Applying the Reserved Rights Doctrine in Riparian States

Anita Porte Robb
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ANITA PORTE ROBB

In the United States, there are two doctrines for regulating the water rights of private individuals and state agencies. The seventeen western states use the prior appropriation system which, as the name suggests, is an adaptation of the maxim "prior in time is prior in right." Most of the remaining states follow the common law doctrine of riparian water rights. This doctrine gives owners of land along stream banks or bodies of water certain rights to the water. There are many variations of these two basic doctrines, even among neighboring states adhering to the same system. See J. CRIBBIT, PRINCIPLES OF THE LAW OF PROPERTY 298 (1962) and note 5 infra. This simplification into two doctrines is derived from the United States' basic east-west division. See J. CRIBBIT, supra, at 298. These two doctrines apply only to natural water courses, but may also affect ground water. Id

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3. O'BROWNE, R. CUNNINGHAM, J. JULLI & A. SMITH, BASIC PROPERTY LAW 190 (3d ed 1979). The doctrine of prior appropriation originated during the California gold rush. The custom arose that the first to stake out a claim had a right against subsequent claimants to both the claim and to the water supply needed to work the claim. The Supreme Court of California realized that the development of a new system of water law was necessary, since the gold miners were trespassers having no interest in the land. The court concluded that the customs of the miners should be honored by the law. Irwin v. Phillips, 5 Cal. 140 (1855)

4. The prior appropriation doctrine was soon extended to cover appropriations for purposes other than gold mining. See Rupley v. Welch, 23 Cal. 453 (1863) (upholding appropriations for purpose of irrigation). Tartar v. Spring Creek Water & Mining Co., 5 Cal. 396 (1855) (appropriation doctrine extended to usage for power). For more on the development of the appropriation doctrine see generally J. CRIBBIT, supra note 1, at 299; R. POWELL, THE LAW OF REAL PROPERTY § 734 (1979).

5. Approval of these customs by the United States was not long in coming. In 1866, the United States formally recognized these customs in a federal mining statute. Id. The Desert Land Act of 1877 severed water from land in the public domain. This meant that water rights could be acquired separately from rights in appurtenant land. Unappropriated nonnavigable waters were free for appropriation in accordance with the local laws of the lands now constituting the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, South Dakota, Utah, Washington, and Wyoming. See 43 U.S.C. §§ 321-323 (1976). For the Supreme Court's construction of the Desert Land Act, see California Oregon Power Co. v. Beaver Portland Cement Co., 295 U.S. 142 (1935).

6. This article concerns itself only with the 48 continental states.

Distinct from the riparian doctrine of reasonable use is the English rule of natural flow, which gives land owners the right to have water flow past their lands undiminished in quantity and unimpaired in quality. For discussion of the natural flow doctrine's origins and application...
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ies of water⁶ the right to reasonable use of these waters, and a correlative right protecting against any unreasonable use by other riparians which significantly diminishes the quantity or quality of water.⁷

There is a different method for determining the water rights of the federal government on land reserved for federal use.⁸ This method is known as the reserved rights doctrine. Under this doctrine, when the federal government reserves land it implicitly reserves the right to divert as much water as is necessary to meet the needs of the land.⁹

In western states, courts have determined that federal lands should receive water under the reserved rights doctrine rather than under the

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See C MEYERS & A TARLOCK, WATER RESOURCES MANAGEMENT 53-54 (1971); 5 R. POWELL, supra note 3, § 711. See also notes 13-14 infra and accompanying text.

Eight of the appropriation states claim that the common law doctrine of riparian rights has never been a part of their law. These states are Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. See 5 R. POWELL, supra note 3, § 734, at 445-46. For cases repudiating the riparian rights doctrine, see e.g., Schodde v. Twin Falls Light & Water Co., 224 U.S. 107 (1912) (involving the water law of Idaho); Mettler v. Ames Realty Co., 61 Mont. 152, 201 P. 702 (1921).

Nine states follow the California doctrine, a dual system of riparian and appropriation water rights. These states view a grant of public land as giving the patentee riparian rights. These rights are superior to subsequent appropriations, and inferior only to appropriations made while the land was publically owned. The nine states are California, Kansas, Nebraska, North Dakota, Oklahoma, Oregon, South Dakota, Texas, and Washington. For additional discussion of the California doctrine see 5 R. POWELL, supra note 3, § 734, at 445. For cases illustrating the acceptability of this dual doctrine, see e.g., Platt v. Rapid City, 67 S.D. 245, 291 N.W. 600 (1940), Clark v. Allaman, 71 Kan. 206, 80 P. 571 (1905); Crawford Co. v. Hathaway, 67 Neb. 325, 93 N.W. 781 (1903).

This article will not use “riparian” in the general sense of that term; rather, it will use the term to describe the American doctrine of pure reasonable use.

