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WATER RIGHTS, THE PUBLIC TRUST DOCTRINE, AND THE PROTECTION OF INSTREAM USES

Richard Ausness

I. Introduction

Our society uses water for a variety of productive purposes, including domestic, agricultural, mining, manufacturing, and energy development. Most of these uses require physical removal of water from watercourses or ground water aquifers. Water can also serve useful purposes, however, when it remains a lake or stream. Flowing water helps to maintain water quality and furthers other uses such as recreation, aesthetic values, and ecological interests—referred to as “instream uses.”

Large quantities of water must remain in place to safeguard instream uses. At the same time, the increasing demands of consumptive water users are significantly reducing streamflows and lake levels in many parts of the country. Arguably, streamflows are threatened because the existing water allocation regime does not properly recognize instream uses and often favors consumptive uses at their expenses. For this reason, some legal commentators have suggested the public trust

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4. Consumptive uses are those uses that remove water and fail to return all or part of it to the watercourse from which the user took it. Comment, Preserving Instream Flows in Oregon’s Rivers and Streams, 11 ENVTL. L. 379, 379 n.4 (1981).


doctrine as a basis for protecting streamflows and instream uses.\(^7\)

The public trust doctrine is a common law principle of constitutional dimensions.\(^8\) The doctrine protects the public's interest in certain critical resources by treating the public's interest as a property right which the state cannot wholly alienate.\(^9\) The public trust doctrine has traditionally protected navigation, fishing, and commerce.\(^10\) In its original form, the public trust concept limited the power of private individuals to acquire title to lands beneath tidal waters,\(^11\) however, courts have applied the doctrine to the beds under navigable fresh waters\(^12\) and have extended it to other natural resources as well.\(^13\)

So far, only North Dakota and California courts have applied the trust concept to water rights to protect instream uses,\(^14\) but other courts will probably follow their lead. If this trend occurs, it will have a profound effect on our present system of water rights. This article suggests that invoking the public trust doctrine as a restriction on presently exercised water rights will have a destabilizing effect and will discourage investment in water-dependent activities. Instead, a variety of regulatory programs can effectively protect instream uses.

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8. The public trust doctrine appears to have a constitutional foundation because it restricts the power of state legislatures. In Illinois Cent. R. Co. v. Illinois, 146 U.S. 387 (1892), the leading American decision on the public trust doctrine, however, the Court did not specifically mention any provision of the federal or state constitution as the source for the doctrine. See Comment, The Public Trust Doctrine in Maine's Submerged Lands: Public Rights, State Obligation and the Role of the Courts, 37 ME. L. REV. 105, 125 (1985). One commentator has suggested that the ninth amendment to the Federal Constitution might provide a constitutional basis for the public trust doctrine. See Cohen, The Constitution, The Public Trust Doctrine and the Environment, 1970 Utah L. REV. 388, 394. In addition, some states have now codified the public trust principle in their constitutions. E.g., FLA. CONST. art. 10, § 11; ILL. CONST. art. XI, §§ 1-2; Mich. CONST. art. 4, § 52; N.Y. CONST. art. XIV, § 4; PA. CONST. art. I, § 27; R.I. CONST. art. I, § 17; Va. CONST. art. XI, § 1. See also Howard, State Constitutions and the Environment, 58 Va. L. REV. 193, 201-02 (1972).


11. Note, Expanding, supra note 5, at 622-23; Note, supra note 6, at 657-58.


This article begins with an overview of the public trust doctrine. Part III discusses conventional water rights doctrines and how they treat instream uses and streamflows. Part IV examines the reasoning of recent decisions which have applied the public trust principle to water rights. Part V then discusses and evaluates state regulatory efforts in this area which offer alternative methods for protecting instream users.

II. THE PUBLIC TRUST DOCTRINE

A. Origins of the Public Trust Doctrine

1. Roman Law and English Common Law Antecedents

Legal scholars have traced the public trust concept to the law of ancient Rome.\textsuperscript{15} Under Roman law great navigable rivers and harbors were \textit{res publicae}, things belonging to the public; therefore, they were state property.\textsuperscript{16} The state only held title to these areas, however, as trustee of the public rights of navigation and fishing.\textsuperscript{17} On the other hand, the sea and the seashore were \textit{res communes} or "common to all."\textsuperscript{18} In a society that depended on commerce, these principles ensured that private interests would not monopolize vital resources to the detriment of the general population.\textsuperscript{19} This principle had a significant influence on how the modern public trust doctrine developed in this country and elsewhere.\textsuperscript{20}

The English common law also contributed to formulating the public trust doctrine in America. English law vested ownership of tideland areas in the King.\textsuperscript{21} Unfortunately, the English monarchs allowed much of this land to fall into private hands during the Middle Ages.\textsuperscript{22} Later, in

\begin{itemize}
\item[15.] See, e.g., Abrams, \textit{Governmental Expansion of Recreational Water Use Opportunities}, 59 OR. L. REV. 159, 162 (1980); Seldon, \textit{Wherever the Water Flows: Lyon Applies the Public Trust to Non-Tidal Water}, 11 ECOLOGY L.Q. 21, 26 (1983); Note, supra note 6, at 656-57; Comment, supra note 9, at 214.
\item[16.] W. BUCKLAND, \textit{A TEXTBOOK OF ROMAN LAW FROM AUGUSTUS TO JUSTINIAN} 183 (3d ed. 1963); Note, \textit{Public Trust in Public Waterways}, 7 URB. L. ANN. 219, 221 n.9 (1974).
\item[19.] Note, \textit{Expanding}, supra note 5, at 622. Recent scholarship has revealed, however, that the Roman legal system was actually far less protective of public rights than Roman jurists indicated. In reality, the sea and the seashore were available to the general public only insofar as imperial grants did not appropriate them for private use. Similarly, although nominally open to all, the government often farmed out fishing rights for exploitation by monopolies. See Deveney, \textit{Title, Jus Publicum and the Public Trust: An Historical Analysis}, 1 SEA GRANT L.J. 13, 21-36 (1976).
\item[20.] The Roman law concept of public rights to certain natural resources, such as the sea and the foreshore, had a significant influence on continental legal systems. See, e.g., LES SIETE PARTIDAS, partida 3, title 28, law 3 (1348) (translated in F. HALL, THE LAWS OF MEXICO § 1465 (1885)). See also Comment, \textit{California Beach Access: The Mexican Law and the Public Trust}, 2 ECOLOGY L.Q. 571, 604-05 (1972).
\item[21.] Stevens, supra note 10, at 197-98.
\item[22.] Maloney & Ausness, \textit{The Use and Legal Significance of the Mean High Water Line in
the sixteenth century, the Crown attempted to regain possession of tidelands by means of the "prima facie" theory. Under this theory, tidelands were a distinct category of property that private parties could acquire only by an express grant from the sovereign. Consequently, landowners who could not prove such a grant might lose their tideland property.

Although English courts rejected the prima facie theory at first, Sir Matthew Hale later adopted it in his influential treatise, De Jure Maris, and the English courts eventually accepted the theory. Lord Hale distinguished between the proprietary interests of the sovereign and the rights of the public in tidal waters. According to Lord Hale, the King could freely alienate his proprietary or jus privatum interest in the tidelands. This private right was subject, however, to public rights of navigation and fishing which Lord Hale classified as jus publicum.

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24. 1 H. FARNHAM, THE LAW OF WATERS AND WATER RIGHTS § 39a (1904); Comment, supra note 8, at 119.

25. See Constable's Case, 77 Eng. Rep. 218 (K.B. 1601); Anonymous, 73 Eng. Rep. 737 (K.B. 1573). The court apparently employed the prima facie theory in Attorney General v. Philpott, decided in 1632, but not reported. Maloney & Ausness, supra note 22, at 200. Bulstrode v. Hall, 82 Eng. Rep. 1024 (K.B. 1662), was the first reported case to adopt Digges's theory. In that case the court declared: "Et in cest case fuit soven foits affirme & nient deny que le soil de touts rivers cy haut que la est fluxum & refluxum maris est in le Roy & nemy in les siegneurs des mannors &c. sans prescription." (It was frequently affirmed and never denied that the soil to all rivers as high as the tide ebbs and flows is in the King and never in the lords of the manors without grant or prescription.) Id.

26. M. HALE, A TREATISE RELATIVE TO THE MARITIME LAW OF ENGLAND IN THREE PARTS. Hale apparently wrote his treatise around 1666, but it was not published until 1787 when it appeared in volume 1 of Hargrove's A Collection of Tracts Relative to the Law of England. It was later reprinted in S. MOORE, supra note 23, at 370. Page references to Hale's work are taken from the Moore treatise. A substantial portion of Hale's treatise was also reprinted at the end of Ex parte Jennings, 6 Cow. 518, 536-51 (N.Y. 1826).


