supplies with its mandates to protect fish and wildlife. The Forest Service has rarely refused to renew permits, even where they were the cause of serious environmental problems. Instead, in a small number of cases, it has issued permits that require owners of dams and other facilities to leave enough water in the streams of the National Forests to sustain fish life during times of low water flows. It is the objection of the facility owners to such conditions that has created this controversy.²⁶⁶

Elsewhere, the dissenting members noted that "the by-pass flow authority has rarely been used. *Of 8,370 permits issued for water facilities on the National Forests, we believe that only fifteen include requirements for by-pass flows,*"²⁶⁷ and that "[i]ndeed, some have challenged by-pass flow conditions imposed by the Forest Service as too lenient to fulfill the agency's statutory responsibilities."²⁶⁸ The dissenters concluded:

After ten months of meetings, hearings across the West, and submission of thousands of pages of testimony and documents, it is fair to conclude that *the issue of the Forest Service attempting to impose by-pass flow conditions on grants and renewals of FLPMA authorizations has rarely arisen, and the few, isolated controversies have been resolved through negotiation.*²⁶⁹

Developments in Colorado's Cache la Poudre watershed following the Forest Service's decisions on the bypass flow requirements give credence to the observations and conclusions of the task force minority. As of Fall 1997, the Joint Operations

266. FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at IX-2.

267. *Id.* at IX-3 (double emphasis in the original).

268. *Id.* at IX-4 (citing *Trout Unlimited v. United States Dep't of Agric.*, Civil No. 96-WY-2686-WD (D. Colo. filed June 5, 1995)).

269. FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at IX-5.

Plan, formalized by a Memorandum of Understanding ("MOU") between the City of Greeley, City of Fort Collins, and Water Supply and Storage Company,²⁷⁰ had been in operation for three years.²⁷¹ The MOU calls for the three entities to operate their projects cooperatively in such manner as to provide flows of ten cubic feet per second in the mainstem Cache la Poudre River from November through March, up to a maximum of 3,000 acre-feet annually.²⁷² Water released from the reservoirs to provide flows through the national forest is diverted for municipal purposes by one of the MOU signatories after the water has left the forest.²⁷³ Water releases from one of the MOU parties that are diverted and used by one of the other MOU parties are repaid by the latter to the former during the same water year, at times and locations acceptable to the former.²⁷⁴

Initial evaluation of the JOP indicates that the plan has been successful in maintaining and even improving trout habitat above natural conditions during the critical low-flow winter months,²⁷⁵ and the MOU parties appear to be pleased with the arrangement.²⁷⁶

The City of Fort Collins in 1995 obtained an easement from the Forest Service for lands occupied by Joe Wright Dam and Reservoir.²⁷⁷ The easement is to continue for a period of fifty years, or so long as the property is used for municipal water

270. Joint Operations Plan, Memorandum of Understanding (Mar. 22, 1995) (on file with author).

271. See Letter from Dennis A. Bode, Water Resources and Planning Manager, City of Fort Collins, to the author (Sept. 24, 1997) (on file with author).

272. Joint Operations Plan, Memorandum of Understanding, *supra* note 270, at 1; see also FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at VIII-1.

273. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at VIII-1.

274. Joint Operations Plan, Memorandum of Understanding, *supra* note 270, at 2.

275. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at VIII-1 to VIII-2; Letter from Jon G. Monson, Director of Water and Sewer, City of Greeley, to Dennis Bode, Water Resources Manager, City of Fort Collins (Aug. 6, 1997) (on file with author).

276. See, e.g., Letter from Dennis A. Bode to author, *supra* note 271 (stating that "[t]he plan has been in operation for three years and I think it works quite well"); Letter from Jon G. Monson to Dennis Bode, *supra* note 275 (indicating that the JOP has been successful, the improvement in trout habitat has been impressive, and that the City of Greeley wants to continue with the JOP and is committed to doing so).