6. The term riparian is sometimes wrongly used to refer to the shores of seas or tidal lakes which do not have the character of a watercourse. The proper term in these contexts is “littoral.” See BLACK’S LAW DICTIONARY 842 (rev. 5th ed. 1979).

7. See generally RESTATEMENT OF TORTS §§ 851-854 (1939); 5 R. POWELL, supra note 3, §§ 712-718. For discussion of standards courts have used in applying this flexible reasonableness standard, see infra notes 22-26 and accompanying text.

8. Reserved lands are not the same thing as public lands which are subject to private ownership under public land laws such as the Homestead Act of 1862. A clear distinction between “public lands” and “reservations” is given in 16 U.S.C. § 796(1), (2) (1982):

(1) “public lands” means such lands and interests in lands owned by the United States as are subject to private appropriation and disposal under public land laws. It shall not include “reservations” as hereinafter defined;

(2) “reservations” means natural forests, tribal lands embraced within Indian reservations, military reservations, and other lands and interests in lands owned by the United States and withdrawn, reserved, or withheld from private appropriation and disposal under the public land laws; also lands and interests in lands acquired and held for any public purposes . . . .

state water systems of prior appropriation. Accordingly, the two systems have been made compatible so that they can harmoniously coexist in the same states. Due possibly to the smaller amount of federally reserved lands in riparian states, the question of whether the reserved rights doctrine should apply in states adhering to a riparian rights system has not been addressed.

This article suggests that the reserved rights doctrine should apply in riparian states. Section I discusses the development and operation of these two doctrines. Section II then considers whether reserved rights should be applied in riparian states, and concludes that the application would be justified. Finally, Section III confronts the problems that would arise in making these two systems compatible, and submits proposals for their resolution.

I. THE RIPARIAN AND RESERVED RIGHTS DOCTRINES

A. The Riparian Rights Doctrine

Rapid industrialization in the eastern states and intense competition for the available water supply made water too precious to justify America's continued adherence to England's riparian doctrine of natural flow. Thus, in the late nineteenth century, most of the eastern states adopted the American rule of reasonable use. The American


11 See generally Meyers, The Colorado River, 19 Stan. L. Rev. 1, 65-73 (1966). The two doctrines have been made compatible in four ways. First, the priority date for federal reservations is the date on which the federal lands were reserved. Private appropriations made before that date are superior, while later appropriations are subordinate. See Arizona v. California, 376 U.S. 340 (1964). Second, reserved rights, unlike state created appropriative rights, do not depend on the actual diversion of water. See the Arizona v. California Master's Report at 257. The third rule, an elaboration of the second, is that federal reserved rights are not subject to state laws. The right does not depend on filing or recording the claim with the state water agency, and it is not subject to state laws of forfeiture and abandonment. Id. at 261-62. Finally, the quantity of water reserved by the government is the amount necessary to fulfill the purpose of the reservation. In Arizona, for example, this amount was held to be the amount of water necessary to irrigate all irrigable land on an Indian reservation.

12 The federal government has reserved 414,725,000 acres of land in the continental United States, some in each state. Of this, over ninety percent, or 374,702,000 acres, lies in the seventeen prior appropriation states. The amount of reserved land in riparian states is only 40,023,000 acres.


ruled modified the natural flow doctrine by allowing the separate transfer of riparian rights and the use of water on nonriparian land, as long as a riparian owner cannot show actual damage. However, the American rule resembles the English rule in that the property right in riparian waters is tied to the land. This means that water generally can be used only by owners of the land along the water source. In addition, American riparian rights are vested rights and are neither acquired by use nor lost by disuse. In times of shortage, all riparian users share the available water pro rata.

The permissiveness of a riparian's use is determined by applying the standard of reasonableness. The main categories of reasonableness that courts use are reasonableness of purpose, of destination, and of use. The riparian right is temporary and usufructuary in nature. The riparian owner does not own the water itself, but may only use it as it flows by the land. See C. MAYERS & A. TARLOK, supra note 4, at 52.

This peculiar characteristic of the property right in riparian water is the basis for the "navigation servitude," which allows the government to destroy without compensation certain private uses of water in navigable streams. The common justification for the navigation servitude is that running water is incapable of private ownership. See infra note 37 and accompanying text. The riparian view that water rights are tied to the land differs from the prior appropriation doctrine, which determines rights in water irrespective of rights in land. See supra note 3.

For the exceptions to this rule, see supra note 15.


19. Public Law Review Commission, One Third of the Nation's Land 142 n.3 (1970) [hereinafter cited as Nation's Land]. Appropriation states follow a different procedure in times of shortage. Appropriate receive water ahead of all water rights acquired at later dates, and the earlier appropriations must be satisfied in full before later appropriators can receive any water. See W. Hutchins, Selected Problems in the Law of Water Rights in the West 313, 327 (1942). But see Salina Creek Irrigation Co. v. State Engineer, 13 Utah 2d 335, 374 P.2d 24 (1962) (maximum rights of prior appropriators cannot be satisfied until minimum rights of all subsequent appropriators are satisfied).

