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## ENVIRONMENTAL WATER RIGHTS: AN EVOLVING CONCEPT OF PUBLIC PROPERTY

Lynda L. Butler\*

From the world's water-poor areas to its water-rich regions, countless conflicts have arisen over the appropriate allocation of interests in water resources. These conflicts have occurred at all levels of the political system, pitting nation against nation, state against state, and locality against locality.<sup>1</sup> Although the disputes generally involve one overriding question—who has the right to use water—the legal issues involved in resolving that question span a wide range of matters.<sup>2</sup> The longstanding and complex nature of the disputes thus stands as a testament to the value and importance of water resources.

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<sup>1</sup> Water law treatises and articles provide ample evidence of these disputes. See 1 H. Farnham, *The Law of Waters and Water Rights* preface at 1 (1904) (estimating the number of court decisions involving water disputes to be about 17,000 as of 1904). See generally 2 *Waters and Water Rights* §§ 100-107, 130-134, 140-145, 150-152 (R. Clark ed. 1967 & Supp. 1978) (discussing federal/state relations, interstate stream conflicts, Indian water rights claims, and international problems); 5 *id.* §§ 414, 430, 445 (discussing water rights determinations under the appropriation doctrine); Butler, *Allocating Consumptive Water Rights in a Riparian Jurisdiction: Defining the Relationship Between Public and Private Interests*, 47 U. Pitt. L. Rev. 95 (1985) (discussing consumptive water rights disputes arising in America's riparian jurisdictions). American law has even developed separate legal doctrines to govern the different types of disputes. See, e.g., *id.* at 134-36 (discussing the doctrine of equitable apportionment developed by the United States Supreme Court to govern water disputes between states). See generally A. Tarlock, *Law of Water Rights and Resources* (1989) (explaining the law governing water allocation in the United States). Disputes over water are not likely to decline in the future. See generally G.A. Res. 35/18, 35 U.N. GAOR Supp. (No. 48) at 101 (1980) (discussing the lack of access to safe and ample water supplies and the lack of sanitation facilities existing in the world); 1987-1988 Council on Environmental Quality Ann. Rep. ch. 3 (discussing existing water conditions, programs, and recent trends); 1 U.S. Water Resources Council, *The Nation's Water Resources, 1975-2000* (1978) (discussing America's increasing water use needs); Butler, *supra*, at 96-99 (describing water supply problems facing the eastern United States).

<sup>2</sup> For example, disputes arising under the common law riparian doctrine, which traditionally has governed water allocation in the eastern United States, typically raise questions about the reasonableness of a water use, about the area of land that can be benefitted by a use, and about the transferability of water rights. See generally Butler, *supra* note 1, at 105-56 (discussing these questions).

Given the long history of water use conflict, it should not be surprising that man has found new grounds for dispute. Water uses generally fall into one of two main categories. The first category, out-of-stream or consumptive uses, involves those uses that require the removal or diversion of water from a watercourse to the place of use. Irrigation, stock watering, industrial water use, and residential use are examples of consumptive uses.<sup>3</sup> By contrast, the second category, instream or nonconsumptive uses, does not require the removal of water and refers instead to those benefits derived from water while it is still flowing in the stream. Examples of instream uses include navigation and recreational uses, as well as maintenance of water flows for aesthetic and ecological purposes.<sup>4</sup> While the traditional focus of water disputes has been on private conflicts involving competing consumptive uses, current disputes have raised new issues and are shifting the focus away from purely private matters to tensions between public and private interests. Of particular concern today are the conflicting interests of private consumptive uses and public nonconsumptive needs.

As the demand for out-of-stream uses continues to rise, the need for protection of instream uses has become increasingly apparent. The survival of many aquatic and terrestrial species depends on the instream flow, or the quantity of water flowing through a stream. An adequate level of flowing water also is required to maintain water quality and to prevent other drastic changes in the physical characteristics of watercourses. Furthermore, people require adequate instream flows for recreational and aesthetic purposes.<sup>5</sup>

Despite the need for protection of instream uses, out-of-stream uses have, for the most part, prevailed in both western and eastern states. America's water allocation laws, which developed in the context of the private property system, have made few, if any, accommodations for public interests.<sup>6</sup> Although government entities

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<sup>3</sup> See Ausness, *Water Rights, the Public Trust Doctrine, and the Protection of Instream Uses*, 1986 U. Ill. L. Rev. 407, 407.

<sup>4</sup> See *id.*

<sup>5</sup> For a discussion of the benefits of instream flow, see 1 U.S. Water Resources Council, *supra* note 1, at 42-47. See generally U.S. National Water Comm'n, *Water Policies for the Future* 19-37 (1973) (discussing the environmental effects of water use) [hereinafter cited as *Water Policies*]; Robie, *Some Reflections on Environmental Considerations in Water Rights Administration*, 2 Ecology L.Q. 695, 710-21 (1972) (discussing environmental considerations relating to instream use).

<sup>6</sup> See A. Tarlock, *supra* note 1, § 5.02 (discussing the development of prior appropriation); Butler, *supra* note 1, at 105-56 (discussing the development of private consumptive

generally have been able to meet public consumptive needs through condemnation proceedings, innovative arrangements with water rights holders, helpful statutory modifications, or aggressive manipulation of common law principles,<sup>7</sup> public nonconsumptive needs have posed serious political, economic, and philosophical problems. Recognition of nonconsumptive values raises difficult questions about our political and economic structure and about the ethical responsibilities of the citizenry.

For several decades, legal scholars and lawmakers have been exploring ways the law can recognize and promote the nonconsumptive needs of the public.<sup>8</sup> In recent years, their efforts have begun to be realized as a growing number of courts and legislatures have decided to protect instream uses with a wide variety of devices. Some of these devices involve judicial interpretation or expansion of common law doctrine, while others reflect changes in statutory or administrative law.<sup>9</sup> Although the variety of the protective devices might suggest otherwise, they do share one common trait: all represent an important step in the evolution of public property rights in the environmental area. Gradually the law has begun to recognize the legitimacy of public environmental water rights—that is, public interests in environmental uses of water resources.<sup>10</sup> Today, through the recent judicial and legislative

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rights under riparianism).

<sup>7</sup> In the eastern United States, accommodation of public consumptive needs has been a particularly difficult process. While some eastern jurisdictions have modified their common law water allocation systems by statute to provide for public consumptive needs, many others have kept those systems basically intact. Government entities attempting to develop public water supplies under eastern common law systems face a number of serious obstacles. See generally Butler, *supra* note 1 (discussing those obstacles).