277. See Forest Service, U.S. Dep't of Agric., Water Facility Easement (Jan. 6, 1995) (on file with author).

supply purposes, whichever is less.²⁷⁸ The easement contains provisions which call for revisions of the terms in the years 2014 and 2034 to “reflect changing times and conditions . . . to the same extent as if the easement had been terminated and a new easement issued except that the question of whether the occupancy is in the public interest and can be continued will be answered in the affirmative.”²⁷⁹ The easement also contains terms incorporating the bypass flow requirement which require the City of Fort Collins to maintain a minimum flow in the creek directly below the reservoir of three cubic feet per second, or natural inflow, whichever is less, from April 1 to September 30, and one cubic foot per second from October 1 to March 31.²⁸⁰

Modifications to the outlet works of Joe Wright Dam, to allow releases of the required minimum flows, was completed in December 1996.²⁸¹ Despite the November 1992 claim that the modifications “would likely cost the City in excess of one million dollars,”²⁸² the modification was completed for \$81,770.²⁸³ And, despite the earlier claim that the bypass flows would cost the city much of its water,²⁸⁴ the City of Fort Collins apparently does not expect to lose any water at all from imposition of the bypass flow requirement.²⁸⁵

278. *Id.* at I.B.

279. *Id.* at I.B. to I.C.

280. *Id.* at IX.B.

281. See Letter from Dennis A. Bode to author, *supra* note 271.

282. See Letter from Mary Mead Hammond to Austin Condon, *supra* note 228, at 4; *supra* text accompanying note 234.

283. See WATER UTILITIES, CITY OF FORT COLLINS, 1996 ANNUAL OPERATING REPORT 19 (1997) (on file with author); see also Water Board, City of Fort Collins, Meeting Minutes 17-18 (Aug. 19, 1994) (describing discussion between board member and water utilities staff regarding the surprising decrease in anticipated cost of the modification, in which a staff person states that “[o]nce we began looking at it and became a little more creative, the costs went down”) (on file with author).

284. See Letter from Mary Mead Hammond to Austin Condon, *supra* note 228, at 4; *supra* text accompanying note 234.

285. See Water Board, City of Fort Collins, Meeting Minutes 6-7 (Nov. 17, 1995) (on file with author) (noting that a Water Utilities staff member has “worked out exchanges with other entities, and the reservoir will be operated in such a way that we shouldn’t lose much, if any, water”); Water Board, City of Fort Collins, Meeting Minutes 7 (Jan. 20, 1995) (on file with author) (disputing the notion that the city would lose 1400 acre-feet of water due to the bypass flow, because “[w]e will determine a way to use it, so we really can’t consider it a cost”); Water Board, City of Fort Collins, Meeting Minutes 17 (Aug. 19, 1994) (on file with author) (explaining that “with special arrangements, we will be able to recapture the water downstream”); Water Board, City of Fort Collins, Meeting Minutes 12 (July 15, 1994) (on file with author) (noting that staff have probably figured out a way to avoid losing

III. WILL THERE BE WATER FOR THE NATIONAL FORESTS?

A. *The Insufficiency of Current Methods*

Part II.A. indicated that to fully protect the water resources needed to achieve mandated purposes, accomplish management goals, and satisfy existing and future uses of the national forests, the Forest Service would have to accomplish three general goals: (1) protect national forest water resources from threats arising within the national forests; (2) protect water resources from threats arising outside national forest boundaries; and (3) increase existing streamflow levels, at least to the extent that streamflows have already been diminished below the levels necessary to accomplish national forest objectives.²⁸⁶

This comment has illustrated that federal reserved rights and state water laws offer little assistance to the Forest Service in reaching these goals. Federal reserved rights theoretically could accomplish all three objectives, provided that the priority date of a new federal reserved right was prior in time to the rights of competing water users.²⁸⁷ However, because the availability of federal reserved rights for the national forests has been limited severely,²⁸⁸ this method cannot be used to protect the full range of national forest water needs.