29. Lord Hale declared that navigable waterways were "in the nature of common highways, in which all the Kings people have a liberty of passage." S. MOORE, supra note 23, at 339.

30. The public right of fishing was less extensive than that of navigation. The public had no rights at all in nontidal waters. Tilbury v. Silva, 45 Ch. D. 98 (1890); Ewing v. Colquhoun, 2 App. Cas. 839 (1877); J. GOULD, A TREATISE ON THE LAW OF WATERS § 49, at 111-12 (3d ed. 1900). According to Lord Hale, however, the public had a right to fish in tidal waters. S. MOORE, supra note 23, at 339, 376-77. Although the King could grant an exclusive right to fish, the person who asserted such a claim had the burden of proof. Lord Fitzwalter's Case, 86 Eng. Rep. 766, 766-67
Consequently, no conveyance by the sovereign of his private interest could impair the *jus publicum.*

Lord Hale made no mention of a public trust principle in his writings, and he acknowledged that the sovereign was free to alienate his *jus privatum* interest in tidal areas. Although Parliament eventually placed restrictions on the King's power to convey Crown property, including land under tidal waters, the concept that the King held these lands for the benefit of the public was never fully accepted in England. Rather, the public trust doctrine is largely an American creation.

2. The Public Trust Doctrine in America

In the United States James Kent and others mistakenly believed that under English law the public had a proprietary interest in the tidelands and that the King merely acted as a trustee on the public's behalf. Because the states succeeded to the Crown's interests after the Revolution, these commentators argued that state governments, like the King, held these lands in trust for the benefit of the public. Decided by a New Jersey court in 1821, *Arnold v. Mundy* was the first American case to suggest the concept of a public trust over tideland areas. The *Arnold* case was followed in 1842 by the United States Supreme Court's decision in *Martin v. Waddell.* The plaintiff claimed an exclusive right of fishery from the Duke of York, who had received it from the King. The defendant based his title on a grant from the New Jersey legislature. The Court held the plaintiff's predecessors in title had surrendered their charter to Queen Anne in 1702; therefore, it did not have to decide whether the King had the power to convey proprietary rights in the Bay.
ertheless, the Court declared that "the shores, and rivers, and bays, and arms of the sea, and the land under them [were held] as a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery, as well for shell-fish as floating fish. . . ."

A few years later, the Court held that title to tidelands became vested in a new state upon its admission to the Union. 43 In a subsequent decision, the Court concluded that the public trust doctrine was not limited to tidal areas; the doctrine extended to lands under navigable fresh waters. 44

The fullest exposition of the public trust doctrine appeared in Illinois Central Railroad v. Illinois, 45 decided by the Court in 1892. The Illinois legislature made a grant of submerged lands under Lake Michigan to the Illinois Central Railroad in 1869. In 1873, however, the state revoked the grant and brought suit to have it declared invalid. The United States Supreme Court declared that the title under which Illinois held the property in question was a "trust devolving upon the State for the public . . . which can only be discharged by the management and control of the property in which the public has an interest, [and] cannot be relinquished by a transfer of the property." 46 The Court then determined that the grant in question abdicated the state's control over a significant portion of Lake Michigan and was inconsistent with the state's obligation as trustee:

[T]he abdication of the general control of the State over lands under the navigable waters of an entire harbor or bay, or a sea or lake . . . is not consistent with the exercise of that trust which requires the government of the State to preserve such waters for the use of the public . . . . 47

The Court went on to conclude that the state's control over trust property could never be lost. The state may, however, dispose of parcels in order to promote the public interest in navigation—so long as there is no detriment to remaining submerged lands and the waters above. Accord-

42. Id. at 413.
43. Pollard v. Hagan, 44 U.S. (3 How.) 212 (1845). In a later case the Court determined that before statehood the federal government held the beds of tidal waters in trust for the citizens of the future state and could not alienate the lands so as to impair the trust. Shively v. Bowlby, 152 U.S. 1 (1893).
44. Barney v. City of Keokuk, 94 U.S. 324 (1876); Comment, Water Law—Public Trust Doctrine, 24 NAT. RESOURCES J. 809, 812 (1984). In England, the King's ownership rights, the jus privatum, only extended to the beds of waters that were subject to the ebb and flow of the tides. Maloney & Ausness, supra note 22, at 207-08. Public rights to navigation extended, however, to navigable fresh watercourses even when the beds were privately owned. Palmer v. Mulligan, 3 Cal. R. 307, 315 (N.Y. Sup. Ct. 1805); S. MOORE, supra note 23, at 374-76. Most American jurisdictions extended the definition of navigability to include all watercourses that were navigable in fact. Comment, supra note 8, at 109. Even so, the American courts thought it was "necessary for the state to retain title to lands under water in order to preserve public rights of fishing and navigation." Deveney, supra note 19, at 54.
45. 146 U.S. 387 (1892).
46. Id. at 453.
47. Id. at 452-53.
ingly, the Court upheld the state's claim and decreed that the purported conveyance to the railroad was beyond the legislature's power.

In the years since the Court decided *Illinois Central*, the American courts have used the public trust doctrine for a number of purposes.\(^4\) For example, the courts have relied upon the doctrine to require express legislative action before allowing public agencies or private individuals to devote trust resources to nontrust uses.\(^5\) The public trust doctrine has also been invoked to strike legislation that disposed of trust resources in a manner that was contrary to the public interest.\(^6\) Finally, some courts have utilized the public trust doctrine as a guideline to review the conduct of municipalities and administrative agencies.\(^7\)

Although the public trust doctrine prohibits state legislatures and other governmental entities from completely surrendering control over trust resources, it does not entirely prevent conveying some portions of property to private parties. The states can still transfer trust property into private ownership to promote navigation or other trust purposes.\(^8\) Thus, courts have upheld grants of submerged lands which allow private persons to construct improvements such as wharves.\(^9\) Courts have also allowed other conveyances which do not interfere with public rights.\(^10\) Moreover, there is not a fixed priority among various trust uses.\(^11\) The state may impair, therefore, certain trust interests—such as navigation—in order to further other trust purposes—such as commerce.\(^12\)

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4. Johnson, *supra* note 7, at 242-44. In addition, Professor Johnson has classified certain other decisions, in which the court does not expressly mention the doctrine, as "functional" public trust cases. These decisions include protecting stream and lake levels under the law of riparian rights, navigation servitude cases, and cases which protect public access to lakes and streams for recreation purposes. *Id.* at 244-52.


6. *See, e.g.*, Priewe v. Wisconsin State Land & Improvement Co., 93 Wis. 534, 67 N.W. 918 (1896). *See also* Illinois Cent. R. Co. v. Illinois, 146 U.S. 387, 452 (1892), in which the Court used the public trust doctrine to uphold state legislation that rescinded a prior legislative conveyance of trust property.


12. *See, e.g.*, Colberg, Inc. v. *California ex rel* Dep't of Pub. Works, 67 Cal. 2d 408, 432 P.2d 3, 62 Cal. Rptr. 401 (1967) (construction of bridge across navigable watercourse); Boone v. Kingsbury, 206 Cal. 148, 273 P. 797 (1928) (oil and gas exploration). *See also* Walston, *supra* note 10, at 70. In such cases, however, the government may have to make an effort to minimize the harm to
Just as the public trust doctrine prohibits the state from completely surrendering its control over trust property, so the grantee's use of trust property may not interfere with navigation or other public rights. In some states such as California, the courts have characterized this restriction as an easement or servitude. Although the California courts protect existing improvements, the state has asserted the public trust servitude to prevent filling or other development along tideland and lakeshore areas.

B. The Present Scope of the Public Trust Doctrine

The traditional role of the public trust doctrine has been to restrain governmental activities that impair public rights in tidelands and navigable waters. As a number of commentators have observed, however, the public trust doctrine is a dynamic concept that courts can adapt to meet new public needs. Not surprisingly, some courts have extended the public trust doctrine beyond its traditional limits.

One example of this phenomenon is the application of public trust principles to governmental activities that adversely affect wetland, dry beaches, parklands, or other publicly owned resources. Thus, in Gould v. Greylock Reservation Commission, a Massachusetts court invoked the public trust doctrine to invalidate a lease and management agreement involving a public park. Under the terms of the agreement, the state had consented to lease 4,000 acres of the 8,800 acre park to a consortium of private investors for constructing and operating a commercial ski resort.