<sup>8</sup> See, e.g., Water Policies, *supra* note 5, at 271-79; R. Freeman & F. Robinson, Opportunities to Protect Instream Flows in Vermont and Pennsylvania (Fish & Wildlife Service, U.S. Dep't of the Interior, biological report 86(1), Apr. 1986); Johnson, *Public Trust Protection for Stream Flows and Lake Levels*, 14 U.C. Davis L. Rev. 233 (1980). See generally A. Tarlock, *supra* note 1, §§ 8.01-.06 (discussing the development of public water use rights).

<sup>9</sup> For further discussion of these judicial and legislative changes, see *infra* Parts II & III.

<sup>10</sup> For purposes of this article, the phrase "environmental uses of water resources" will refer collectively to those uses that require the protection of the physical characteristics of water resources—that is, those uses that require the maintenance of flow conditions. Among other possibilities, environmental water uses will include the maintenance of instream flows for navigational, ecological, aesthetic, and recreational purposes.

Under this definition, the phrase "environmental water use" is, for the most part, synonymous with instream use. But, though the two have considerable overlap, the phrase "environmental water use" has stronger environmental connotations. Whereas the phrase "environmental water use" stresses the relationship between instream use and the total environment of a watercourse, instream use simply refers to any nonconsumptive use of flowing water that produces a benefit.

changes, that evolutionary process has reached the point where the public interest needs to be recognized as a property right. Although such recognition would defy our system of private property, public property rights are, in appropriate circumstances, needed as a complement to private property. Many instream water uses raise the types of concerns that both justify and necessitate public property rights.

To demonstrate the applicability of the public property concept to instream uses, this article first describes the various forms of instream protection that have developed under traditional and current law. Part I examines the relatively insignificant role of instream values under traditional water allocation systems, while Parts II and III discuss the emerging forms of judicial and legislative protection, respectively. The focus of these discussions is not to provide an exhaustive study of the various instream protection programs, but rather to identify the current status, direction, and limitations of the instream protection movement. Part IV then suggests how the public property concept would help the evolution of the public interest in environmental water uses.

#### I. INSTREAM USES UNDER TRADITIONAL WATER ALLOCATION SYSTEMS

Two main water allocation systems define the nature of rights and interests in America's watercourses. One system, known as riparianism, generally governs water rights in the eastern portion of the United States. The second system, referred to as prior appropriation, prevails in the western part of the country. A brief description of the two systems and of the status of instream values under each one demonstrates the need for reform.<sup>11</sup> Although a number of factors have contributed to this need, the private rights perspective of traditional water allocation systems probably is the primary reason why the traditional systems do not adequately protect the public's nonconsumptive interests.<sup>12</sup>

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<sup>11</sup> For a more comprehensive discussion of the two systems, see A. Tarlock, *supra* note 1, chs. 3, 5.

<sup>12</sup> Another important factor is the judiciary's restrictive interpretation of common law allocation principles. In many jurisdictions, the courts have been reluctant to redefine those principles in light of changing needs and values. See generally Butler, *supra* note 1, at 105-56 (discussing the restrictive approach of courts in riparian jurisdictions).

### A. Riparianism

Under the riparian doctrine, water rights in natural watercourses arise as incidents to ownership of land abutting a watercourse.<sup>13</sup> Because many riparian landowners can be located along a watercourse, serious conflicts sometimes arise between users. Riparian jurisdictions resolve those conflicts through one of two approaches: the natural flow doctrine or the reasonable use rule.<sup>14</sup>

The natural flow doctrine generally entitles each riparian proprietor to use the adjoining watercourse in its natural condition without perceptible interference by other users.<sup>15</sup> If a riparian is using water for natural purposes, like drinking and other household purposes, then she may use as much water as necessary even though the entire flow is depleted. But if a riparian is using water for artificial purposes—that is, for purposes not essential to life—then the riparian may use the water only if he does not materially interfere with the natural flow.<sup>16</sup>

Although a 1982 study suggests otherwise,<sup>17</sup> the natural flow doctrine appears, in theory, to offer significant protection for instream uses.<sup>18</sup> Indeed, some courts have applied the natural flow doctrine to enjoin uses that cause excessive lowering of water levels.<sup>19</sup> Additionally, at least one court has applied the doctrine to enjoin a use that prevented other riparians from boating and fishing and that otherwise impaired the scenic value of their riverfront property.<sup>20</sup> As a practical matter, though, the natural flow doctrine will proba-

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<sup>13</sup> *Id.* at 105. Under traditional law, water rights in lakes technically were known as littoral rights. Though the law governing these rights paralleled the riparian doctrine, different terminology apparently was necessitated by a restrictive definition of watercourse which excluded lakes. See 2 H. Farnham, *supra* note 1, § 458; 5 R. Powell, *The Law of Real Property* ¶ 709 [2][b][iv] (1990); 1A G. Thompson, *Commentaries on the Modern Law of Real Property* §§ 256, 259, 265, 280 (1980 & Supp. 1981). Modern commentators define a watercourse more broadly to include lakes. See, e.g., A. Tarlock, *supra* note 1, §§ 3.05[1], 3.06[2]. Today, then, riparian rights would attach to lakes as well as streams. See *id.* § 3.05[1], at 3-13.

<sup>14</sup> Ausness, *supra* note 3, at 416.

<sup>15</sup> *Id.* See generally A. Tarlock, *supra* note 1, §§ 3.12[1], [2] (discussing early and current theories of natural flow).

<sup>16</sup> Ausness, *supra* note 3, at 416.

<sup>17</sup> See Davis, *The Riparian Right of Streamflow Protection in the Eastern States*, 36 Ark. L. Rev. 47 (1982). The study summarily dismisses a few cases that relied on the natural flow doctrine to protect recreational use, noting that the cases no longer are "viable precedent." *Id.* at 55. The study also notes that riparian caselaw historically has ignored ecological instream uses. *Id.* at 72.

<sup>18</sup> Accord A. Tarlock, *supra* note 1, § 3.12[2]; Ausness, *supra* note 3, at 417.

<sup>19</sup> See, e.g., *Dardenne Realty Co. v. Abeken*, 232 Mo. App. 945, 106 S.W.2d 966 (1937).

<sup>20</sup> See *Collens v. New Canaan Water Co.*, 155 Conn. 477, 234 A.2d 825 (1967).

bly have little effect on the promotion of instream values; currently, most riparian jurisdictions follow the second approach to resolving use conflicts.<sup>21</sup>

The reasonable use rule entitles each riparian proprietor to make reasonable uses of the adjoining watercourse for the benefit of her riparian land.<sup>22</sup> Under this rule, a riparian's rights are not absolute, for other riparians along the same watercourse also have an "equal" right to make reasonable uses of water.<sup>23</sup> Whether a use is reasonable depends on the facts and circumstances of a particular case. A use that initially is reasonable may become unreasonable over time. Factors considered by the courts in evaluating a use's reasonableness include normal stream conditions, the purpose of the use, and the compatibility of the use with other uses. In evaluating a conflict, the courts tend to prefer domestic uses, such as drinking, bathing, and cooking.<sup>24</sup>

The few cases that have applied the reasonable use standard to recreational or similar instream uses suggest that private instream uses can find protection under the reasonable use rule.<sup>25</sup> In a 1955 Arkansas case, for example, the court concluded that the defendant's pumping operations unreasonably interfered with the plaintiffs' use of a lake for fishing, recreation, and other lawful purposes.<sup>26</sup> These cases, however, are not true public rights cases. Although the courts may have protected instream use, the party conducting the use sought protection as a private riparian proprietor. The courts, in other words, have not used the reasonable use rule to recognize public rights in instream uses.