20. The reasonableness standard was in use by the 1880's. See Red River Roller Mills v. Wright, 30 Minn. 249, 253-54, 15 N.W. 167, 169 (1883).

21. For other miscellaneous categories of reasonableness, see 5 R. Powell, supra note 3, § 718. See also notes 44-47 infra and accompanying text.

22. To satisfy the test of reasonableness, the purpose must be lawful and beneficial to the taker. See 5 R. Powell, supra note 3, § 713. For a case finding reasonableness of purpose see
quantity, and of alterations in the manner of a stream's flow.

B. The Reserved Rights Doctrine

The reserved rights doctrine was first enunciated in *Winters v. United States*, which enforced the reserved water right for federal Indian reservations. In *Arizona v. California*, the United States Supreme Court extended the doctrine to non-Indian reserved federal lands. Later, *Cappaert v. United States* applied reserved rights to groundwater.


In some instances courts have refused to find a reasonable purpose. See, e.g., Chatfield v. Wilson, 31 Wis. 358 (1858) (use harming the plaintiff for spite held not to be a reasonable purpose).

Sturtevant v. Ford, 280 Mass. 303, 182 N.E. 560 (1932) (use without a demonstrable benefit to the taker and harmful to the plaintiff cannot have a reasonable purpose).

Decisions may depend on whether the water will be used on riparian land. For elaboration of this standard, see Restatement of Torts § 843 comment e, f, g (1939). ForPowell, supra note 3, at 714.

The problem here is determining each user's "fair share." See, e.g., Joerger v. Mount Shasta Power Co., 214 Cal. 630, 7 P.2d 706 (1932), Half Moon Bay Co. v. Cowell, 173 Cal. 543, 160 P. 675 (1916). For general discussion of reasonable quantity of use see R. Powell, supra note 3, § 715. This article develops a standard for determining reasonable quantity on federal reservations. See infra notes 61-79 and accompanying text.

Many circumstances are considered in determining whether a use meets this test. See R. Powell, supra note 3, § 716.

A stream's flow can be altered by detentions, constructions, backups, and increased rapidity of current. See R. Powell, supra note 3, § 717.

207 U.S. 564 (1908). The other major case in the early 1900's involving water rights for federally owned Indian reservations is United States v. Conrad Inv. Co., 156 F. 123 (C.C.D. Mont. 1907), aff'd 161 F. 829 (9th Cir. 1908).

The *Winters* court relied on two prior cases. The first was United States v. Rio Grande Dam & Irr. Co., 174 U.S. 690 (1899), which prohibited states from destroying the reserved water rights of the United States. The second case, United States v. Winans, 198 U.S. 371 (1905), based the enforcement of the reservation doctrine on the power of the United States to enter into and enforce treaties. See U.S. Const. art. II, § 2, cl. 2. (The President "shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur ... ")

While reliance on the treaty making power as a justification for enforcing reserved rights has been infrequent, some courts still refer to it on occasion. See, e.g., United States v. Adair, 478 F. Supp. 336 (D. Or. 1979). This article, however, will focus on the more commonly given justifications for the reserved rights doctrine. See infra note 34-42 and accompanying text.

373 U.S. 546 (1963). The Supreme Court's only reserved rights decision between *Winters* and *Arizona* was United States v. Powers, 305 U.S. 527 (1939), which followed the *Winters* doctrine.

In the *Arizona* decision the right to reserved water was recognized for Lake Mead National Recreation Area, Havasu Lake Wildlife Refuge, Imperial National Wildlife Refuge, and Gila National Forest. Until this opinion, there was disagreement over whether the reservation doctrine was "a special quirk of Indian water law," T release, Federal Reserved Water Rights Since P.L.9.5, 54 Den. L.J. 473, 475 (1977). The speculation was increased by the Court's apparent expansion of the reserved rights doctrine in FPC v. Oregon, 349 U.S. 435 (1955) (federal government has the right under the property clause to license a dam built on reserved land, without state concurrence). The *Arizona* decision finally ended the debate eight years after FPC v. Oregon.
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The Court's most recent reserved rights decision, United States v. New Mexico, examined the scope of reserved water rights and held that reserved water is available only to the extent it is needed to accomplish the original purpose of the land's withdrawal.

The Supreme Court has offered two justifications for imposing reserved rights. First, the commerce clause, the source of federal power over navigable waters, authorizes Congress to impair or acquire private water rights without compensation. With the modern

31 In Cappaert, the removal of underground water for agricultural purposes was limited because the pumping was decreasing the water level of a pool in Devil's Hole National Monument, thus threatening an endangered species of fish. The Court justified its decision by pointing out the close cyclical relationship between groundwater and surface water. For an explanation of this interrelationship, see 1 Water and Water Rights § 2.4 (R. Clark ed. 1967).