61. See, e.g., Johnson, supra note 7, at 241; Sax, supra note 9, at 474; Walston, supra note 10, at 66.


63. 61 N.J. 296, 294 A.2d 47 (1972).
trine to the foreshore, but applied it to the dry beach, at least when owned by a municipality.\(^64\) Because the city held title to the beach as trustee for all of the state's citizens, the court concluded that a discriminatory fee schedule was contrary to the principles of the trust.\(^65\) In the court's words, "at least where the upland sand area is owned by a municipality . . . and dedicated to public beach purposes . . . the public trust doctrine dictates that the beach and the ocean waters must be open to all on equal terms."\(^66\)

The courts have also expanded the public trust doctrine to include such interests as recreational uses and environmental protection.\(^67\) For example, in Neptune City, the court declared that public rights were not limited to navigation, fishing, and commerce, "but extend as well to recreational uses, including bathing, swimming and other shore activities."\(^68\) A California court in Marks v. Whitney,\(^69\) also took a broad view of the interests protected by the public trust doctrine. Marks was an action to quiet title to tideland. The trial court refused to find that the tideland property was subject to the public trust;\(^70\) on appeal the California Supreme Court reversed, holding that the public trust extended to privately owned tidelands. The court declared that public trust purposes included the right to hunt, fish, bathe, swim, to use the water for boating and general recreation purposes, and to use the bed for anchoring, standing, or other purposes.\(^71\) In addition, the court determined that preserving the tidelands in their natural state could be a public trust purpose. In the court's words:

There is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is preservation of these lands in their natural state, so that they may serve as ecological units for scientific study, for open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.\(^72\)

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\(^{64}\) Comment, 42 U. CIN. L. REV. 554, 559-60 (1973).
\(^{67}\) Note, Lyon and Fogerty: Unprecedented Extensions of the Public Trust, 70 CALIF. L. REV. 1138, 1149 (1982).
\(^{68}\) 61 N.J. 296, 309, 294 A.2d 47, 54 (1972).
\(^{69}\) 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971).
\(^{70}\) Marks had obtained title to a tract of submerged land that bordered on Whitney's waterfront lot. When Marks attempted to fill his submerged land, Whitney asserted a claim based on his status as a littoral owner and as a beneficiary of the public trust in tideland areas. Comment, The Tidelands Trust: Economic Currents in a Traditional Legal Doctrine, 21 U.C.L.A. L. REV. 826, 866 (1974).
\(^{71}\) 6 Cal. 3d 251, 259, 491 P.2d 374, 380, 98 Cal. Rptr. 790, 796 (1971).
\(^{72}\) Id.
In light of these judicial expansions of the public trust doctrine's scope, some legal scholars believe that the trust concept can protect instream values as well. According to these commentators, if courts can use the public trust doctrine to restrict fills and other activities which adversely affect public rights in navigable waters, the doctrine should also apply to water allocation laws.73 These laws determine who may withdraw water and in what quantity they may withdraw it from streams and lakes.

III. WATER ALLOCATION DOCTRINES

Two major allocation systems, riparianism and prior appropriation, govern consumptive use rights in watercourses in America. States in the eastern part of the country generally follow the riparian system; prior appropriation prevails in the West.

A. Riparian Rights

Under the riparian theory, water rights arise from ownership of land that borders on a natural watercourse such as a lake or stream.74 Riparian jurisdictions use either the natural flow doctrine or the reasonable use rule to resolve conflicts among competing water users.

Under the natural flow doctrine each riparian proprietor on a watercourse is entitled to have the stream flow through the land in its natural condition, without other users perceptibly retarding, diminishing, or polluting the flow.75 Although the natural flow doctrine does not entirely prohibit consumptive uses, it does distinguish between "natural" and "artificial" uses.76 The riparian owner may use as much water as necessary for such natural uses as bathing, drinking, and household purposes, even though this depletes the entire streamflow.77 The natural flow doctrine treats artificial uses, which are not essential to life, but which merely increase comfort and prosperity, more stringently. Artificial uses include irrigation, manufacturing, power generation, mining, and large-scale watering of livestock.78 Riparian landowners may divert water for artificial uses only as long as such uses do not materially interfere with the natural flow of the watercourse. A use which impairs the natural

73. Dunning, supra note 7, at 397-98; Johnson, supra note 7, at 257-58.
condition of the stream will create a cause of action on behalf of down-stream owners, however, even though they are not presently withdrawing water from the stream.\textsuperscript{79}

This formulation of riparian rights may substantially protect in-stream uses. In fact, courts have applied the natural flow theory in some cases to protect littoral owners against excessive lowering of lake levels by dam operators.\textsuperscript{80} Downstream mill owners have also invoked the theory to prevent upstream water users from reducing the flow.\textsuperscript{81} According to a recent study, however, no reported cases exist in which courts have relied upon the natural flow doctrine to protect recreational or environmental interests in a stream.\textsuperscript{82}

Most riparian jurisdictions now adhere to the reasonable use rule, although natural flow language occasionally pervades even recent decisions.\textsuperscript{83} Under the reasonable use rule, each riparian landowner may use water for any beneficial purpose as long as the use is reasonable considering the needs of other riparian proprietors and does not unduly interfere with their legitimate water uses.\textsuperscript{84} Water rights under the reasonable use rule are not permanent or fixed in terms of a specific amount, however, and may vary according to changing conditions. Thus, a use which is reasonable under existing circumstances may become unreasonable when other proprietors initiate new uses on a watercourse.\textsuperscript{85}

Although relatively few decisions have involved recreational or similar instream uses, such uses apparently receive as much protection as

\textsuperscript{79} Harvey Realty Co. v. Wallingford, 150 A. 60 (Conn. 1930); Robertson v. Arnold, 186 S.E. 806 (Ga. 1936); Roberts v. Martin, 77 S.E. 535 (W. Va. 1913); Comment, Development of Riparian Land in Alabama, 12 A.A. L. REV. 155, 158 (1959).

\textsuperscript{80} See, e.g., Bouris v. Largent, 94 Ill. App. 2d 251, 236 N.E.2d 15 (1968); Dardenne Realty Co. v. Abeken, 232 Mo. App. 945, 106 S.W.2d 966 (1937).

\textsuperscript{81} See, e.g., Parker v. Griswold, 17 Conn. 288 (1845); White v. East Lake Land Co., 96 Ga. 415, 23 S.E. 393 (1895); Robertson v. Arnold, 182 Ga. 664, 186 S.E. 806 (1936); Chestee Pyrites Co. v. Cavenders Creek Gold Mining Co., 118 Ga. 255, 45 S.E. 267 (1903); Stock v. Jefferson Township, 114 Mich. 357, 72 N.W. 132 (1897); Samuels v. Armstrong, 46 Misc. 481, 93 N.Y.S. 24 (Sup. Ct. 1905); Roberts v. Martin, 72 W. Va. 92, 77 S.E. 535 (1913).

\textsuperscript{82} See generally Davis, supra note 5.

\textsuperscript{83} Some courts apply the reasonable use rule between riparian owners but invoke the natural flow doctrine when a riparian seeks to prevent a nonriparian from withdrawing water from a stream. Compare Hazard Powder Co. v. Somersville Mfg. Co., 61 A. 519 (Conn. 1905) with Harvey Realty Co. v. Wallingford, 150 A. 60 (Conn. 1930).


\textsuperscript{85} Harnsberger, Prescriptive Water Rights in Wisconsin, 1961 Wis. L. REV. 47, 60; Lauer, Reflections on Riparianism, 35 MO. L. REV. 1, 10 (1970). The reasonable use rule now appears in the RESTATEMENT (SECOND) of TORTS. Section 850 provides that a riparian proprietor is subject to liability for making an unreasonable use when its diversion or withdrawal causes harm to another riparian owner's reasonable use of their water or land. RESTATEMENT (SECOND) of TORTS § 850 (1979). Reasonableness in this context involves a consideration of such factors as: (a) the purpose of the use; (b) the suitability of the use of the watercourse; (c) the economic value of the use; (d) the social value of the use; (e) the extent and amount of harm caused by the use; (f) the practicality of avoiding the harm by adjusting the use or method of use of one proprietor or another; (g) the practicality of adjusting the quantity of water used by each proprietor; (h) the protection of existing values of water uses; and (i) the justice of requiring the user causing harm to bear the loss. Id. at § 850A.
traditional consumptive uses of water.\textsuperscript{86} For example, in \textit{Collens v. New Canaan Water Company},\textsuperscript{87} a water company's pumping operations dried up a river and prevented the plaintiff from boating and fishing near his riparian land. The court enjoined the pumping, holding that the defendant had no right to divert the flow of the river to the injury of other riparian owners.\textsuperscript{88}

Littoral owners have successfully sued to prevent irrigators from interfering with recreational uses by lowering lake levels. For example, in \textit{Harris v. Brooks},\textsuperscript{89} a farmer who pumped water from a small lake to irrigate his rice fields lowered the lake level and harmed the plaintiff's fish camp. The court found the defendant's use to be unreasonable and prohibited him from withdrawing water whenever recreational fishing was significantly impaired.\textsuperscript{90} A Florida court reached a similar result in \textit{Taylor v. Tampa Coal Co.}\textsuperscript{91} In that case, the plaintiff, who used the lake for recreational purposes, sought an injunction to prevent the defendant from pumping water during the dry season to irrigate his citrus grove. The court declared that recreational uses were entitled to the same protection as agricultural uses; therefore, the court affirmed a lower court order which had enjoined the defendant from pumping during the dry season when the lake level fell below a specified point.\textsuperscript{92}