In conclusion, the riparian doctrine provides some protection for instream uses. Under both the natural flow doctrine and the reasonable use rule, instream uses theoretically would seem to receive as much protection as consumptive uses. As a practical matter, though, the riparian doctrine's protection of instream uses is limited. Because the doctrine traditionally only recognizes private use rights, the public interest in instream uses is protected only to the

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<sup>21</sup> See Ausness, *supra* note 3, at 417.

<sup>22</sup> See Butler, *supra* note 1, at 105-06. See generally A. Tarlock, *supra* note 1, § 3.12[4] (discussing the development of the reasonable use rule).

<sup>23</sup> Butler, *supra* note 1, at 106.

<sup>24</sup> *Id.* at 126-27.

<sup>25</sup> See Ausness, *supra* note 3, at 417-18 (discussing *Harris v. Brooks*, 225 Ark. 436, 283 S.W.2d 129 (1955); *Collens v. New Canaan Water Co.*, 155 Conn. 477, 234 A.2d 825 (1967); *Taylor v. Tampa Coal Co.*, 46 So. 2d 392 (Fla. 1950)).

<sup>26</sup> *Harris v. Brooks*, 225 Ark. 436, 283 S.W.2d 129 (1955).

extent that it coincides with private rights. Furthermore, for the public to benefit, a private riparian must be willing to enforce his instream use rights through litigation. Due to the high costs of litigation and the relatively intangible benefits of instream uses, it is doubtful that many riparians would have sufficient economic incentive to enforce instream rights.<sup>27</sup>

### B. Prior Appropriation

Under the prior appropriation system, a water user who first diverts water from a watercourse and uses it for a beneficial purpose acquires rights superior to subsequent users. Unlike riparian rights, appropriative rights are not restricted to waterfront landowners; nor do appropriative rights have to benefit riparian land. The protection that the doctrine can offer to instream uses, however, is limited in other ways. To avoid losing her rights, for instance, an appropriator must not only claim, but also use, a definite quantity of water. Moreover, because of its historical and legal development, the prior appropriation system favors consumptive uses over instream uses.<sup>28</sup>

Historically courts following the prior appropriation doctrine have disfavored instream uses because of the beneficial use requirement. Under a traditional interpretation of that requirement, instream uses are inherently wasteful since they require water to remain in place and therefore reduce the water available for consumptive uses.<sup>29</sup> Over time, however, courts have become more receptive to instream uses. Several courts, for example, have recognized fishing and recreation as beneficial uses.<sup>30</sup>

Courts in prior appropriation jurisdictions have also disfavored instream uses because of the doctrine's actual diversion require-

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<sup>27</sup> Ausness, *supra* note 3, at 418. Compare *id.* (where the author doubts the ability of the riparian system to protect public instream values) with Davis, *supra* note 17, at 80 (where the author concludes that courts in riparian jurisdictions seem to be willing to protect flows for recreational instream use and that no precedents inhibit extending such a right to the public for recreational and natural habitat uses).

<sup>28</sup> Ausness, *supra* note 3, at 418-19. See generally A. Tarlock, *supra* note 1, §§ 5.02-.03 (discussing the development of the different theories of prior appropriation). Though a riparian land restriction does not apply, some appropriation jurisdictions are beginning to impose a watershed limitation. Such a limitation would provide some protection for instream uses. See *id.* § 5.11.

<sup>29</sup> See Ausness, *supra* note 3, at 419-20.

<sup>30</sup> See, e.g., *State ex rel. State Game Comm'n v. Red River Valley Co.*, 51 N.M. 207, 182 P.2d 421 (1945). See generally A. Tarlock, *supra* note 1, § 5.16 (discussing the beneficial use requirement).

ment.<sup>31</sup> Under this requirement, a user must physically divert water from a watercourse in order to perfect an appropriation. Apparently the courts have imposed this requirement to prevent a single party from successfully claiming appropriative rights to an entire stream when that party was not actually using all of the stream's flow. In addition, the requirement helps to ensure that other water users have notice of a new user's claim.<sup>32</sup> Under a strict interpretation of the actual diversion requirement, instream uses would not be protected since they do not, by definition, involve a diversion. A more liberal interpretation, however, might protect instream appropriations if the appropriator could establish that she had acquired physical control of the water. Although an actual diversion would be one way of establishing such control, an instream appropriator also could acquire physical control by impounding the water or by becoming the owner of the banks of the watercourse.<sup>33</sup> But even under the more liberal approach, the actual diversion requirement still can limit the effectiveness of instream protection measures.<sup>34</sup>

Like riparian jurisdictions, then, traditional prior appropriation states offer little hope to those seeking recognition of the public interest in instream use. Even more so than its eastern counterpart, the prior appropriation doctrine incorporates the private consumptive perspective into its legal requirements. Protection of instream values thus has required, and continues to require, deliberate changes to the traditional water allocation system. Regardless of whether the changes occur by judicial or legislative action, they must provide affirmative recognition of the public interest in order to overcome the private perspective of traditional law.

## II. JUDICIAL PROTECTION OF INSTREAM USES

Over the years, several different techniques for protecting in-

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<sup>31</sup> See Ausness, *supra* note 3, at 420.

<sup>32</sup> *Id.*

<sup>33</sup> See *Fullerton v. State Water Resources Control Bd.*, 90 Cal. App. 3d 590, 598-602, 153 Cal. Rptr. 518, 524-26 (1979). Although commentators have concluded that modern permit statutes make the actual diversion requirement obsolete, *see, e.g.*, A. Tarlock, *supra* note 1, § 5.15, some prior appropriation jurisdictions still enforce the requirement. See Ausness, *supra* note 3, at 420.

<sup>34</sup> See, *e.g.*, *Fullerton v. State Water Resources Control Bd.*, 90 Cal. App. 3d 590, 599, 603, 153 Cal. Rptr. 518, 524, 527 (1979) (where the court concluded that, without express legislative action, it must deny an instream appropriation application when the applicant failed to establish physical activity or control sufficient to meet the more liberal diversion requirement).

stream values have evolved through the courts. One technique involves the use of the public trust doctrine to limit the exercise of consumptive water rights. A second technique concerns an expansion of the navigability concept to include instream values. A third uses the federal reserved water rights doctrine to legitimate instream values. A fourth involves interpreting environmental provisions in state constitutions as imposing a duty of environmental protection. Though the techniques differ, each reflects a commitment to the public interest not generally present under traditional water law. The techniques thus represent an important step in the evolution of public property rights.