33 The issue in New Mexico was what quantity of water the United States had reserved in creating national forests. The Court decided that water was reserved only to accomplish the purpose of the forest, which was only "to preserve the timber or to secure favorable water flows." Id. at 718.

34 While the justifications for imposing reserved rights have been given in cases dealing with the water law of appropriation states, these justifications are equally useful in justifying the exercise of reserved rights in riparian states.

A third justification, the treaty making power, has also been offered. See supra note 27. A fourth possible authorization for reserved water rights is found in the general welfare clause. See U.S. Const. art. 1, § 8, cl. 14 ("The Congress shall have Power to... provide for the General Welfare of the United States."). This clause was relied on in Ivanhoe Irrigation Dist. v. McCracken, 357 U.S. 275 (1958), which upheld the power of Congress to acquire water for federal lands in the absence of competing state powers.

The necessary and proper clause has been suggested as a fifth source of Congress' power to acquire water rights for reserved lands. See U.S. Const. art. 1, § 8, cl. 18 (granting Congress power to "make all Laws which shall be necessary and proper for carrying into Execution... Powers vested by this Constitution in the Government of the United States."). The Court has viewed this clause as authorizing Congress to acquire property in the exercise of another constitutional power. See, e.g., United States v. Gettysburg Elec. Ry., 160 U.S. 668 (1896) (condemnation of Gettysburg battlefield).

The latter three rationales for the exercise of the reserved rights powers have been explored only in a few isolated instances, and for this reason will not be further dealt with in this article.

35 U.S. Const. art. 1, § 8, cl. 3 (Congress shall have power "To regulate Commerce among the several States.").

36. Commerce was first held to comprehend navigation in Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1 (1824).

37. This is known as the federal navigation servitude. See generally 5 R. Powell, supra note 3, § 723.1. The navigation servitude is the right of the federal government under the commerce clause to compel the removal of any obstruction to navigation without paying "just compensation" as ordinarily required by the fifth amendment. Id. For further analysis of the doctrine, see Moreale, Federal Power in Western Waters: The Navigation Power and the Rule of No Compensation, 3 Nati. Res. J. 1 (1963);Note, Effect of the Navigation Servitude on Land Reclamation, 2 Colum. J.L. & Soc. Probs. 75 (1966).

The scope of the servitude was interpreted by the Supreme Court in United States v. Rands, 389 U.S. 121 (1967) (barring compensation for the value of land as a port site when riparian land is taken by the federal government). The major problem with the navigation servitude is that its broad construction constitutes a serious cloud upon the title of many pieces of real property near water. Whenever the servitude could conceivably be held applicable by the courts, attorneys and title companies refuse to certify marketable titles. This seriously impedes the development of areas affected by the servitude. See 5 R. Powell, supra note 3, § 723.1.
extension of the scope of the commerce clause. Congress' power to regulate commerce on waterways has become extremely broad. Regulations under the commerce clause have been upheld when the navigable capacity of a waterway is affected,\footnote{38} when interstate commerce is affected,\footnote{39} or when the regulation is imposed for a valid noncommercial reason.\footnote{40}

The second source of power for reserved water rights is the Constitution's property clause.\footnote{41} Under this clause, Congress is given unlimited authority to regulate the use of federal lands, including the power to acquire the water necessary to the beneficial use of these lands.\footnote{42}

II. THE QUESTION OF APPLYING RESERVED RIGHTS IN RIPARIAN STATES

It is unclear whether the Supreme Court has ever intended that the reserved rights doctrine should apply in riparian states. There is evidence that the attorneys for the government in Winters felt that what was reserved to the government was simply a riparian right.\footnote{43} This sec-


39. The Modern Commerce Clause doctrine permits Congress to regulate any activity which affects interstate commerce alone or in the aggregate. This has meant that Congress has power under the commerce clause to regulate nearly all aspects of the interrelated American economy. For general discussions of the Supreme Court's development of this doctrine, see Stern, The Commerce Clause and the National Economy 193.4-46 (pts. 1 & 2), 59 Harv. L. Rev. 645, 883 (1946), L. Tribe, American Constitutional Law §§ 5.4-5.6 (1978).

40. Since Gibbons v. Ogden, 22 U.S. (Wheat.) 1 (1824), the broadest constructions of this power have been given in Wickard v. Filburn, 317 U.S. 111 (1942) (upholding regulation of wheat grown solely for home consumption on the grounds that in the aggregate this class of activity could affect the interstate market), and in Perez v. United States, 402 U.S. 146 (1971) (Congress can criminalize a loan shark's activities without demonstrating any interstate nexus).