The creation of new water rights under state law could protect national forest water resources from future threats arising within or outside national forest boundaries, and thus accomplish objectives one and two. But new state water rights, given their recent (junior) priority dates, could not be used to increase water flows, and thus would not accomplish objective three, unless the Forest Service was allowed to purchase the water rights of existing (senior), competing water uses and convert the rights to instream use. However, the ability of the Forest Service to obtain new water rights, or transfer existing water rights to instream purposes, or to hold either new or existing water rights for the purpose of protecting instream

water should bypass flows be required); Water Board, City of Fort Collins, Meeting Minutes 14 (June 17, 1994) (on file with author) (describing statement by Water Utilities staff member that “[a]ctually we could probably recover most or all of the winter water releases”).

286. See *supra* Part II.A.

287. See *supra* Part II.B.2.

288. See *supra* Part II.B.3-4.

resources under state law is, as with federal reserved rights, also severely limited.²⁸⁹

This leaves administrative measures taken pursuant to Forest Service land management authority—the very method of protecting national forest water resources that has recently come under attack.²⁹⁰ Forest Service permitting activities have not, however, at least so far, been attacked with respect to *new* water developments in the national forests. Therefore, permitting activities could be effective in meeting objective one, protecting national forest water resources from threats arising within national forest boundaries, at least for threats associated with future water development projects. Administrative measures have never had the capacity to protect national forest water resources from threats arising *outside* national forest boundaries, or within private inholdings within the national forests, and thus have no capacity to accomplish objective two.

The extent to which administrative measures could be used to increase streamflows above existing levels, and thus accomplish objective three, is completely dependent upon the extent to which the Forest Service will be allowed to impose new conditions on existing water development permits through permit renewal. Since this is precisely the situation that has drawn the most controversy and the ongoing review, it is not at all clear that this method will be available to the Forest Service.

One conclusion to be drawn is that no single method of protecting stream flows is likely to be sufficient to protect national forest instream resources. A closely-related second conclusion is that the Forest Service will therefore need to have an array of methods at its disposal if it is to accomplish statutory mandates, meet management goals, and satisfy existing and future uses of the national forests. It should be noted that the availability of an array of methods also has an important advantage in that it provides a means for the Forest Service to tailor protective mechanisms to the precise mixture of geographic, hydrologic, biologic, legal, economic, and social conditions that exist for any given river or stream.

The third, and most important, conclusion that one can draw from the description of methods and limitations described in Part

289. See *supra* Part II.C.3-4.

290. See *supra* Part II.D.4.

III is that the Forest Service does not currently have at its disposal methods that are capable of fully protecting the statutory purposes, management goals, and existing and projected future uses of the national forests. The unavailability of federal reserved rights, limitations on agency attempts to acquire instream water rights under state law, and the political pressure being applied to the agency's use of administrative procedures have left the Forest Service without the ability to ensure that water needed for fish, wildlife, recreation, aesthetics, channel maintenance, and ecosystem protection will be available for use in the national forests. Additional authorities are needed if the Forest Service is to protect and preserve these national forest resources.

B. Methods Necessary to Accomplish National Forest Purposes

1. Use of Existing Measures

The Forest Service will need to do several things if it is to protect instream water uses in the national forests. It must continue to exercise all of its existing authorities in situations where those authorities are effective. The Forest Service will need to continue to seek federal reserved water rights for those few purposes for which these rights are available, primarily administrative purposes and possibly channel maintenance; to seek water rights under state law in those few states that allow federal agencies to obtain water rights for the particular purposes and quantities needed to protect instream resources; to scrutinize closely all proposals for new or modified water developments within the national forests and to prevent adverse impacts on national forest resources by denying or conditioning permits; and to seek out opportunities for coordination and cooperative management of existing projects and facilities that, like the Joint Operations Plan in the Cache la Poudre watershed, have the potential to meet national forest water needs without significantly impacting existing water uses.

The Forest Service will also need additional authorities if national forest mandates, goals, and uses are to be protected and achieved. To start with, the agency's ability to protect national forest water resources would be greatly enhanced by congressional affirmation of Forest Service authority to impose new

conditions on the permits of existing water facilities. Exercise of this authority would allow the Forest Service over time, as permits came up for renewal, to mitigate past damages to national forest resources resulting from water development.