#### A. *Expansion of the Public Trust Doctrine*

The public trust doctrine recognizes that certain resources, principally navigable waters and their submerged beds, are held by each state in trust for the benefit of its citizens.<sup>35</sup> Developed in large part by the United States Supreme Court, the public trust doctrine prevents states from totally abdicating their trust responsibilities or from substantially impairing the public interest in trust resources.<sup>36</sup> The United States Supreme Court, for example, applied the doctrine to invalidate an Illinois statute granting a significant portion of the bed of Lake Michigan to a railroad company.<sup>37</sup> The Court explained that the state's abdication of its ownership interests in the valuable submerged lands was "a gross perversion of the trust over the property."<sup>38</sup>

Under the public trust doctrine, resources are impressed with the trust in order to protect the public's right to the enjoyment of certain uses. Courts traditionally have defined public trust uses as including navigation, commerce, and sometimes fishing and the operation of public sewage systems.<sup>39</sup> In recent years, some courts have expanded the doctrine to include uses like environmental preservation, swimming, bathing, and other recreational purposes.<sup>40</sup> In New Jersey, for example, the courts have extended the

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<sup>35</sup> See L. Butler & M. Livingston, *Virginia Tidal and Coastal Law* 105 (1988). See generally *id.* ch. 5 (discussing the evolution of the doctrine).

<sup>36</sup> See generally *id.* § 5.2.A (discussing the emergence of the public trust doctrine in the United States Supreme Court).

<sup>37</sup> *Illinois Central R.R. v. Illinois*, 146 U.S. 387 (1892).

<sup>38</sup> *Id.* at 455.

<sup>39</sup> See, e.g., *id.* at 452; *Mayor of Newark v. Sayre*, 60 N.J. Eq. 361, 369-70, 45 A. 985, 987-88 (1900); *State ex rel. Rohrer v. Credle*, 369 S.E.2d 825, 828 (N.C. 1988).

<sup>40</sup> See generally L. Butler & M. Livingston, *supra* note 35, § 5.2 (discussing judicial per-

public trust to recreational uses of beach areas, even those that are man-made.<sup>41</sup> Similarly, in California and Mississippi, the courts have concluded that valid public trust purposes include recreational pursuits, environmental protection, and the enhancement of aquatic and marine life.<sup>42</sup> As one court explained, the public trust is not a static concept, but rather evolves with the times as the needs and values of the people change.<sup>43</sup>

Despite this type of expansive language in judicial opinions, only a few court decisions have directly applied the public trust doctrine to protect instream uses.<sup>44</sup> In one of those decisions, *United Plainsmen Association v. North Dakota State Water Conservation Commission*,<sup>45</sup> the North Dakota Supreme Court concluded that the doctrine applied to state waters and obligated state officials to consider the impact of proposed allocations of water resources on the public trust.<sup>46</sup> The controversy in *United Plainsmen* focused on the issuance of future water permits for coal-related power and energy production facilities. Plaintiff sought an injunction against the issuance of those permits until state officials developed adequate short-term and long-term plans for the conservation and development of the state's natural resources. To support its request, plaintiff pointed to statutory provisions defining state water policy.<sup>47</sup> Plaintiff argued that the provisions imposed mandatory planning responsibilities on state officials and that those responsibilities had to be met prior to the issuance of the water permits. The trial court disagreed, dismissing the claim.

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spectives on the public trust doctrine).

<sup>41</sup> See *Lusardi v. Curtis Point Property Owners Ass'n*, 86 N.J. 217, 227-32, 430 A.2d 881, 886-88 (1981); *Van Ness v. Borough of Deal*, 78 N.J. 174, 178-81, 393 A.2d 571, 573-74 (1978); *Borough of Neptune City v. Borough of Avon-by-the-Sea*, 61 N.J. 296, 301-10, 294 A.2d 47, 54-55 (1972). For further discussion of New Jersey's handling of the public trust doctrine, see L. Butler & M. Livingston, *supra* note 35, § 5.2.C.

<sup>42</sup> See, e.g., *Marks v. Whitney*, 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971); *Cinque Bambini Partnership v. State*, 491 So. 2d 508 (Miss. 1986), *aff'd sub nom. Phillips Petroleum Co. v. Mississippi*, 484 U.S. 469 (1988).

<sup>43</sup> *Cinque Bambini Partnership v. State*, 491 So. 2d 508, 512 (Miss. 1986), *aff'd sub nom. Phillips Petroleum Co. v. Mississippi*, 484 U.S. 469 (1988).

<sup>44</sup> See *Ausness*, *supra* note 3, at 421.

<sup>45</sup> 247 N.W.2d 457 (N.D. 1976).

<sup>46</sup> See *id.* at 462.

<sup>47</sup> Among other matters, the statutory provisions declared that state water resources policy included the "'execution and periodic updating of comprehensive, coordinated and well-balanced short- and long-term plans and programs for the conservation and development'" of state waters. *Id.* at 459 (quoting the statutory provisions).

In concluding that the complaint stated a claim upon which relief could be granted, the North Dakota Supreme Court looked to constitutional and statutory principles and to the general policies of the public trust doctrine. The court rejected the plaintiff's interpretation of statutory law, explaining that the provisions were, at best, "a significant advisory policy statement."<sup>48</sup> But the court did agree with plaintiff that "the discretionary authority of state officials to allocate vital state resources" is limited by the public trust doctrine.<sup>49</sup> As the court explained, the public trust doctrine is "assuming an expanding role in environmental law."<sup>50</sup> At a minimum the doctrine requires "evidence of some planning by appropriate state . . . [officials] in the allocation of public water resources."<sup>51</sup> Such planning should include "a determination of the potential effect of the allocation of water" on the present and future water needs of the state.<sup>52</sup>

In a decision similar to *United Plainsmen*, the Supreme Court of California decided that the public trust doctrine provides an independent basis for reviewing and evaluating water allocation decisions. The California decision, *National Audubon Society v. Superior Court of Alpine County*,<sup>53</sup> involved a dispute over the diversion of water from Mono Lake by the City of Los Angeles. The diversions had resulted in significant ecological changes in Mono Lake. Besides losing one-third of its surface area, the lake had experienced a drop in its water level and a change in its living resources.<sup>54</sup> Plaintiffs filed suit to enjoin the diversion, arguing that the diversion's adverse environmental consequences impermissibly impaired the public trust interest in the shores, beds, and waters of Mono Lake.