41. Another line of commerce clause cases has authorized Congress to regulate interstate commerce for reasons unrelated to navigation or commerce. For example, Congress has attacked activities disfavored for noncommercial reasons by imposing "protective conditions" on the privilege of engaging in commerce. See L. Tribe, supra note 39, at 5-6. Landmark cases in this area include Champion v. Ames, 188 U.S. 321 (1903) (regulation banning interstate transportation of lottery tickets is constitutional), and United States v. Darby, 312 U.S. 100 (1941) (Congress can prohibit interstate commerce of goods made by employees whose wages and hours do not comply with the Fair Labor Standards Act).

42. See C. Meyers & A. Tarlow, supra note 5, at 226. For cases relying on the property clause as authorization for invoking the reserved rights doctrine see Arizona v. California, 373 U.S. 546 (1963) and Cappaert v. United States, 426 U.S. 128 (1976).

43. The property clause is also the basis for federal sale of water generated electric power at federal dams. See Ashwander v. Tennessee Valley Authority, 297 U.S. 288, 330 (1936).

44. In the brief which the government filed before the Supreme Court in Winters v. United States, 207 U.S. 564 (1908), the attorneys stated that "the theory of the bill of complaint is
tion considers how the water needs of government lands would be served if the federal government was treated as an ordinary riparian, and concludes that the consequences would be serious enough to the federal government to justify the application of reserved rights in riparian states.

A. The Amount of Water Available to Federal Reserved Lands Under the Riparian Doctrine

As is the case with all riparian users, the federal government's water use would have to meet the reasonableness standard. Beyond the general reasonableness categories, certain factors affect the amount of water that can be used in specific instances. One factor that can be instrumental in determining the reasonableness of the use is the social value of the use itself. The interests of the federal government could depend on the social value that courts attach to the use of water on reserved lands. If the courts consistently gave the federal government complete discretion and held that any water use on federal reservations was necessarily of great social value, the interests of the federal government would be well protected. However, the social value standard is highly flexible, and courts have held widely differing views on the social values of various uses. Thus, the courts could be expected to view the social value of some water uses made on federal lands as inferior to some private uses.

If the federal government was treated as an ordinary riparian, it would also be forced to share water pro rata with other riparians whose uses were of equivalent or greater social value. This would mean that in certain circumstances the federal government would not be able to have the amount of water it desired, even for uses which the state that the doctrine of riparian rights prevails in Montana.” Brief for Defendant at 12. See also Kiechel & Green, Riparian Rights Revisited: Legal Basis for Federal Instream Flow Rights, 16 NAT RESOURCES J. 969 (1976).

The brief also quoted extensively from Justice Brewer’s decision in United States v. Rio Grande Dam and Irrigation Co., 74 U.S. 690 (1869), which argued that the right reserved to the United States was a riparian right. Justice Brewer further stated that the state could not destroy the right of the federal government to the continued flow of its riparian waters as necessary for the beneficial use of government property. Id. at 703-04

44 See supra notes 21-26 and accompanying text
45 RESTATMENT OF TORTS § 853 comments c, d, e (1939).
46 S. POWELL, supra note 3, § 713, at 369-70. If cases always involved clearcut extremes, such as use by a hospital competing with use for an illegal still, courts would probably all agree on the social value of conflicting uses. Id. But cases are rarely so simple, and courts often disagree. In Pennsylvania, for example, the social value of coal mining has been held to be of greater social value than water use for domestic purposes. Pennsylvania Coal Co. v. Sanderson, 133 Pa. 126, 6 A. 453 (1888). The majority of courts would reject this assessment of the competing social values. See e.g., Stanford Estr Mfg Co v. Stamford Rolling Mills, 101 Conn. 310, 125 A. 623 (1924), Parker v. American Woolen Co., 195 Mass. 591, 81 N.E. 468 (1907).
courts viewed as having great social value.47

B. The Federal Government as an Ordinary Riparian—The Conflicts

Requiring the federal government to comply with state water law in riparian states would not cause some of the problems which compliance with state water law would cause in appropriation states. Most importantly, the federal government would not have to worry about acquiring advantageous early priority dates vis-a-vis state determined priorities.48 This is because all riparian landowners on a watercourse have equal rights respecting the use of water, regardless of the date on which they acquired the land or first made use of the water.49

A second fundamental conflict that would not arise involves the issue of quantity. The quantity of water included within an appropriative right is limited,50 while federal reserved rights involve an indefinite quantity of water51 thus creating a problem when these two systems are combined. By contrast, federal needs could arguably be satisfied by riparian law since quantity is determined by the flexible reasonableness standard.52

In spite of the above indications that the water needs of federal lands could be adequately met by the riparian doctrine, there is reason to believe that water rights of federally reserved lands could be severely

47 For example, irrigation is held to be a use of great social value in riparian states. See, e.g., Doremus v. City of Paterson, 65 N.J. Eq. 711, 55 A. 304 (1903); Ulbricht v. Eufaula Water Co., 86 Ala. 587, 6 So. 78 (1889), Gillett v. Johnson, 30 Conn. 180 (1861); Blanchard v. Baker, 8 Me. 253 (1832). Yet the amount of water available to irrigate Indian reservations could be vastly different in an appropriation state than in a riparian state. Since all riparians wishing to irrigate would share the supply on the basis of parity, the quantity of water available to the Indian would shrink as more parcels of land along the river, riparian to the reservation, were patented out to private ownership. See Meyers, supra note 11, at 68.