While the use of permit conditions on existing water rights has created controversy, the equities involved in imposing new conditions on water projects that have already been constructed are not as adverse as one might first suspect. Though water users might incur additional expenses for modifications that would allow the release of bypass flows from existing facilities,²⁹¹ and may actually lose some water, depending on water availability and provisions of state water law,²⁹² there are a number of factors weighing in on the other side of the balance. First, those who have built water facilities on national forest lands have in effect been subsidized, as they have been allowed to build their projects (including dams, reservoirs and the rights-of-way which access roads, canals, and pipelines) on public lands instead of having to negotiate and purchase the lands from multiple private land owners; private developers are using public resources, with Forest Service approval, for private gain.

Second, water developments in the national forests were constructed and operated subject to the terms of permits with specified expiration dates. Water developers, no less than any lessee who signs a lease of specified duration, should have no realistic expectation that permits will be renewed at the end of the permit period without the addition of new terms designed to reflect changes that have occurred in the interim.

Furthermore, the creation of adverse effects to the national forest resulting from water development does not lead automatically to the imposition of permit conditions. The Forest Service intends for the national forests to be available for water develop-

291. See, e.g., *supra* text accompanying note 283 (stating that it cost Fort Collins \$81,770 to modify Joe Wright Dam to allow year-round bypass flows).

292. It is possible, though not yet legally tested or confirmed, that under state water laws the amount of water bypassed through a facility to meet the terms of Forest Service special use permits would be deducted from the amount of water that the facility owner would be allowed to divert or store under the terms of its state water right. See *supra* text accompanying note 234 (describing the initial claims made by the attorney for the City of Fort Collins). But note that the City of Fort Collins does not expect to actually lose any water as a result of the bypass flow condition now that the bypass flows have been implemented. See *supra* text accompanying notes 284-85.

ment,²⁹³ and imposes conditions only when necessary to protect forest resources. For example, the Forest Service plan for the Arapaho-Roosevelt National Forests, where the bypass flow controversy arose, calls for conditions on water development projects to maintain habitat at only forty percent or more of potential²⁹⁴—which leaves substantial room for water development to adversely modify habitat without drawing restrictive conditions. The Forest Service engages in a careful balancing of factors and interests when determining whether to impose permit conditions,²⁹⁵ and does not usually impose any conditions; the Forest Service imposed bypass flow conditions on only two of the five permits at issue in the Arapaho-Roosevelt controversy,²⁹⁶ one of which merely ratified an existing agreement between the developer and the state,²⁹⁷ and on only 15 of the 8,370 permits issued nationwide.²⁹⁸

The ability to exercise permitting authority on existing water developments may also be crucial to the implementation of cooperative management projects such as the Cache la Poudre Joint Operations Plan. One wonders what inducement the owners of water developments would have to engage in such voluntary, cooperative measures if not for the possibility that the Forest Service would otherwise impose more extensive, or expensive, conditions in the terms of their special use permits. An explicit statement from Congress that it is both intended and desirable for the Forest Service to exercise such authority would significantly enhance the effectiveness of this method of protecting forest resources by reducing the probability of expensive and time-consuming opposition and appeals.

293. See *supra* text accompanying note 3 (Elizabeth Estill, Regional Forester, stating that water uses continue to be welcome in the national forests); RECORD OF DECISION, *supra* note 224 (Forest Supervisor Skip Underwood, stating the exact same thing).

294. See RECORD OF DECISION *supra* note 224, at 4.

295. See *supra* text accompanying notes 248, 266.

296. See *supra* text accompanying notes 245-46.

297. See *supra* note 246.

298. See *supra* text accompanying notes 267-68.

2. The Use of New Measures: A New Reliance on Federal Law?

Reaffirmation of the Forest Service's authority to condition new and existing water development permits alone will not enable the Forest Service to protect national forest resources and uses. Because the permitting authority is operative only within the national forests, the national forests would still be vulnerable to threats arising outside the jurisdiction of the Forest Service.