The riparian system of water rights offers some protection to in-stream uses. Because the system only recognizes private property rights, however, this protection is somewhat limited. Consequently, the riparian system protects public recreational or environmental values only to the extent that they coincide with the economic interests of riparian or littoral owners. In addition, riparian owners must enforce their rights through litigation. Because lawsuits are time-consuming, expensive, and uncertain in terms of outcome, riparian owners are not always willing to enforce their rights vigorously.\textsuperscript{93}

\textbf{B. Prior Appropriation}

The prior appropriation system provides that the water user who first diverts water from a watercourse and puts it to a beneficial use acquires a right that is superior to that of any subsequent water user.\textsuperscript{94}

\begin{itemize}
\item[86.] Davis, \textit{supra} note 5, at 50.
\item[87.] 115 Conn. 477, 234 A.2d 825 (1967).
\item[88.] \textit{See also} Scott v. Slaughter, 237 Ark. 394, 373 S.W.2d 577 (1963). In addition, courts have applied the reasonable use rule when dams have reduced the flow available to downstream millowners. In each case involving such dams, however, the courts found that the defendant's use was a reasonable one. \textit{See e.g.}, North Ala. Coal, Iron & Ry. v. Jones, 156 Ala. 360, 47 So. 144 (1908); Davis v. Getchell, 50 Me. 602 (1862); Pitts v. Lancaster Mills, 54 Mass. 156 (1847); Hartzall v. Sill, 12 Pa. 248 (1849).
\item[89.] 225 Ark. 436, 283 S.W.2d 129 (1955).
\item[90.] \textit{Id. at} 447, 283 S.W.2d at 135.
\item[91.] 46 So. 2d 392 (Fla. 1950).
\item[92.] \textit{Id. at} 394.
\item[93.] Ausness, \textit{supra} note 84, at 553.
\item[94.] \textit{See Note, Expanding, supra} note 5, at 627; \textit{Note, Arizona Water Law: The Problem of
Appropriative rights are not restricted to riparian owners, nor does the appropriator have to use the water on riparian land. In addition, appropriative water rights are perpetual in duration, although the appropriator may lose them through abandonment or nonuse. Appropriators must claim and use a definite quantity of water, usually expressed in terms of cubic feet per second in the case of direct diversions, or in terms of acre-feet for reservoir storage. Under some circumstances, the appropriator may change an existing use or transfer the water right to another water user.

A comprehensive statutory and administrative structure, which modifies the prior appropriation system, now typically regulates water users in the West. In most jurisdictions a state agency issues water permits pursuant to some form of adjudicative process. The permit may limit water withdrawals to specific times of the day or week and will invariably require the applicant to designate the place where it will use the water. Moreover, the agency often has the power to modify permit applications in order to protect senior appropriators or the public interest.

The doctrine of prior appropriation evolved during a period in American history that favored extractive industries such as mining, lumbering, and agriculture. For this reason, the prior appropriation system favors consumptive uses at the expense of instream uses. The way in which the courts and the administrative agencies responsible for water allocation decisions have interpreted both the beneficial use and the actual diversion requirements reflects this orientation toward intake uses.

1. The Beneficial Use Requirement

A user cannot acquire a water right in the West unless it puts the water to a beneficial use. The concept of beneficial use has both qualitative and quantitative aspects. Qualitatively, a beneficial use is the use of water for a purpose that the law recognizes and accepts. The qualitative aspect of the beneficial use requirement limits the water that an appropriator may take to an amount which is reasonable and appropriate for the proposed use.

At one time courts and state legislatures regarded instream uses as

100. I W. Hutchins, supra note 98, at 517.
101. Davis, supra note 95, at 688-89.
102. Note, supra note 94, at 1100.
103. Id. at 1104-05.
inherently wasteful because water had to remain in place, leaving less available for appropriators to use for out-of-stream consumptive purposes.¹⁰⁴ Recently, however, the courts have shown more appreciation for the social utility of instream uses. For example, the New Mexico court in *State ex rel. State Game Commission v. Red River Valley Co.*,¹⁰⁵ held that recreation and fishing were beneficial uses. An Arizona intermediate appellate court reached a similar conclusion in *Brasher v. Gibson*.¹⁰⁶ In addition, a number of western states have statutorily declared that using instream flows for fish, wildlife, and recreational purposes is a beneficial use.¹⁰⁷

2. The Actual Diversion Requirement

The traditional rule was that a user physically had to divert water from a watercourse in order to perfect an appropriation.¹⁰⁸ This requirement effectively prevented in-stream appropriations.¹⁰⁹ Physical diversion provided objective proof of an intent to appropriate¹¹⁰ and provided notice of the new water user's claim to other users on the stream.¹¹¹ The physical diversion requirement was also supposed to prevent a single water user from monopolizing the entire stream.¹¹² However, the advent of modern permit systems has made the physical diversion requirement obsolete. The act of filing a permit application with the appropriate state agency both manifests an intent on the part of the applicant to appropriate water and provides adequate notice to other water users in the area.¹¹³ Similarly, state supervision of appropriation through the permit system discourages excess claims more effectively than a physical diversion requirement.¹¹⁴ Nevertheless, some western states still retain the actual diversion requirement.

The continuing impact of the actual diversion requirement on instream uses is illustrated by *Fullerton v. State Water Resources Control*
In that case, the California Department of Fish and Game filed an application to appropriate 38,400 acre-feet of water per year in the Mattole River in order to protect fish during low flow periods. The Water Resources Control Board ruled that the applicant must acquire physical control over the water. According to the Board, an actual diversion was unnecessary because the Department could accomplish physical control by acquiring ownership of the banks of the river or by constructing an impoundment upstream.

The Board's decision was upheld by the trial court and affirmed on appeal. According to the appellate court, prior appropriation developed from mining customs which required that "an appropriator must physically gain control of the water and that one way of doing so was by separating it from the watercourse and conveying it to its place of use." The court declared that the legislation which made the statutory appropriation procedure the exclusive method of acquiring water rights in California also embodied this principle.

**IV. THE PUBLIC TRUST DOCTRINE AS A LIMIT ON THE EXERCISE OF WATER RIGHTS**

Only North Dakota and California now have applied the public trust doctrine to protect flowing waters, as opposed to the submerged lands beneath them. Although the North Dakota case, *United Plainsmen Association v. North Dakota State Water Conservation Commission*, is somewhat limited in scope, the California Supreme Court's decision in *National Audubon Society v. Superior Court of Alpine County* may have a significant impact on the law of water allocation in the United States.

**A. Applying the Public Trust to Water Rights**

**1. The United Plainsmen Decision**

*United Plainsmen* was the first case to hold that water rights, like submerged land, are subject to the public trust doctrine. The possible adverse consequences of massive coal mining in southwestern North Dakota alarmed the plaintiffs in *United Plainsmen*. They sought to enjoin the State Water Conservation Commission from issuing permits to
appropriate water for coal-related power and energy production facilities until the state formulated a comprehensive short-term and long-term plan to conserve and develop the state's natural resources. The trial court dismissed the claim and the plaintiffs appealed.

The plaintiffs contended that North Dakota's water resources policy statute mandated water resources planning. The North Dakota Supreme Court determined, however, that the statute's planning provisions were "horatory and precatory, but not mandatory." At the same time, the court also concluded that the public trust doctrine circumscribed the Commission's water allocation authority. The Commission acknowledged the existence of the public trust concept but maintained that the public trust doctrine limited merely the alienation of submerged lands. The court declared, however, that the trust obligation extended to the waters themselves.

The North Dakota Supreme Court based its conclusion on both state constitutional and statutory authority. First, it noted that a provision of the state constitution stated that "all flowing streams and natural water courses shall forever remain the property of the state for mining, irrigating and manufacturing purposes." The court further observed that a state statute classified various forms of water, including surface water, as "public waters" and declared that they belonged to the public. According to the court, these provisions could apply the trust concept to flowing waters.