In agreeing that the public trust doctrine applies to California's appropriative water rights system, the court rejected the argument that the system had subsumed the trust doctrine. The court explained that both the public trust doctrine and the water alloca-

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<sup>48</sup> *Id.* at 460.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 463.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* at 462.

<sup>53</sup> 33 Cal. 3d 419, 658 P.2d 709, 189 Cal. Rptr. 346, *cert. denied sub nom.* City of Los Angeles Department of Water & Power v. National Audubon Society, 464 U.S. 977 (1983).

<sup>54</sup> See *id.* at 429-31, 658 P.2d at 715-16, 189 Cal. Rptr. at 352-53 (discussing the environmental consequences of the diversions).

tion system "embody important precepts."<sup>55</sup> Embracing one set of principles and rejecting the other would lead to unbalanced resource decisions. A better accommodation would result, in the court's view, by interpreting the trust doctrine as imposing a continuing and affirmative duty on the state to consider public trust interests in making water allocation decisions. Under the doctrine the state owed a duty, as trustee, to consider the effect of proposed water allocations on the public trust and to "preserve, so far as consistent with the public interest, the uses protected by the trust."<sup>56</sup> Although the court did not define this duty more specifically, it did focus on certain factors throughout its opinion. Among others, those factors included the effect of a proposed use on the physical and chemical characteristics of the affected area, the use's impact on fisheries, wildfowl, and other natural communities, and the impact on the health of nearby residents.<sup>57</sup>

Both *United Plainsmen* and *National Audubon* establish that the public trust doctrine applies to the water allocation process, requiring consideration of the impact of allocation decisions on the public interest. This use of the public trust doctrine is not, however, a problem-free solution for protecting instream values. A recent decision indicates, for example, that North Dakota's trust obligations with respect to water allocations are not that difficult to meet. In *Bottineau County Water Resource District v. North Dakota Wildlife Society*,<sup>58</sup> the North Dakota Supreme Court concluded that the state did not violate the public trust doctrine by granting drainage permits to Bottineau County. As the court explained, *United Plainsmen* only stated that the doctrine required "'controlled development of resources rather than no development.'" <sup>59</sup> In the *Bottineau County* controversy, opponents and supporters of the drainage permits had extensively studied and debated the possible consequences of the permits. Moreover, the state's decisionmaking process had included detailed analysis and discussion of the potential impacts. Thus, the court had no difficulty concluding that the state had adequately protected the public trust interest.<sup>60</sup>

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<sup>55</sup> *Id.* at 445, 658 P.2d at 727, 189 Cal. Rptr. at 364.

<sup>56</sup> *Id.* at 446-47, 658 P.2d at 728, 189 Cal. Rptr. at 365.

<sup>57</sup> *See id.* at 428-31, 434-36, 447-48, 658 P.2d at 714-16, 719-20, 729, 189 Cal. Rptr. at 351-53, 356-57, 365-66.

<sup>58</sup> 424 N.W.2d 894 (N.D. 1988).

<sup>59</sup> *Id.* at 903 (quoting from *United Plainsmen*).

<sup>60</sup> *Id.*

Furthermore, some commentators have speculated that the effect of *United Plainsmen* will not be as great as *National Audubon*. They explain that, in contrast to the California court, the North Dakota Supreme Court has attempted to rely on preexisting constitutional and statutory principles to justify its decision instead of recognizing the public trust obligation as independent of constitutional and statutory law.<sup>61</sup> To the extent that other courts agree with this approach, public trust protection for instream values would be available only where states have constitutional and statutory provisions similar to North Dakota's.

Additional problems are posed by judicial application of the public trust doctrine to instream uses. Neither *United Plainsmen* nor *National Audubon*, for example, clearly defines the type of interest protected by the public trust doctrine. At best, only vague guidelines are provided by the two courts. One of those guidelines is that ecological water uses qualify as a public trust interest. Other jurisdictions have been even less direct in defining the relationship between the public trust doctrine and the water allocation process. Still, an increasing number of courts are at least demonstrating a willingness to accept the general applicability of the trust concept to ecological values.<sup>62</sup> Because this general tenet is at the core of the *National Audubon* and *United Plainsmen* decisions, instream protection through the water allocation process may not be far behind.

Extending the public trust doctrine to protect instream uses also raises many difficult questions. Jurisdictions following *National Audubon*, for instance, will have to define the appropriate public trust criteria for evaluating water allocation decisions, as well as the role of courts and agencies in applying the criteria.<sup>63</sup> In addition, these jurisdictions will have to decide how the protections accorded instream uses under the trust doctrine relate to statutory protections built into the water allocation system.<sup>64</sup> Decisions like

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<sup>61</sup> See Ausness, *supra* note 3, at 427-28; Walston, *The Implications of the Public Trust Doctrine for State Water Rights Administration*, Prac. Real Est. Law. 47, 54 (July 1985).

<sup>62</sup> See, e.g., *CWC Fisheries, Inc. v. Bunker*, 755 P.2d 1115, 1118 & n.8, 1121 n.15 (Alaska 1988) (where the court limited its decision to the traditionally recognized fishery interest but then cited with approval the *National Audubon* decision); *Orion Corp. v. State*, 109 Wash. 2d 621, 641 & n.10, 747 P.2d 1062, 1073 & n.10 (1987) (where the court broadly interpreted the public trust doctrine to include recreational interests and cited with approval a California case extending the public trust to ecological values), *cert. denied* 486 U.S. 1022 (1988).

<sup>63</sup> Walston, *supra* note 61, at 55, 56.

<sup>64</sup> See *id.* at 55.

*National Audubon* also create uncertainty for holders of water rights. To be efficient, a water allocation system must provide security to those holders.<sup>65</sup> Because *National Audubon* indicates that the state has a continuing obligation to consider the public trust interest, state officials apparently have the power and the obligation to reevaluate and, where appropriate, to modify water allocation decisions.<sup>66</sup>

On a more positive note, the public trust doctrine provides a potentially broad basis for protecting instream uses. Most states traditionally have used their police powers or express constitutional powers to justify regulating private property rights for the public good. Under their police powers, states generally may adopt reasonable regulations in the interest of the public health, welfare, and safety without violating the constitutional rights of private property owners affected by the regulations and thus without having to compensate the property owners.<sup>67</sup> But where a regulation does not promote these ends or unreasonably interferes with the use rights or investment-backed expectations of a property owner, the government may have to provide compensation to the owner to avoid a conflict with the takings clause of the federal Constitution.<sup>68</sup> Because the public trust theory recognizes that certain public rights arise from a sovereign's interests in navigable waters, these rights arguably limit, instead of regulate, private property rights. Under this interpretation the private rights would be inherently subordinate to the public rights and could be impaired, without compensation, by state conduct designed to promote the public rights.<sup>69</sup>

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<sup>65</sup> See generally R. Posner, *Economic Analysis of Law* § 3.1 (2d ed. 1977) (discussing the need to reward investment and promote efficiency by recognizing property rights); Butler, *supra* note 1, at 130-37 (discussing the need to clarify riparian water rights and eliminate some of their uncertainty).