Water rights, as legally protected property interests, could protect national forest water resources from threats arising outside the forests. However, water rights for instream purposes in the national forests are, even in the limited situations in which they are available, severely restricted in scope under both federal and state law. And even if the Forest Service was given the financial resources necessary to purchase or condemn the state water rights threatening national forest water uses, the agency would be barred under the laws of most of the western states from exercising those rights to protect the full range of instream water uses occurring in the national forests. Barring widespread changes in water laws throughout the western states that would allow federal agencies to hold and exercise water rights for a full range of instream purposes, the Forest Service will be able to use water rights to protect national forest instream water uses only through expanded use of federal law.

The concept of a water right supported by federal law is neither radical nor new, even apart from the federal rights arising by implication under the federal reserved water rights doctrine.²⁹⁹ The federal Wild and Scenic Rivers Act ("WSRA")³⁰⁰ *explicitly* addressed the subject of water rights, and in so doing may have provided a model for water rights in the national forests.³⁰¹

Water rights under the WSRA are addressed in at least two ways. First, the WSRA addressed the subject of water rights

299. For a description of the federal reserved water rights doctrine, see *supra* Part II.B.1.

300. 16 U.S.C. §§ 1271-1287 (1994).

301. A key characteristic of federal reserved water rights that distinguishes those rights from the federal water right found under the WSRA is that under the federal reserved water rights doctrine water rights are said to have been created by *implication*, if necessary to accomplish the specific purposes for which the federal lands were reserved. See *supra* Part II.B.

generally, although unfortunately in a somewhat convoluted manner: "Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this chapter, or in quantities greater than necessary to accomplish these purposes."³⁰² Stated more directly, the WSRA reserves water for specified purposes, but only in the quantities necessary to accomplish those purposes.³⁰³

Second, and more clearly, Congress has specifically addressed the subject of water rights for at least some individual rivers designated under the WSRA, such as the Cache la Poudre in Colorado³⁰⁴ and the Clarks Fork in Wyoming.³⁰⁵ While Congress directed that the water rights of each of these designated rivers should be *adjudicated* in state courts,³⁰⁶ it took measures to ensure that state law would not be used to frustrate Congress'

302. 16 U.S.C. § 1284(c).

303. There is widespread agreement among commentators that the Act does, in fact, authorize federal agencies to assert water rights for rivers designated as part of the Wild and Scenic Rivers System. See, e.g., PAMELA BALDWIN, *THE LIBRARY OF CONGRESS, WATER RIGHTS AND THE WILD AND SCENIC RIVERS ACT* (1990); Brian E. Gray, *No Holier Temples: Protecting the National Parks Through Wild and Scenic River Designation*, 58 U. COLO. L. REV. 551 (1988); A. Dan Tarlock & Roger Tippy, *The Wild and Scenic Rivers Act of 1968*, 55 CORNELL L. REV. 707 (1970). To date, however, very few water rights have been granted for Wild and Scenic rivers. In part this is due to the fact that Wild and Scenic Rivers are protected through other means, or because of the remote locations of many of the designated rivers, have not been thought to require protection. See GILLILAN & BROWN, *supra* note 63, at 283-84. Other reasons include the fact that water rights determinations are very expensive, and that any rights asserted outside the context of state law are controversial, and hence often avoided by federal agencies. See *id.* at 284-85. Another significant limitation for the Forest Service in utilizing the WSRA to obtain water rights for instream purposes in the national forests is that there are relatively very few rivers that have been designated under the Act. As of 1994, there were only 165 such rivers nationwide, and three-quarters of those were in just three states, Alaska, California, and Oregon. See *id.* at 278, 278 fig.10.1, and 286. Most of the rest were in Idaho and Montana. New Mexico had five, Arizona, Colorado, and Wyoming each had only one, and Nevada and Utah did not have any. See *id.*

304. 16 U.S.C. § 1274(a)(57) (1994).

305. 16 U.S.C. § 1274(a)(116) (1994).