The court then considered the impact of the trust obligation on the resource allocation decisions of state agencies. Observing that the Commission had the statutory power to deny water permit applications that were contrary to the public interest, the court declared that proper resource allocation decisions must take public trust interests into account. In the court's opinion, this requirement forced the Commission to engage in a planning process:

In the performance of this duty of resource allocation consistent with the public interest, the Public Trust Doctrine requires, at a minimum a determination of the potential effect of the allocation of

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124. N.D. CENT. CODE § 61-01-26 (Supp. 1983). Subsection 4 of this statute provided that "[a]ccruing benefits from these resources can best be achieved for the people of the state through development, execution and periodic updating of comprehensive, coordinated and well-balanced short-term and long-term plans and programs for the conservation and development of such resources by the departments and agencies of the state having responsibilities therefor." Id. § 61-01-26(4).
126. Id.
127. Id. at 461.
128. N.D. CONST. art. XI, § 3.
130. 247 N.W.2d 457, 462 (N.D. 1976).
water on the present water supply and future water needs of this State. This necessarily involves planning responsibility. The development and implementation of some short- and long-term planning capability is essential to effective allocation of resources "without detriment to the public interest in the lands and waters remaining."\textsuperscript{132}

Accordingly, the court reversed the lower court's plenary dismissal and remanded the case for trial.\textsuperscript{133}

2. The National Audubon Decision

In \textit{National Audubon Society v. Superior Court of Alpine County},\textsuperscript{134} the California Supreme Court held that the public trust doctrine imposes a duty of continuing supervision over the taking and use of appropriated water. The case involved diversions by the City of Los Angeles from nonnavigable streams that emptied into Mono Lake.

Mono Lake is located 340 miles northeast of Los Angeles, at the foot of the eastern slope of the Sierra Nevada Mountains and near the entrance to Yosemite National Park.\textsuperscript{135} About thirteen miles long and eight miles wide,\textsuperscript{136} the lake is the second largest lake in California.\textsuperscript{137} The water in the lake is three times as saline as seawater;\textsuperscript{138} consequently, it contains no fish but supports a large population of brine shrimp and brine flies, which feed vast numbers of nesting and migratory birds.\textsuperscript{139} Islands in the lake protect a large breeding colony of California gulls,\textsuperscript{140} and the lake itself serves as a haven on the migration route for thousands of Northern Phalarope, Wilson's Phalarope, and Eared Grebe.\textsuperscript{141} The lake is also a popular recreation area for tourists and supports a small brine shrimp industry.\textsuperscript{142}

Five freshwater streams carry water from snowmelt in the Sierra Nevada mountains and flow into the west shore of the lake.\textsuperscript{143} In 1940, the state water resources agency granted to the Los Angeles Department of Water and Power a permit to appropriate almost the entire flow of

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\item 247 N.W.2d 457, 462 (N.D. 1976).
\item Id. at 464.
\item Note, \textit{supra} note 5, at 619.
\item Johnson, \textit{supra} note 7, at 236, n.13.
\item Johnson, \textit{supra} note 7, at 236, n.13.
\item Comment, 5 J. ENERGY L. & POL'Y 121, 122 (1983).
\item 33 Cal. 3d 419, 424, 658 P.2d 709, 711, 189 Cal. Rptr. 346, 348, \textit{cert. denied}, 464 U.S. 977 (1983). \textit{See also} CALIFORNIA DEPT. OF WATER RESOURCES, REPORT OF INTERAGENCY TASK FORCE ON MONO LAKE 21 (1979) [hereinafter WATER RESOURCES REPORT].
\item Note, \textit{Expanding, supra} note 5, at 619.
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four of these streams.\textsuperscript{144} The next year the city constructed a diversion tunnel from the Mono Basin to its existing aqueduct system and began to divert about half of the flow from these tributary streams.\textsuperscript{145}

In 1970 Los Angeles completed a second aqueduct which allowed it to increase its withdrawals to almost 100,000 acre-feet per year.\textsuperscript{146} These diversions made up about twenty percent of the city’s annual water supply,\textsuperscript{147} however, the effect on the ecology of Mono Lake was devastating. The level of Lake Mono has dropped forty-six feet since the diversions first began in 1941.\textsuperscript{148} Furthermore, the volume of the lake has declined by one-half and its surface area has been reduced by one-third.\textsuperscript{149} The city’s diversion of fresh water from the lake also caused the salinity of the lake to increase.\textsuperscript{150} This increase in salinity affected the lake’s algae upon which the brine shrimp feed, causing a sharp reduction in the brine shrimp population.\textsuperscript{151} Because many species of birds feed on the lake’s brine shrimp, the reduction in the lake’s shrimp population endangered a major avian food source.\textsuperscript{152} The drop in the water level exposed one of the lake’s island gull nesting sites to easy access by coyotes and other predators.\textsuperscript{153} In addition, the lake’s lower level exposed more than 18,000 acres of alkaline lake bottom. The lake bed is composed of very fine silt, which easily becomes airborne in the wind when dry. This silt contains a high concentration of alkali and other minerals that irritate the mucous membranes and respiratory systems of humans and animals.\textsuperscript{154} Finally, the lower lake level diminished its recreational value.\textsuperscript{155}

In 1979, the Audubon Society and others brought suit against the Los Angeles Department of Water and Power, arguing that the Department’s continuing diversions of Mono Lake’s tributary streams violated the public’s rights under the public trust doctrine.\textsuperscript{156} The Department

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\item \textsuperscript{144} Id.; Note, Expanding, supra note 5, at 619.
\item \textsuperscript{145} Note, supra note 12, at 357, n.3.
\item \textsuperscript{146} Smith, supra note 140, at 210. Before 1970 the city diverted about 57,000 acre-feet per year from the Mono Basin. 33 Cal. 3d 419, 428, 658 P.2d 709, 714, 189 Cal. Rptr. 346, 351, cert. denied, 464 U.S. 977 (1983).
\item \textsuperscript{147} Dunning, supra note 53, at 17-27. The city also generated more than 300 million kilowatt hours of electricity from the diverted water. Id.
\item \textsuperscript{148} Comment, 24 SANTA CLARA L. REV. 219, 220 (1984).
\item \textsuperscript{149} Comment, supra note 44, at 809. If Los Angeles continues to withdraw water from the Mono Lake basin at the same rate, the lake’s surface area may eventually decrease by 36.7 square miles and the water level will drop 86 feet from the prediversion level. Smith, supra note 140, at 210.
\item \textsuperscript{150} The salinity of the lake increased from 48,000 parts per million in 1941 to 98,000 parts per million in 1981. Dunning, supra note 53, at 17-27 to 17-28.
\item \textsuperscript{151} 33 Cal. 3d 419, 430, 658 P.2d 709, 715, 189 Cal. Rptr. 346, 352, cert. denied, 464 U.S. 977 (1983); WATER RESOURCES REPORT, supra note 141, at 20-21.
\item \textsuperscript{152} 33 Cal. 3d 419, 430, 658 P.2d 709, 715, 189 Cal. Rptr. 346, 352, cert. denied, 464 U.S. 977 (1983). In addition, the higher salinity level requires the birds to drink more fresh water in order to maintain osmotic equilibrium. Id.
\item \textsuperscript{153} Note, Expanding, supra note 5, at 620.
\item \textsuperscript{154} 33 Cal. 3d 419, 431, 658 P.2d 709, 716, 189 Cal. Rptr. 346, 353, cert. denied, 464 U.S. 977 (1983).
\item \textsuperscript{155} Comment, supra note 44, at 810.
\item \textsuperscript{156} Plaintiffs filed the suit in Mono County, but the court transferred it to Alpine County. 33 Cal. 3d 419, 431, 658 P.2d 709, 716, 189 Cal. Rptr. 346, 353, cert. denied, 464 U.S. 977 (1983).
\end{itemize}
subsequently cross-complained against other water users in the Mono Basin, including the federal government. The United States removed the case to the federal district court in Sacramento. The federal court invoked the abstention doctrine, however, and stayed the federal proceedings to allow the California courts to decide whether the prior appropriation doctrine subsumed the public trust doctrine and whether the Audubon Society had to exhaust its administrative remedies before seeking judicial relief.

In response to this action, the plaintiffs filed a new complaint for declaratory relief in the Alpine County Superior Court. The court entered a summary judgment against the plaintiffs, ruling that the public trust doctrine did not function independently of the prior appropriation system. The court also concluded that the plaintiffs must exhaust their administrative remedies before the Board before litigating. The plaintiffs then successfully petitioned the California Supreme Court to review the lower court's decision.

The California Supreme Court in National Audubon analyzed three aspects of the public trust doctrine: (1) the purpose of the trust; (2) the scope of the trust; and (3) the state's obligation to protect trust resources. Relying on Marks v. Whitney, the court declared that the public trust was not limited to protecting navigation, commerce, and fisheries; the public trust also included recreational and ecological purposes such as the scenic view of the lake and its shore, the purity of the air, and the use of the lake by the birds for nesting and feeding purposes.