48 Nation's Land, supra note 19, at 144. In prior appropriation states, administrative bodies determine the rights of claimants to water. See 5 R. Powell, supra note 3, § 734. J. Critch t., supra note 1, at 300. In times of shortage, the rights of claimants depend on the dates when their respective rights were acquired. Each appropriator is entitled to receive his or her full appropriation of water before appropriators with later priorities become entitled to any water at all. Id

49 See generally C. Meyers & A. Tarlock, supra note 5, at 52; J. Critch t., supra note 1, at 299.

50 Two factors limit the quantity of water that can be appropriated. The first is the requirement that a maximum quantity be stated in both the permit application and the permit itself. See 5 R. Powell, supra note 3, § 735. Second, the appropriator can take only the quantity of water first appropriated, with the exception that amounts that are both within the scope of the original intent and used within a reasonable time may also be included. See, e.g., Haight v. Costanich, 184 Cal. 426, 194 P. 26 (1920); Becker v. Marble Creek Irrigation Co., 15 Utah 225, 49 P. 892 (1897). For other restrictions which limit the amount of appropriations in some states, see 5 R. Powell, supra note 3, § 735.

51 See Nation's Land, supra note 19, at 142.

52 Factors which courts in riparian states have used to determine the reasonableness of the quantity used include: (1) the size of the riparian land fronting on the stream; (2) the size of the stream, and (3) the number and kinds of users on the stream. C. Meyers & A. Tarlock, supra note 5, at 56.
endangered if the federal government was treated as an ordinary riparian. Perhaps the foremost concern is that some important federal water uses, such as recreation or sustaining fish and wildlife, have low preferences vis-a-vis other uses recognized by state law.53

A second concern is that no riparian user can use to the extent of depriving other riparians of an equal opportunity to use.54 Thus, if the federal lands needed an amount of water so great that use by other riparians would be encumbered or prevented, the needs of the federal government could not be fully satisfied.

Finally, acceptance of a state's riparian laws for a number of years could be interpreted as a waiver of a claim for the use of a greater amount of water than that recognized by a state.55 Therefore, if the government was not awarded the water it needed under riparian law, it could be barred from ever exercising its reserved rights.

To date, few federal rights have been adjudicated under the reserved rights doctrine.56 This could soon change drastically. Since the Arizona decision, some federal agencies have indicated that they will rely on reserved rights rather than complying with state water laws.57 and other federal agencies could follow suit.58 Most of the current concern relates to potential problems rather than current controversies. However, the future impact on riparian users of the exercising of reserved rights could be major and should not be ignored.59

III. MAKING RIPARIAN RIGHTS AND RESERVED RIGHTS COMPATIBLE

In light of the inadequate treatment that the federal government could receive under the water laws of riparian states, the reserved rights doctrine should be applied in states adhering to a riparian rights sys-
Federal water rights on reserved lands should be determined by the reserved rights doctrine rather than by state law. However, a number of issues will have to be resolved in order to make these two systems compatible. This section identifies three of these issues and offers proposals for their resolution.

A. The Problem of Quantification

The first problem in joining the riparian doctrine and the reserved rights doctrine into one coherent system of water law is the need to quantify federal reserved rights. The present uncertainty discourages the development of industry, agriculture, and other uses by riparian claimants. In addition, this uncertainty impedes future planning and development.

The National Water Commission has recommended that the amounts of water required for presently reserved lands be formally established and that future reservations be required to quantify their water requirements at the time of their reservation. To achieve this objective, a standard will have to be established. Governmental bodies must determine whether reserved water should be available only for the uses contemplated at the time of the reservation for the present.

60 Two minor issues involving reserved rights that would also have to be resolved are whether these rights are transferable by sale or otherwise, and whether the reserved right can change if the use changes. The Master in Arizona v. California suggested that nothing in his decree forbade the transfer of reserved water separate from land. Master's Report, supra note 11, at 265-66. However, the Supreme Court has failed to address the transferability issue. See Messers, supra note 11, at 71.

61 The change of use issue was addressed in United States v. New Mexico, 438 U.S. 696 (1978), which held that water may be reserved on land only to the extent necessary to accomplish the original purpose of the land withdrawal. Id at 718. No additional water is reserved if the government later expands the use of the withdrawn land. Id at 713. See also notes 65-72 infra and accompanying text.

62 Id. See also Nation's Land, supra note 19, at 144. Investors are unwilling to risk money for development without assurance that sufficient water will be available to meet the development's needs.