<sup>66</sup> Accord Ausness, *supra* note 3, at 428.

<sup>67</sup> See *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1926); R. Epstein, *Takings* 107-12 (1985). For a comprehensive discussion of the police power, see E. Freund, *The Police Power* (1904).

<sup>68</sup> See *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 834-36 (1987); *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 123-28 (1978). See generally Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 Harv. L. Rev. 1165, 1183-1201 (1967) (discussing some of the key takings tests developed by the courts).

<sup>69</sup> For further discussion of the relationship between the public trust doctrine and the takings clause, see L. Butler & M. Livingston, *supra* note 35, § 20.2.A.2.

*B. Expansion of the Definition of Navigability*

For historical reasons, the American legal system has distinguished between public and private waters in recognizing public water use rights.<sup>70</sup> Much of that distinction, in turn, has focused on the concept of navigability.<sup>71</sup> Under the English common law, the courts generally defined public waters as those waters that supported commercial navigation.<sup>72</sup> Waters meeting this standard were, for the most part, subject to public navigation, commerce, and, in the view of some historians, fishing.<sup>73</sup> American courts have similarly relied on the navigability concept to recognize public rights in water resources. As explained earlier, the concept serves as one of the traditional bases of the public trust doctrine, which is now an important and independent source of public water use rights.<sup>74</sup> Additionally, in the early 1800s, the United States Supreme Court interpreted the commerce clause of the federal Constitution as incorporating the navigability concept.<sup>75</sup> Under this interpretation, the commerce clause empowers Congress to keep navigable waters "open and free"<sup>76</sup> and thus subjects those waters to a federal navigation servitude. The constitutional basis of the servitude serves, then, as a source of the federal government's

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<sup>70</sup> See A. Tarlock, *supra* note 1, § 8.02[1], at 8-2.

<sup>71</sup> Other factors used to identify "public waters" include the nature of the sovereign interest in submerged beds and the existence of waste lands underlying tidal waters. See *id.* § 8.02[2]. Government ownership of submerged beds traditionally entitles the public to use overlying waters. *Id.* § 8.02[2][a]. Furthermore, if the beds are beneath tidal waters, the beds are presumed, under the common law, to be waste lands owned by the sovereign. *Id.* § 8.02[2][b]. Neither factor, however, is a necessary condition for the recognition of public rights. See *id.* § 8.02[2].

<sup>72</sup> *Id.* § 9.03[1][a].

<sup>73</sup> See *id.* § 8.02[2][a], at 8-4. See generally L. Butler & M. Livingston, *supra* note 35, § 5.1.B (discussing public rights under English law).

<sup>74</sup> See *supra* notes 35-39, 68-69 and accompanying text. For further discussion of the theoretical bases of the public trust doctrine, see L. Butler & M. Livingston, *supra* note 35, § 5.1.

<sup>75</sup> In the 1824 decision *Gibbons v. Ogden*, the Court declared that the commerce clause "comprehends navigation, within the limits of every State in the Union; so far as that navigation may be, in any manner, connected with 'commerce with foreign nations, or among the several States, or with the Indian tribes.'" 22 U.S. (19 Wheat.) 1, 197 (1824). Before making this declaration, the Court observed the link between the commerce clause and prior understandings and practices. After noting that the federal government had controlled navigation since "the commencement of the government," the Court stated: "All America understands, and has uniformly understood, the word 'commerce,' to comprehend navigation. . . . The power over commerce, including navigation, was one of the primary objects for which the people of America adopted their government, and must have been contemplated in forming it." *Id.* at 190.

<sup>76</sup> *United States v. Appalachian Electric Power Co.*, 311 U.S. 377, 404-05 (1940).

power to regulate navigable waters and related resources. In addition, as a product of the common law, the federal navigation servitude generally entitles the public to a right of passage in navigable waters.<sup>77</sup>

The meaning of the navigability concept has gradually expanded over time as the functions of the concept and the powers and responsibilities of the government have increased. Under a traditional definition of the concept, a watercourse is navigable if the public uses or can use the watercourse, in its ordinary condition, for commerce.<sup>78</sup> Although the traditional definition still governs the allocation of title to submerged beds between federal and state governments, it no longer defines the full scope of the federal government's regulatory powers over water resources.<sup>79</sup> Nor does it fully define the scope of the public's interests in navigable waters. It does not control, for example, the question of the public's water use rights under state law. As long as their decisions do not conflict with superior federal law, state courts are free to make their own determinations of public rights under the navigability concept and other theories.<sup>80</sup>

Accordingly, some state courts have expanded the concept of navigability to include a functional approach to defining public water use rights. These courts have rejected the traditional test as the only definition of navigability and have adopted an additional test based on recreational or public use.<sup>81</sup> Under this new approach, a watercourse that is not navigable in fact for commercial

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<sup>77</sup> See A. Tarlock, *supra* note 1, §§ 8.02[1], 9.03[1][a]. See generally *id.* § 9.04 (discussing the navigation servitude). A state navigation servitude may also exist. See *id.* § 3.17[3].

<sup>78</sup> See *The Daniel Ball*, 77 U.S. (10 Wall.) 557, 563 (1870). See generally 1A G. Thompson, *supra* note 13, § 258 (discussing the meaning of navigability).

<sup>79</sup> See A. Tarlock, *supra* note 1, § 9.03[1][b]. See generally *id.* § 9.03[1][c] (discussing the expansion of the federal definition of navigability). Under common law, the states became the owners of the beds beneath navigable waters when the American Revolution took place. See *Martin v. Waddell*, 41 U.S. (16 Pet.) 367, 410 (1842); A. Tarlock, *supra* note 1, § 8.02[3]. The traditional navigability test generally is used to identify navigable waters for the purpose of determining state ownership of beds. See *id.* §§ 8.02[1], 8.03[1]. Once state ownership of beds initially is determined, state law then basically governs the allocation of title to beds between private parties and the state. See *id.* §§ 8.03[2], 8.05[1].

<sup>80</sup> See A. Tarlock, *supra* note 1, §§ 8.02, 8.05. See generally *id.* § 9.05 (discussing federal preemption of state water law).