The court also declared that the scope of the public trust doctrine was not limited to tidal waters. Rather, the doctrine extended to navigable fresh waters and, in some cases, to nonnavigable tributaries as well. Although Mono Lake was a navigable watercourse, the tributary streams that emptied into it were not. Drawing on two early California cases which addressed this issue, the court concluded that the public trust doctrine applied to upstream diversions which impaired instream values

157. The Department contended that if its water rights were subject to the public trust, then the rights of other water users in the Basin were similarly burdened. In effect, the Department sought a basin-wide adjudication of water rights. Dunning, supra note 53, at 17-28.
159. Id. at 433, 658 P.2d at 718, 189 Cal. Rptr. at 355.
160. Id.
161. Note, Expanding, supra note 5, at 631.
162. 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971).
163. 33 Cal. 3d 419, 434-35, 658 P.2d 709, 719, 189 Cal. Rptr. 346, 356, cert. denied, 464 U.S. 977 (1983). The court added, however, that "[m]ost decisions and commentators assume that 'trust issues' relate to uses and activities in the vicinity of the lake, stream, or tidal reach at issue." Id. at 440, 658 P.2d at 723, 189 Cal. Rptr. at 360.
164. Id. at 435, 658 P.2d at 720, 189 Cal. Rptr. at 356-57.
165. People v. Russ, 132 Cal. 102, 64 P. 111 (1901); People v. Gold Run D. & M. Co., 66 Cal. 138, 4 P. 1152 (1884).
in a downstream navigable watercourse.\textsuperscript{166}

In addition, the court considered the authority and duties of the state as trustee of trust resources. It began by observing that the state, except in rare instances, could not completely abandon its control over trust resources. Parties who acquired rights in trust property held these rights subject to the trust and, therefore, could assert no vested right to use those rights in a manner harmful to the trust. According to the court, these principles applied to rights in flowing waters just as they did to other trust property.\textsuperscript{167}

The court confirmed that the Water Resources Board had the statutory authority to take public trust interests into account when it granted new water rights.\textsuperscript{168} It also rejected the argument that the law of prior appropriation had subsumed the public trust doctrine, thereby precluding separate consideration of trust interests by the Board in permit application proceedings.\textsuperscript{169} Because the Board had admittedly not taken public trust values into account when it granted an appropriative right to Los Angeles in 1940,\textsuperscript{170} the court concluded that the Board could reconsider the propriety of the 1940 permit.\textsuperscript{171}

The court also declared, however, that the public trust imposes a duty of continuing supervision over the taking and use of appropriated water. Consequently, the state had the power to reconsider past allocation decisions even though an agency had made those decisions after due consideration of their effect on the public trust.\textsuperscript{172} This conclusion reflected the view that water users could not acquire a vested property right in the water itself;\textsuperscript{173} they merely obtained a usufructuary right to the water.\textsuperscript{174}

Nevertheless, the court acknowledged that it could not treat flowing waters in the same manner as tidelands or submerged lands.\textsuperscript{175} It admitted that the prosperity and habitability of much of California required the diversion of great quantities of water from its streams for purposes

\textsuperscript{166} 33 Cal. 3d 419, 437, 658 P.2d 709, 721, 189 Cal. Rptr. 346, 357, cert. denied, 464 U.S. 977 (1983). The court did not decide whether the public trust doctrine can protect environmental or recreational values in nonnavigable waters. \textit{Id.} at 437, n.19, 658 P.2d at 721, n.19, 189 Cal. Rptr. at 357-58. \textit{But see} Walston, supra note 10, at 85; \textit{Note, Expanding, supra} note 5, at 638-40.


\textsuperscript{168} \textit{Id.} at 444, 658 P.2d at 725-26, 189 Cal. Rptr. at 363, cert. denied, 464 U.S. 977 (1983). \textit{See also} Johnson, supra note 7, at 257-58 (arguing that the public trust doctrine should limit the state's power to grant water permits which impair navigability and other public rights).


\textsuperscript{170} \textit{Id.} at 447, 658 P.2d at 728-29, 189 Cal. Rptr. at 365.

\textsuperscript{171} \textit{Id.} at 447-48, 658 P.2d at 728, 189 Cal. Rptr. at 365-66.

\textsuperscript{172} \textit{Id.} See also Comment, supra note 44, at 824.

\textsuperscript{173} \textit{See} CAL. WATER CODE § 102 (West 1971).


\textsuperscript{175} \textit{Id.} at 446, 658 P.2d at 728, 189 Cal. Rptr. at 364-65. \textit{See also} Dunning, supra note 53, at 17-32.
unconnected to any navigation, recreation, or ecological use relating to the source stream. Consequently, the court conceded that as a matter of practical necessity the state may have to approve appropriations despite foreseeable harm to public trust uses.

Finally, the court concluded that the plaintiff need not exhaust its administrative remedies before filing suit against the city. In the court's opinion, both the Water Board and the courts had concurrent jurisdiction over water rights disputes of this nature. Consequently, the National Audubon Society could bring suit to determine the extent to which the public trust doctrine limited the city's water rights in the Mono Lake basin.

However, the court in National Audubon did not dictate a particular allocative result. Therefore, when the Water Resources Board reviews the city's water rights at some future time, it may consider both the importance of protecting public trust values in Mono Lake and the water needs of the residents of Los Angeles. The Board could confirm the city's right to divert water from the Mono Basin; it could determine that the damage to the lake's ecology outweighed the city's water supply needs and revoke the city's water withdrawal permit; or the agency could reduce the amount of water it allows the city to divert.

**B. Evaluation of United Plainsmen and National Audubon**

The impact of the United Plainsmen decision is difficult to assess. The case may have simply affirmed the state's power to deny water permit applications that are not in the public interest. By introducing the public trust doctrine into its analysis, however, the United Plainsmen court imposed an affirmative obligation on state agencies to consider alternative uses, including instream uses, before granting appropriation permits. On the other hand, the court did not hold that the public trust principle restricted the exercise of existing appropriative water rights, nor did it suggest that the Commission should give trust purposes any particular weight in its planning process. Thus, although the agency must take trust purposes into account, it could apparently place a higher value on consumptive uses.

The California Supreme Court's decision in National Audubon is

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177. Id. at 446, 658 P.2d at 728, 189 Cal. Rptr. at 364-65.
178. Id. at 449-51, 658 P.2d at 731-32, 189 Cal. Rptr. at 366-68. See also Comment, supra note 148, at 224-25.
180. Note, Expanding, supra note 5, at 636.
182. Note, Expanding, supra note 5, at 636.
183. Tarlock, supra note 6, at 240; Dunning, supra note 53, at 17-34 to 17-35.
more significant. By engraving the public trust concept onto the prior appropriation system, the court has provided environmentalists with a new tool to protect aesthetic, recreational, and ecological values. This additional protection comes, however, at a very high cost. Over the years, economists and legal scholars have emphasized that water rights must be secure to achieve optimal use of water resources. According to these commentators, the prior appropriation system is superior to riparianism and eastern water permit systems because it gives water users greater security. Arguably, by giving the state Water Conservation Board the power to modify existing water permits, the court in *National Audubon* impaired this security. Can other techniques better protect these public interests without undermining the security of water rights under the prior appropriation doctrine? This article shall examine some other approaches.

V. STATE EFFORTS TO PROTECT INSTREAM USES

Both the federal government and the states have initiated new measures to protect instream values. In the East as well as in the West, a large number of states have modified their existing water allocation systems to support instream uses. In addition, many states have established protected rivers programs. Finally, some states have expanded their definitions of navigability.

A. Modification of Traditional Water Allocation Doctrines

1. Modification of the Riparian System

More than a dozen eastern states now have enacted legislation to modify common law ground water and surface water allocation doctrines. Some of these statutes have created comprehensive regulatory systems; other statutes are much more limited in scope. Nevertheless, these statutes have certain common features. For example, water users who are subject to regulation must obtain permits before they can with-
draw or divert water. Like those in prior appropriation states, these permits are usually specific in terms of time, place, manner, and amount of withdrawal. In addition, subsequent applicants typically must demonstrate that their requested withdrawals will not harm existing water users.\(^\text{189}\) Furthermore, water use permits are not perpetual; they usually expire after a limited time.\(^\text{190}\)

This type of statutory permit system potentially may protect instream uses better than the riparian system alone. Under the statutory allocation schemes, water use decisions do not rest solely on economic interest as they do under common law water rights doctrines. Instead, an administrative agency regulates water users; this agency is empowered and required to take the public interest into consideration when it makes water allocation decisions. Some states explicitly tie water allocation decisions by the agency to a comprehensive water plan which also reflects environmental and recreational values.\(^\text{191}\) Finally, because owners must periodically renew water permits, the administrative agency can reallocate water according to changing needs and circumstances.\(^\text{192}\)

2. **Modification of the Prior Appropriation System**

Historically, instream uses have received less recognition under the prior appropriation doctrine than under the riparian system. Some western states have changed their traditional water allocation regime, however, to protect instream uses. In particular, these states have approved instream appropriations and have recognized instream values when applying the "public interest" standard in appropriation permit proceedings.

a. **Instream Appropriations**

A number of western states now expressly authorize instream appropriations. For example, state agencies can now make instream appropriations to preserve the natural environment in several western states.\(^\text{193}\) In some cases private persons can also make such appropriations.\(^\text{194}\)

Instream appropriations are useful as a means to protect environmental values in flowing streams. The holder of an instream appropriation right can contest the issuance of a subsequent permit on the stream

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\(^{189}\) Ausness, *supra* note 84, at 554-56.