64 Nation's Land, supra note 19, at 146-47.

65 This standard was applied in Arizona v. California, 373 U.S. 546 (1963). The Master's standard for fixing the quantity of water reserved for the Indians on the reservation was irrigable acreage. This finding was justified by the purpose of creating the Indian reservation which was to
needs of the reservation.\textsuperscript{66} or for any new uses which may develop.\textsuperscript{67} The standard suggested by this article is the contemplated use standard. This standard is the current favorite of the Supreme Court,\textsuperscript{68} and it is most favorable to the interests of riparians whose water is taken by government reservations.\textsuperscript{69}

The federal government should not be forced to quantify its claims immediately or for all future, since this would pressure federal officials into inflating claims.\textsuperscript{70} Uncertainty and panic can be best avoided if a procedure is developed for the federal government to revise its reserved water needs on a periodic basis. The pertinent recommendation of the National Land Commission\textsuperscript{71} and the system currently used by the teach the Indians to live in a stable, agricultural society rather than a nomadic one. This theoretically would prepare them for life in a white dominated society. Mass.\textsuperscript{rs}'s Report, supra note 11, at 265-66. The Arizona Court declared that the "contemplated uses" standard should also be applied to other federally reserved lands such as national forests and recreation areas. 373 U.S. at 601 Furthermore, the Court specifically rejected the argument that the amount of water reserved be determined by future needs which could develop Id.

The contemplated uses standard was also the basis for the Court's decision in \textit{United States v. New Mexico}.\textsuperscript{66} This standard may have been the basis for the decision in \textit{Winters v. United States}, 207 U.S. 564 (1908). The \textit{Winters} court sustained a decree awarding the Indians 5,000 miners' inches, giving no explanation how this figure was reached. The most likely theory is that this was simply the amount that the Indians were using at the time. 207 U.S. at 577.

Some commentators view the present needs standard as the most practical one to be used for Indian reservations. These commentators feel that with more Indians leaving the reservations, future needs are not likely to increase. See, e.g., Note, supra note 61, at 1313-14. For cases in support of this view, see, e.g., \textit{United States v. Ahtanum Irrigation Dist.}, 236 F.2d 321 (9th Cir. 1956), cert. denied, 352 U.S. 988 (1957), \textit{United States v. Walker River Irrigation Dist.}, 104 F.2d 334 (9th Cir. 1939).

The strongest argument against this position is that the Indians' present water requirements are artificially low, for many reasons, including past inadequate representation by the government of Indian interests, and interagency conflicts. See Note, supra note 61, at 1305-09.

\textit{United States v. Conrad Inv. Co.}, 156 F. 123 (C.C.D. Mont. 1907), aff'd, 161 F. 829 (9th Cir. 1908), decided immediately after \textit{Winters}, measured the amount reserved for Indian reservations in terms of present and future needs. The amount presently allowable was fixed, and the decree was left open for modifications as needs increased. While ideal for the Indians, this arrangement causes great uncertainty among other users in the watershed. Meyers, supra note 11, at 70.

Commentators have argued that since the purpose of Indian reservations is to change the Indian's way of life to fit in with the white dominated society, the reserved water uses must be flexible. For example, the Indian's reservations should be kept in step with the general decline of agriculture in the western states and the corresponding increase of tourist and municipal uses. See Note, supra note 61, at 1316. Comment, \textit{Federal Reserved Rights in Water: The Problem of Quantification}, 9 \textit{Texas Tech. L. Rev.} 89, 103-04 (1977).

68. See the discussion of \textit{United States v. New Mexico}, supra notes 32-33 and accompanying text.

69. See infra notes 88-89 and accompanying text.

70. Comment, supra note 67, at 108.

71. The Commission recommended legislation to:

Provide a reasonable period of time within which federal land agencies must ascertain and give public notice of their projected water requirements for the next 40 years for reserved areas, and forbid the assertion of a reservation claim for any quantity or use not included within such public notice.
Forest Service could be used as models in formulating this procedure.

Another more technical problem involved in quantifying federal claims is determining when the reserve rights should be measured. For example, if irrigable acreage is the standard to quantify the water rights reserved for Indian reservations, the date on which the amount of irrigable acreage is measured could prove crucial. Due to modern technology, much more land can be irrigated today than was possible when most reservations were created.

A third question is which governmental bodies should supervise and enforce the quantification of the federal government's claims in reserved waters. Enforcement should be on the federal level in order to insure uniformity and to avoid resolution in state forums which are unreceptive to federal claims. Both the Congress and the courts have been unable in the past to create a comprehensive policy for resolving reserved rights with state water laws. However, as the National Water Commission and commentators have concluded, the uncertainty of the reserved rights doctrine can not be dispelled by congressional legislation.

Finally, a procedure for resolving conflicts which might occur in the process of quantification must be defined. The National Water Commission has suggested that this function be performed either by the courts or by administrative agencies. While judicial attempts to deal with the reserved rights problem have not met with success in the

NATIONAL'S LAND, supra note 19, at 147.