<sup>81</sup> See, e.g., *Arkansas v. McIlroy*, 268 Ark. 227, 234-37, 595 S.W.2d 659, 663-65, *cert. denied*, 449 U.S. 843 (1980); *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163, 169-71 (Mont. 1984); *Curry v. Hill*, 460 P.2d 933, 935 (Okla. 1969). Some jurisdictions have rejected the recreational boating test. See, e.g., *People v. Emmert*, 198 Colo. 137, 597 P.2d 1025 (1979); *Lakeside Park Co. v. Forsmark*, 396 Pa. 389, 153 A.2d 486 (1959). See generally A. Tarlock, *supra* note 1, § 8.05[2] (discussing the recreational use test).

purposes may nevertheless be navigable for purposes of recognizing recreational and other instream rights if the watercourse may be used for those purposes.<sup>82</sup> Courts adopting the recreational use definition explain that the navigability concept serves a variety of functions and that the meaning of navigability should vary accordingly. Courts explain further that, because the commercial use test controls the question of title and developed before recreational uses became important, the traditional test should not be interpreted to preclude a recreational use approach.<sup>83</sup>

Some commentators have interpreted the recreational use cases as public trust decisions rather than as navigability cases having independent legal significance.<sup>84</sup> Although the language of a few opinions supports this view,<sup>85</sup> the two concepts have somewhat different meanings and implications. One important difference is that the public trust doctrine is self-executing, while the federal navigation servitude is not.<sup>86</sup> Over one hundred years ago, the United States Supreme Court concluded that the federal navigation servitude did not, by itself, prevent actions that impair navigation. The navigation servitude merely authorized Congress to pass legislation to protect the federal interest in navigation. But without legislation, no federal common law existed to protect that interest.<sup>87</sup> The public trust doctrine, in contrast, does protect the public interest in trust resources even in the absence of protective legislation. Only a few years after deciding that there was no federal common law to protect the navigation servitude, the United States Supreme Court concluded that the trust doctrine—a common law concept—could be used to invalidate state action that impaired the

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<sup>82</sup> See *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163, 170 (Mont. 1984).

<sup>83</sup> See, e.g., *id.*; cf. A. Tarlock, *supra* note 1, § 8.02[1] (discussing the different functions of the navigability concept).

<sup>84</sup> See Ausness, *supra* note 3, at 434.

<sup>85</sup> See, e.g., *Cinque Bambini Partnership v. State*, 491 So. 2d 508, 512, 515 (Miss. 1986) (taking a broad approach to public trust purposes and discussing those purposes in the context of the navigability concept), *aff'd sub nom. Phillips Petroleum Co. v. Mississippi*, 484 U.S. 469 (1988); *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163, 170-71 (Mont. 1984) (discussing recreational use in the context of the public trust doctrine and the navigability concept).

<sup>86</sup> Walston, *supra* note 61, at 48.

<sup>87</sup> See *Willamette Iron Bridge Co. v. Hatch*, 125 U.S. 1, 8 (1888). Since that decision, Congress has enacted numerous statutes to protect and promote the navigation servitude. See generally A. Tarlock, *supra* note 1, ch. 9 (discussing federal regulation of water resources).

public trust.<sup>88</sup> Thus, to the extent that courts tie the recreational use test to the federal navigation servitude,<sup>89</sup> protection of public recreational rights would require legislative action. Public recreational rights based on the public trust doctrine, in contrast, could receive judicial protection in the absence of legislative action regardless of the theoretical origins attributed to the doctrine.

A second difference concerns the scope of the two concepts. As explained earlier, some courts have concluded that the public trust concept is nonstatic and changes with the times. Because the notion of stewardship is inherent in the public trust doctrine, taking a flexible approach to defining the scope of the doctrine permits a court to extend the doctrine to new stewardship concerns like ecological preservation and other instream uses. The navigation servitude, in contrast, tends to be less adaptable and more focused in scope. Thus, even when a court is willing to extend the definition of navigability to include recreational use, it does not necessarily follow that the court will define recreational use to include ecological values.<sup>90</sup>

In conclusion, use of an expanded navigability concept to protect instream values appears to suffer more inherent limitations than similar use of the public trust doctrine. As long as the public interest is tied to the federal navigation servitude, the protection afforded instream uses under the navigability concept will depend on legislative action. Furthermore, even if the public interest is independent of the navigation servitude, the narrower, more focused scope of the navigability concept still may limit the utility of the concept in the instream context. Except in the more liberal jurisdictions, public instream interests will be limited to uses related to commercial or recreational navigation.

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<sup>88</sup> See *Illinois Central R.R. v. Illinois*, 146 U.S. 387 (1893).

<sup>89</sup> The United States Supreme Court's early incorporation of the navigability concept into the commerce clause would explain such a link. See *supra* note 75 and accompanying text. State courts are often vague in their descriptions of the origins of public water rights and the functions being served by the navigability concept. See, e.g., Montana cases cited *infra* note 156. The courts' vagueness is understandable given the variety of theories supporting public rights. See generally A. Tarlock, *supra* note 1, ch. 8 (discussing the nature, scope, and origins of public water use rights). Additionally, even those states adopting the recreational use test vary in their approach to public recreational rights. Some courts appear to limit public interests to uses necessarily related to recreational navigation, while others recognize virtually any interest incidental to navigational activity. See *infra* note 153.

<sup>90</sup> Accord Ausness, *supra* note 3, at 434-35; cf. *infra* note 153 (discussing the different judicial approaches to recreational use). See generally L. Butler & M. Livingston, *supra* note 35, §§ 5.1, 5.3, 6.3.B (discussing the philosophical origins and normative implications of the public trust doctrine).

*C. The Federal Reserved Water Rights Doctrine*

Under the federal reserved water rights doctrine, courts have interpreted government action that withdraws lands from the public domain and sets them aside for a particular purpose as reserving water to carry out that purpose.<sup>91</sup> Depending on the language used in the government withdrawal, the courts may base their conclusion on an express or implied intent.<sup>92</sup> When an express reservation exists, the judicial decision is usually simple and straightforward.<sup>93</sup> Implied intent cases, on the other hand, are more controversial, often resulting in disagreement about the legitimacy and meaning of implied rights.<sup>94</sup> Some recent cases have developed a primary, as opposed to secondary, purpose test.<sup>95</sup> In *Sierra Club v. Block*,<sup>96</sup> for example, a United States district court concluded that the federal Wilderness Act impliedly reserved federal water rights in previously unappropriated water.<sup>97</sup> As the court explained, Congress intended the protection of watersheds and the preservation of water flows to be a primary purpose of the Wilderness Act. Accomplishing this purpose would require the reservation of water rights.<sup>98</sup>

Decisions like *Sierra Club* are significant because they legitimate certain instream uses that state law might not otherwise protect. In addition, under the federal reserved water rights doctrine, protected instream uses generally acquire priority over state water rights at the time when the reservation of federal land occurred, not when the water use began. This priority date is earlier than the date typically set by state law.<sup>99</sup> Although the earlier priority date benefits instream uses protected under the reserved water rights doctrine, this consequence of the doctrine creates uncertainty for existing water users.<sup>100</sup>

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<sup>91</sup> See generally Trelease, *Uneasy Federalism - State Water Laws and National Water Uses*, 55 Wash. L. Rev. 751 (1980).