\(^{190}\) See, e.g., FLA. STAT. ANN. § 373.236(1) (West 1974) (20 years); GA. CODE ANN. § 12-5-31(h) (1986 Cum. Supp.) (10 to 20 years); IOWA CODE ANN. § 455B.265 (West Supp. 1985) (10 years).

\(^{191}\) FLA. STAT. ANN. § 373.036(7)-(9) (West Supp. 1985).

\(^{192}\) Reallocations and the problem of compensating water users whose permits lapse are discussed in Ausness, *supra* note 84, at 584-87.


if it conflicts with the instream appropriation.\textsuperscript{195} Even when users over-appropriate streams, senior appropriators may be located at downstream points. Consequently, many streams may have good flows through a large portion of the stream's reach; instream appropriations can protect these flows against new water users.\textsuperscript{196} Moreover, the instream appropriation concept does not impair existing water rights. First, a new user who desires to make an instream appropriation must show that the amount of water claimed is actually necessary to maintain the riparian habitat it seeks to preserve.\textsuperscript{197} Secondly, instream appropriations are always subordinate to the rights of existing water users.\textsuperscript{198}

The validity of instream appropriation statutes has been challenged, however, in several states; so far these attacks have been unsuccessful. In one case, the Idaho Department of Parks sought to appropriate water for environmental purposes in the Malad Canyon area of the state.\textsuperscript{199} The Department of Water Administration denied the permit after finding that the Department of Parks would not make a physical diversion. Finding that a user could make a valid appropriation under the Idaho statute without a physical diversion, the trial court reversed the agency's decision and ordered it to issue the permit.

Intervening water users' associations contended that instream appropriations were inconsistent with the constitutional right to appropriate because they represented "an insidious scheme in an attempt to monopolize the state's unappropriated waters or to condemn already appropriated waters."\textsuperscript{200} The Idaho Supreme Court disagreed, however, with this contention because the appropriated water would be available for appropriation by downstream users. The court also rejected the argument that the statute infringed upon the constitutional right to appropriate, holding that the constitution did not require a physical diversion in order to appropriate water.\textsuperscript{201}

A court upheld Colorado's instream appropriation statute against a similar attack in\textit{Colorado River Water Conservation District v. Colorado Water Conservation Board}.\textsuperscript{202} The Water District, which sought to divert water from the Crystal River and one of its tributaries, claimed that a prior instream appropriation made under the state statute was invalid. The Colorado Supreme Court rejected the right-to-divert argument, reasoning that the constitutional right to appropriate\textsuperscript{203} did not prohibit in-
stream appropriations because it was solely concerned with abolishing riparian rights.\textsuperscript{204}

b. "Public Interest" Restriction on Water Permit Applications

Many western states authorize their water resources agencies to deny or condition water use applications in order to promote the "public interest."\textsuperscript{205} Historically, these states have narrowly defined "public interest" in terms of economic efficiency and have not explicitly included environmental values.\textsuperscript{206} The public interest concept is now expanding, however, and many states have added environmental values to the list of criteria used to evaluate new applications to appropriate water.\textsuperscript{207}

In addition, some states have adopted environmental policy acts which impose an affirmative obligation on state agencies to consider the ecology when ruling on applications to appropriate water.\textsuperscript{208} In \textit{Stempel v. Department of Water Resources},\textsuperscript{209} for example, littoral owners who contended that lowering the lake level would cause pollution challenged an application to appropriate water from a small lake. A state statute directed the state water resources agency to determine whether any proposed appropriation would be a "detriment to the public welfare."\textsuperscript{210} The agency ruled that this language did not require it to consider environmental factors. The Washington Supreme Court disagreed, holding that the agency must consider the pollution issue. The court also ruled that the state environmental policy act\textsuperscript{211} required the water resources agency to prepare an environmental impact statement as part of its permit application process.

B. Withdrawal, Reservation, and Preservation Flow Programs

States can also temporarily or permanently withdraw water at certain points on a stream from appropriation.\textsuperscript{212} For example, Oregon has withdrawn the waters of some streams and lakes from further appropriation for some or all uses.\textsuperscript{213} Other states have imposed temporary moratoria on new appropriations in order to give state agencies time to formulate policy.\textsuperscript{214} The Montana legislature has imposed a moratorium on future appropriations in the Yellowstone Basin, for example, in order

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\item \textsuperscript{204} 594 P.2d 570, 573 (Colo. 1979).
\item \textsuperscript{206} Tarlock, supra note 3, at 888.
\item \textsuperscript{207} See, e.g., \textit{Cal. Water Code} § 1253 (West 1971); \textit{Utah Code Ann.} § 73-3-8 (1980).
\item \textsuperscript{208} Comment, supra note 4, at 409.
\item \textsuperscript{209} 82 Wash. 2d 109, 508 P.2d 166 (1973).
\item \textsuperscript{210} \textit{Wash. Rev. Code Ann.} § 90.03.290 (1985).
\item \textsuperscript{211} \textit{Wash. Rev. Code Ann.} § 43.21C.010-910 (1983).
\item \textsuperscript{212} Note, \textit{Appropriation by the State of Minimum Flows in New Mexico Streams}, 15 \textit{Nat. Resources J.} 809, 810 (1975).
\item \textsuperscript{213} \textit{Or. Rev. Stat.} § 538.110-300 (1985); Comment, supra note 4, at 392.
\end{itemize}
to determine whether the Basin needs permanent reservations for in-stream uses.\footnote{2}{Mont. Code Ann. § 85-2-601 to 608 (1983). Since this moratorium, a number of users have filed reservations, including one for 8.2 million acre-feet by the Fish and Game Commission. Tarlock, supra note 6, at 241-42. See also Cooperative Instream Flow Service Group, Protecting Flows in Montana: Yellowstone River Reservation Case Study (Instream Flow Information Paper No. 10, Sept. 1980).}


Other states have fixed minimum or preservation flows for their streams and have prohibited withdrawals or impoundments which interfere with established flow levels.\footnote{2}{See, e.g., Conn. Gen. Stat. Ann. § 26-141b (West Supp. 1986); Fla. Stat. Ann. § 373.042 (West 1974); Idaho Code § 42-1736A (Cum. Supp. 1986) (repealed 1985); Miss. Code Ann. § 51-3-7 (Cum. Supp. 1985); Va. Code Ann. § 62.1-106 (1982); Wis. Stat. Ann. § 31.02 (1973). See also 7 Waters and Water Rights § 615 (R. Clark ed. 1976).} The process of establishing preservation flow standards requires both scientific study and determination of appropriate goals of public officials. The scientific or technological aspect involves measuring various hydraulic and hydrological components of streamflow to determine the hydraulic conditions on the stream that must be maintained in order to meet a given objective.\footnote{2}{See generally Methodologies for the Determination of Stream Resource Flow Requirements: An Assessment (C. Stalnaker & J. Arnette eds. 1976).} States are increasingly using species preservation as a surrogate for other instream uses. Therefore, preservation standards usually require the maintenance of streamflows that are sufficient to sustain fish, aquatic insects, and riparian vegetation;\footnote{2}{Tarlock, supra note 6, at 218.} however, some states explicitly consider recreational or aesthetic interests. For example, the Washington statute directs the state to establish "base flows" necessary to preserve fish, wildlife, scenic, aesthetic, and other environmental values in perennial rivers and streams.\footnote{2}{Wash. Rev. Code Ann. § 90.54.020(3)(a) (1983).}

Although preservation flow programs are one of the most promising methods of protecting instream uses, commentators have made valid criticism about their utility. First, methodologies for establishing preservation flows are still in the formative stage and require further study.\footnote{2}{See Stalnaker & Arnette, Methodologies for Determining Instream Flows for Fish and Other Aquatic Life, in Methodologies for the Determination of Stream Resource Flow Requirements: An Assessment (C. Stalnaker & J. Arnette eds. 1976).} Second, the decision to base resource allocation solely on fish and wildlife proxies is questionable because these criteria are not necessarily relevant
to protect other instream interests. Nevertheless, the preservation flow concept is potentially the most effective state response to the needs of instream users.

C. Protected Rivers Programs

Many states have enacted statutes to restrict diversions along designated wild and scenic rivers and thus preserve their natural water levels. Most of these statutes follow the federal Wild and Scenic Rivers Act of 1968. In addition, other states regulate the construction and operation of dams on certain rivers in order to protect instream values.