The Forest Service manual now requires that the Forest Service annually report its claims for current and foreseeable water requirements to state water officials. The service is to use caution in claiming reserved rights in water currently being used by private individuals in compliance with state water laws. U.S. DEPT. OF AGRICULTURE, FOREST SERVICE MANUAL, Title 2500 - WATERSHED MANAGEMENT §§ 2541, 2543 (1974).

For instance, the extent of irrigation has been physically increased with modern pumps and sprinkler systems. Also, new equipment is capable of tilling soil formerly not considered arable. See Price v. Weatherford, Indian Water Rights in Theory and Practice: Navajo Experience in the Colorado River Basin, 40 LAW & CONTEMP. PROBS. 97, 106-07 (1976).

See supra note 53 and accompanying text.

Legislative proposals that Congress clarify the reservation doctrine have been the subject of many recent bills, but Congress has been unable to take any action. See, e.g., the Moss Bill, S 28, 92d Cong., 1st Sess. (1971); the House Bill, H.R. 2312, 92d Cong., 1st Sess. (1971), and the Kuchar Bill, S. 1636, 89th Cong., 1st Sess. (1965). The first two are verbatim restatements of the Kuchar Bill, which is itself a moderate version of the Barrett Bill, S. 863, 84th Cong., 2d Sess. (1956). For an excellent discussion of attempts to pass legislation prior to 1966, see Moreale, Federal-State Conflicts Over Western Waters—A Decade of Attempted “Clarifying Legislation,” 20 RUTGERS L. REV. 423 (1966).

Similarly, the courts have faced the reserved rights issue repeatedly, but have never come forth with a final comprehensive doctrine. See supra notes 27-33 and accompanying text.

66. NATIONAL'S LAND, supra note 19, at 144; MEYERS, supra note 11, at 73.

67. The Commission recommends legislation to "establish a procedure for administrative or judicial determination of the reasonableness of the quantity claimed, or the validity of the proposed use under present law." NATIONAL'S LAND, supra note 19, at 144.
past, this could change if the courts had some comprehensive legislation to follow. Both Congress and the courts have demonstrated a desire to quantify reserved rights. Continued determination combined with encouragement from commentators and governmental officials can bring about the realization of a workable quantification procedure.

B. The Problem of Compensation

There is fear among water users in riparian states that if reserved rights were enforced, vested riparian rights would be taken without compensation. There is little question that the federal government has the power to take riparian rights without compensating the displaced riparians. The power is derived from the navigation servitude, as justified by the commerce clause. The possibility that such takings could occur is the source of much uncertainty and anxiety and is viewed as the principal vice of the reserved rights doctrine in the eyes of riparian users.

This article adopts the National Water Commission's recommendation that "as a matter of fairness and equity, it is appropriate to compensate holders of vested state water rights whose uses are curtailed through federal reliance on the implied reservation doctrine." This could be done either for all riparian users or for all riparian users whose water rights had vested before they had notice of the existence of the implied reserved right.

Compensation is desirable for three reasons. First, it would eliminate a great problem in resolving the riparian rights doctrine with the reserved rights doctrine. Second, the costs to the government would be relatively low and could be borne by federal taxpayers rather than the affected individual users. Finally, Congress has traditionally compensated holders of vested state water rights when their usage is interfered with by authorized federal projects, such as the Reclamation Act of 1902 and the Federal Power Act of 1920. In the words of the National Water Commission, there is "no reason for a different policy..."
C. How the Riparian Doctrine and the Reserved Rights Doctrine Would Limit Each Other

The reserved rights doctrine and the riparian doctrine would continue as independent systems for determining water rights. However, the fact that they would be applied in the same states would mean that each would have to make certain concessions to the other. A number of these concessions are discussed above. Additional policies would have to be made with respect to how these two doctrines would limit each other.

As an independent system, reserved rights would not be limited by the riparian rule that water use by one cannot significantly diminish the quantity or quality of water available to another. The possibility of depriving riparians of water would be less troublesome due to the fact that affected riparians would be compensated for the taking of their water rights. The quantities reserved would be narrowly confined to the purpose served by the withdrawal, meaning that the possibility of depriving riparian users would be minimized. If water should be needed for reserved lands in excess of the quantity reserved, the federal government could seek to satisfy this need by submitting to the state's riparian laws. This policy has recently been suggested by the Supreme Court.

IV. Conclusion

The reserved rights doctrine and the riparian rights doctrine have not yet met in a direct confrontation. However, there is reason to believe that someday such a conflict will occur. It is, therefore, desirable to examine the compatibility of these two doctrines before a crisis situation develops. This article has proposed that the reserved rights doctrine should be applied in riparian states. While problems would inevitably arise in making these two doctrines compatible, these problems can be resolved with the help of Congress and the courts. The result would be a coherent and beneficial water policy for the eastern half of the United States.