306. The 1952 McCarran Amendment, codified at 43 U.S.C. § 666 (1994), waived the immunity of the federal government from being joined in suits to establish and quantify the water rights of an entire watershed. The effect, and intent, of the amendment was to make possible the adjudication of water rights held by the federal government, whether arising under federal or state law, to be adjudicated, along with all other rights in a watershed, in a single setting—the state courts.

intent that these rivers be given water rights. For example, Congress ensured that Wyoming state law, which narrowly defines the instream uses qualifying as "beneficial use" to include only the minimal amounts of water needed for fisheries,³⁰⁷ would not be used to frustrate the purposes of the Clarks Fork designation:

The Secretary of Agriculture is directed to apply for the quantification of the water right reserved by the inclusion of a portion of the Clarks Fork in the Wild and Scenic Rivers System in accordance with the *procedural* requirements of the laws of the State of Wyoming: *Provided, That, notwithstanding any provision of the laws of the State of Wyoming otherwise applicable to the granting and exercise of water rights, the purposes for which the Clarks Fork is designated, as set forth in this Act and this paragraph, are declared to be beneficial uses and the priority date of such right shall be the date of enactment of this paragraph.*³⁰⁸

This directive from Congress allowed the state to integrate the Clarks Fork water right into its own water rights system by using state *procedures* to quantify the right, while bypassing onerous *substantive* restrictions imposed by the state on instream flow rights. A similar outcome was achieved on the Cache la Poudre River, where the water right was based on federal law designating the Poudre as a Wild and Scenic River, but adjudicated in state water court.³⁰⁹

307. See WYO. STAT. ANN. § 41-3-1001(a) to (b) (Michie 1995); *supra* text accompanying note 152.

308. 16 U.S.C. § 1274(a)(116)(C) (1994) (first and third emphases added).

309. See *In re Reserved Water Rights for the Cache La Poudre Wild and Scenic River*, No. 86CW367 (Colo. Dist. Ct., Water Div. No. 1, Apr. 13, 1993) (granting decreed water rights to all of the native water in the designated portions of the river, with a priority date of Oct. 26, 1986, subject to valid prior appropriations made under Colorado law). Readers may be curious as to why the Forest Service would try to impose environmentally-protective conditions on permits for water development projects affecting the Cache La Poudre River, described *supra* Part II.D.4, if there was already an instream water right based on federal law for the river. There are at least two primary reasons: (1) Wild and Scenic River status, and therefore the federal water right, exists only for tributaries and reaches of streams that are specifically designated by Congress for inclusion in the Wild and Scenic Rivers System, which in this case did not include the tributaries at issue in the bypass flow controversy; and (2) the priority date of the water right for the Poudre was Oct. 26, 1986, which made the right junior to, and thus ineffective against, virtually all other water rights on the river. Note also that the title of the state court document refers to the water right for the Poudre as a "reserved" right, despite the fact that the water

There is no reason that Congress could not similarly provide for the creation of water rights for the national forests in situations in which state law creates obstacles that would otherwise frustrate national forest purposes. A good argument could be made that Congress, through the NFMA and FLPMA, has already provided the Forest Service with the authority necessary to override restrictive or conflicting state law and establish water rights for national forest purposes.³¹⁰ However, the Forest Service has not yet asserted such authority, and, given the objections raised against the Forest Service's permitting authority, would likely face substantial resistance from other water users and the states if it tried. Congress could more definitively establish the authority by passing new legislation or amending existing legislation to include more explicit language.

Water rights based on explicit statutory language creating the rights would, like rivers designated under the Wild and Scenic Rivers Act, have priority dates corresponding with the dates upon which the rights were first asserted. Thus, the rights would not interfere with previously-existing water rights. The rights would, however, give the Forest Service a legally-protected property interest with which to protect national forest water resources from future threats arising either within or outside the national forests.