D. Expansion of the Navigability Concept

Some states have expanded their traditional definition of navigability in order to protect streamflows. The concept of navigability serves a variety of functions and the definition of "navigability" varies accordingly. For example, states use navigability to determine state ownership of sovereignty lands; the concept also provides a measure of the federal government’s regulatory authority under the commerce clause. In addition, navigability provides a basis for state regulatory power and defines the scope of public rights in lakes and streams. In the past most states applied a "navigability in fact" test to determine whether the members of the public could gain access to a watercourse. This approach considers a watercourse navigable when members of the public use it, or can use it, in its ordinary condition, as a highway of commerce over which they can conduct trade and travel in the customary fashion.

Some courts have rejected commercial use as the sole test of navigability; instead they have adopted a recreational or "public use" standard. The rationale for this broader definition is that states

223. Tarlock, supra note 6, at 218-20.
229. Johnson & Austin, supra note 227, at 1.
formulated the commercial use test before recreational uses existed and, therefore, failed to take them into account. According to these courts, a recreationally-based definition of navigability is necessary to protect what has become a significant economic activity.\textsuperscript{231}

When this broader definition classifies a watercourse as navigable, it imposes an easement of passage against the owner of the streambed and gives the public access to the overlying waters for navigation, fishing, and other recreational purposes.\textsuperscript{232} For example, a Michigan appellate court in \textit{Kelly ex rel. MacMullen v. Hallden}\textsuperscript{233} held that the public enjoyed recreational boating and fishing rights on the St. Joseph River. This holding applied regardless of whether Michigan's "saw log" test regarded the river as navigable.\textsuperscript{234} In \textit{People ex rel. Baker v. Mack},\textsuperscript{235} the state of California brought a public nuisance action against landowners on the Fall River who were attempting to prevent members of the public from boating, fishing, and hunting on portions of the river adjacent to their property. The defendant landowners claimed that the river was not navigable under the traditional commercial purpose test. The court rejected the notion that it should determine public recreational rights by such a narrow standard, however, and held the river to be navigable and, therefore, accessible to the public.\textsuperscript{236}

Commentators have suggested that these "public use" cases are really manifestations of the public trust doctrine. Although courts seldom invoke the public trust principle expressly, the rationale behind these cases—free access to waters that users can put to beneficial public use—is similar to the theory that underlies the public trust doctrine.\textsuperscript{237} This similarity does not mean that adopting a public use definition of navigability obviates the need for statutory protection of instream uses. Preservation flow programs, however, in conjunction with the public use test, may effectively respond to instream use problems. Thus, preservation flow programs, however, in conjunction with the public use test, may effectively respond to instream use problems. Thus, preservation flow

\begin{footnotes}
\item[232] Sherton, supra note 194, at 411.
\item[234] Some states, particularly in the Mid-West and West, adopted a "saw log" test of navigability. These states considered streams navigable if logs could float on them either continually or seasonably. See, e.g., Moore v. Sanborne, 2 Mich. 520 (1853); Guilliams v. Beaver Lake Club, 90 Or. 13, 175 P. 437 (1918); Watkins v. Dorris, 24 Wash. 636, 64 P. 840 (1901); Nekoosa Edwards Paper Co. v. Railroad Comm'n, 201 Wis. 40, 42, 228 N.W. 144, 146 (1929), aff'd per curiam, 283 U.S. 787 (1931); IDAHO CODE ANN. § 36-1601. See also Tarlock, supra note 118, at 24-16 to 24-17.
\item[236] See also People v. El Dorado County, 96 Cal. App. 3d 403, 157 Cal. Rptr. 815 (1980); Hitchings v. Del Rio Woods Recreation & Parks Dist., 55 Cal. App. 3d 560, 127 Cal. Rptr. 830 (1976). These cases are discussed in Stevens, supra note 10, at 204-08.
\item[237] Johnson, supra note 7, at 251-52.
\end{footnotes}
programs can address ecological factors, while the public use test responds to the recreational needs of the public.

VI. CONCLUSION

At first blush, the theory of using the public trust doctrine to protect instream uses is an appealing strategy. The trust concept reflects the universal feeling that certain resources are so critical that they must not entirely leave public control. Virtually everyone would agree that water is such a resource. In fact, fresh water resources are probably more important to the public welfare than tidelands, the traditional focus of the public trust doctrine. Accordingly, it can be argued that the public trust protection should be extended from tideland areas and submerged lands to flowing waters to further the trust doctrine's underlying rationale.

Proponents of the public trust doctrine approach point out two aspects of the doctrine that enhance its utility as a resource management tool. First, the public trust concept is flexible and can adapt to changing social priorities. Second, it regards the public, not the government, as the beneficial owner of trust resources. Consequently, courts can enforce the public trust doctrine against the government itself. Standing requirements are generally not very restrictive, and courts seem willing to engage in a searching inquiry when called upon to determine whether a particular legislative or administrative action is consistent with public trust obligations. This inquiry may lead to outright reversal of a legislative or administrative decision; more often the court requires that the legislature or agency reevaluate its decision, either in a more broad-based forum or by a process that properly considers trust interests.

Nevertheless, the public trust doctrine is no panacea. Although it allows for some judicial oversight of legislative or administrative resource allocation decisions, the public trust doctrine does not establish any particular set of priorities. Environmental concerns will not necessarily prevail when the state must choose between conflicting uses of a resource. Furthermore, some restraint is necessary if the public trust doctrine is to extend into the consumptive water rights area. Prospective

239. Johnson, supra note 7, at 234.
240. Berland, Toward the True Meaning of the Public Trust, 1 Sea Grant L.J. 83, 120-21 (1976).
242. See generally Sax, supra note 9, at 557-65.
245. Stevens, supra note 10, at 223.
macro-level water allocation decisions which apply the public trust doctrine, as in *United Plainsmen*, are not particularly worrisome. State decisionmakers should consider instream uses and other ecological needs when they make significant allocative decisions. If statutes do not require decisionmakers to take these interests into account, the public trust doctrine can remedy this deficiency.

On the other hand, the public trust doctrine does not serve any apparent purpose when applied to individual permit applications and other micro-level decisions by state water allocation agencies. In the West, the “public interest” concept arguably fulfills the same function as the public trust principle. Similarly, water allocation statutes in the East typically allow administrators to deny water permit applications that are contrary to the public interest. When necessary, legislatures in western or eastern states can modify permit application procedures to explicitly require that the agency consider environmental or recreational factors.

A system that applies the public trust doctrine to decisions which create new water rights does no harm and may be beneficial. A system, however, that introduces the trust concept to reevaluate existing water rights is an entirely different matter. The California court’s approach in *National Audubon* is inconsistent with a system of stable and secure water rights. Use of the public trust doctrine in this manner is a potential threat to water users, especially in the West where states have traditionally given water rights more protection than in the East. The public trust concept cuts across the priority principle which has heretofore been the cornerstone of the prior appropriation system. Thus, senior appropriators, who formerly enjoyed a high degree of security, now face the prospect of having their “vested” water rights modified or even terminated at some future time by a court or administrative agency.

Courts and agencies undoubtedly will not completely extinguish presently exercised appropriative rights very often. As the California court acknowledged in *National Audubon*, when the economy of the state depends upon water, the state will frequently have to sacrifice environmental values. Nevertheless, the mere possibility that a state might terminate existing water rights may discourage future investment in water-dependent activities. In fact, large-scale activities may have a greater impact on trust values and, therefore, be a more likely target for recurring judicial or administrative scrutiny.

A system that limits the role of the public trust doctrine in the water rights area does not necessarily fail to protect instream uses adequately. The measures discussed in Part V offer a variety of promising alternatives for states to protect instream uses from injury. Moreover, although these

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measures may restrict the water rights, they are not so disruptive to the stability of the existing water allocation regime as use of the public trust doctrine.

The public trust doctrine is based on the notion that private individuals cannot fully own trust resources but can only hold them subject to a servitude on behalf of the public. States can enlarge the scope of this servitude without raising due process concerns because of the limited nature of the owner's rights in the trust resource. Thus, water users do not receive much legal protection against restrictions on their use of trust resources under a public trust approach. On the other hand, users can challenge state regulatory programs on substantive due process grounds if these programs impair the value of the property rights excessively. For this reason, restrictions imposed by state regulation are likely to be less threatening to water users than those imposed under the auspices of the public trust doctrine.

State systems should not superimpose the public trust doctrine upon the existing water rights system in such a way as to impair the security of existing water rights. States can accomplish this goal more efficiently through statutory regulation. In particular, states can establish preservation flows and use a public interest formula in water permit application proceedings to ensure that instream and other environmental values receive their proper weight.

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249. Berland, supra note 240, at 135.