Federally-created water rights would also provide the Forest Service with a mechanism for protecting water rights that it obtains through purchase or condemnation in situations where

right was granted expressly and in the absence of a land reservation, whereas the federal reserved water rights doctrine creates water rights *implicitly if needed to accomplish the purposes of a federal land reservation*. In practice it is common to hear water rights based on federal law referred to as "reserved" rights, even though they do not necessarily fit within the confines of the federal reserved water rights doctrine. Indeed, Congress in creating the water right for the Cache La Poudre River used "reservation" language:

The *reservation* of water established by the inclusion of portions of the Cache la Poudre river in the Wild and Scenic Rivers System shall be subject to the provisions of this title, shall be adjudicated in Colorado Water Court, and shall have a priority date as of the date of enactment of this title.

Pub. L. 99-590 § 102, 100 Stat. 3331 (1986) (emphasis added).

310. For one such argument, see WILKINSON & ANDERSON, *supra* note 9, at 230-35. For a short discussion of the federal "nonreserved" right concept, including its possible application to the national forests, see GILLILAN & BROWN, *supra* note 63, at 197-202. The relevant provisions of NFMA, 16 U.S.C. §§ 1600-1614 (1994), and FLPMA, 43 U.S.C. §§ 1701-1784 (1994), are set forth *supra* at text accompanying notes 213-19.

state law would otherwise not allow the Forest Service to hold such rights for the specified instream purposes in the quantities purchased or condemned. Water rights obtained through purchase or condemnation would retain their original priority dates, just as do rights purchased or condemned under state law. This would allow the Forest Service to increase stream flows by the amount of the water right obtained,³¹¹ rather than to merely maintain existing levels of stream flow. Condemnation of water rights, in circumstances where willing sellers could not be found, would, of course, require payment of just compensation under the terms of the Fifth Amendment.³¹²

Importantly, it is not clear that Congress will actually provide the funds needed for the Forest Service to purchase or condemn water rights for the national forests. One area of agreement among the Federal Water Rights Task Force majority and minority was that a revolving fund should be established to reinvest at the local level funds collected by the Forest Service through permit fees and related activities.³¹³ Whether such a fund would be sufficient to purchase or condemn the rights needed to protect national forest resources is not known, but the authority to purchase or condemn existing water rights, without corresponding funds to pay for them, would not improve the circumstances of the national forests.

IV. CONCLUSION

Over a century has passed since the first forest reserves were created to protect watersheds and timber. In the intervening years, the statutory purposes, management goals, and public uses of the national forests have expanded considerably. The methods available to the Forest Service to protect water resources in the national forests have not kept pace. Fish and wildlife, recreation, aesthetics, channel maintenance, and ecosystem management have joined, and in many ways eclipsed, timber cutting, mineral development, and grazing as important purposes and uses of the

311. This assumes that the priority dates of the purchased or condemned water rights are senior enough to be receiving water on a regular basis. Without such seniority, there would be no reason to purchase the rights.

312. U.S. CONST. amend. V (“[N]or shall private property be taken for public use, without just compensation”).

313. See FEDERAL WATER RIGHTS TASK FORCE, *supra* note 220, at IX-8 n.77.

national forests. Many of these newer purposes and uses require, or are significantly enhanced by, the existence of flowing water in rivers and streams.

However, severe limitations on the availability and use of the three major methods available to the Forest Service to protect water resources—federal reserved water rights, water rights under state law, and administrative measures taken pursuant to Forest Service land management authorities—often prevent the Forest Service from adequately protecting instream flows in the national forests. Barring substantial changes to federal or state laws, the Forest Service will continue to be restricted to ad hoc and often ineffective methods of protecting instream resources. If this situation is to be remedied, Congress must reaffirm existing authorities of the Forest Service that have recently come under attack and create new authority to establish water rights under federal law, perhaps using the scheme established under the Wild and Scenic Rivers Act as a model. Congress will also need to provide a source of funds adequate to purchase or condemn existing water rights that are in conflict with national forest purposes and uses. Without these measures it will become increasingly difficult to achieve statutory mandates to manage the national forests for a broad array of purposes, meet ecosystem management goals, and sustain the quantity and quality of some of the most valuable uses being made of our national forests.