<sup>92</sup> See generally A. Tarlock, *supra* note 1, § 9.08 (discussing non-Indian federal reserved water rights). To the extent that court interpretations reflect an express legislative intent, the federal reserved water rights doctrine would more appropriately be characterized as a legislative form of instream protection.

<sup>93</sup> See *id.* § 9.08[2], at 9-49 to -50 (discussing one such example).

<sup>94</sup> See *id.* at 9-50.

<sup>95</sup> See generally *id.* § 9.08[2] (discussing the implied intent cases).

<sup>96</sup> 622 F. Supp. 842 (D. Colo. 1985).

<sup>97</sup> *Id.* at 858-62.

<sup>98</sup> *Id.*

<sup>99</sup> See Trelease, *supra* note 91, at 756.

<sup>100</sup> See *id.* at 762-63. See generally Trelease, *supra* note 91 (criticizing the federal re-

*D. Protection Through Judicial Interpretation of State Constitutional Provisions*

Some state courts have interpreted generally worded environmental provisions in their state constitutions as imposing a duty of environmental protection obligating state officials to consider environmental impact.<sup>101</sup> In *Save Ourselves, Inc. v. Louisiana Environmental Control Commission*,<sup>102</sup> for example, the Louisiana Supreme Court interpreted state constitutional and statutory law as imposing a duty of environmental protection on all state officials and agencies.<sup>103</sup> The Louisiana case involved a challenge to an agency's decision to issue permits for the construction and operation of a hazardous waste disposal facility. The Louisiana Constitution has, for years, contained a general environmental provision declaring that the "natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people."<sup>104</sup> The provision then authorizes the legislature to "enact laws to implement" the provision's policy.<sup>105</sup>

Under the court's interpretation, the constitutional provision required state agencies and officials to determine, prior to approval of proposed action, whether "adverse environmental impacts have been minimized or avoided as much as possible consistently with the public welfare."<sup>106</sup> As the court explained, this obligation required a balancing of environmental costs and benefits with economic, social, and other factors.<sup>107</sup> Courts reviewing substantive decisions reached through this balancing process were not to reverse a decision unless the actual balance reached by the agency was "arbitrary or clearly gave insufficient weight to environmental protection."<sup>108</sup> Because the agency record under review did not reveal whether the agency even recognized its constitutional obliga-

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served and nonreserved water rights doctrines).

<sup>101</sup> See generally Butler, *State Environmental Programs: A Study in Political Influence and Regulatory Failure*, 31 Wm. & Mary L. Rev. \_\_, part I.B (1990) (discussing the role of environmental provisions in state constitutions).

<sup>102</sup> 452 So. 2d 1152 (La. 1984).

<sup>103</sup> *Id.* at 1154-55, 1156-58.

<sup>104</sup> La. Const. art. IX, § 1.

<sup>105</sup> *Id.*

<sup>106</sup> *Save Ourselves, Inc.*, 452 So. 2d at 1157.

<sup>107</sup> *Id.* at 1160.

<sup>108</sup> *Id.* at 1159.

tions, the matter was remanded for further consideration.

The theory behind a decision like *Save Ourselves* represents another step in the evolution of public property rights in environmental resources. Agencies are required, in effect, to recognize a public interest that the state cannot abridge without providing a measure of process. Instream uses that raise environmental preservation concerns theoretically, then, should receive some constitutional protection.<sup>109</sup> This movement towards recognition of public property rights, however, is limited in the amount of protection it actually affords to instream values. In practice, the protection may be very superficial and limited given the low standard of judicial review. Furthermore, a substantial number of courts have disagreed with the Louisiana court and have refused to interpret general environmental provisions in their state constitution as imposing a mandatory duty on state officials.<sup>110</sup> In a 1985 decision, for example, the Virginia Supreme Court concluded that a constitutional provision similar in wording to the Louisiana provision did not mandate action by state officials. To rule otherwise would, in the court's view, raise too many unanswered questions. Thus, absent legislative direction, the constitutional provision remained a nonbinding policy statement.<sup>111</sup>

To summarize, the protective techniques developed through the judicial process represent important steps in the evolution of a concept of public property rights in environmental resources. Each of the techniques has the potential to afford some protection to the public's instream needs. At this stage of the evolutionary process, however, it is evident that no overriding theory has, as of yet, been clearly articulated. Although the techniques help to legitimate the public interest in instream use, they, at best, represent scattered attempts to protect instream values. Without the development of some overriding theory, the judicial techniques will continue to be limited in the amount of protection each independently can provide.

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<sup>109</sup> For a discussion of how courts can enforce environmental provisions in state constitutions even when legislative direction is missing, see Butler, *supra* note 101, part I.B.2.

<sup>110</sup> See *id.* part I.B (introductory paragraphs).

<sup>111</sup> Robb v. Shockoe Slip Found., 228 Va. 678, 324 S.E.2d 674 (1985). For further discussion of Virginia's approach to its constitutional provision, see Butler, *supra* note 101, part I.B.1.

### III. LEGISLATIVE PROTECTION OF INSTREAM USES

In addition to judicial protection, instream uses have received statutory protection in a growing number of jurisdictions. Legislative protection of instream uses takes a number of different forms. They include statutory modification of the traditional water allocation doctrines, minimum flow legislation, and enactment of programs providing indirect protection for instream values. Each of the different forms of legislative protection represents a recognition of the validity of public interests in water resources. The diverse treatment of public interests under the various programs also demonstrates, however, that, like judicial techniques, the legislative programs lack a coherent central theory.

#### *A. Statutory Modification of the Traditional Allocation Doctrines*

Legislatures generally have pursued two key options in modifying their traditional water allocation systems to protect the public interest in nonconsumptive uses. These options are direct statutory recognition of instream water rights and the incorporation of a public interest standard into the water allocation process. Of the two approaches, the first represents a clearer political choice and thus should produce more effective protection of the public interest in instream water use.

##### *1. Recognition of Instream Water Rights*

A number of prior appropriation jurisdictions have modified their water rights systems by statutorily recognizing instream water rights. In Idaho and Colorado, for example, state agencies can obtain the right to appropriate water for instream uses. The Idaho legislation identifies waters where instream appropriations are allowed, while the Colorado provisions allow an administrative agency to make that determination. Both instream programs recognize the appropriation of water for environmental preservation as a beneficial use.<sup>112</sup>

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<sup>112</sup> See Colo. Rev. Stat. §§ 37-92-102(3), 37-92-103(4) (1973 & Supp. 1989); Idaho Code §§ 67-4301, -4304, -4307 to -4312 (1989). At least one state even allows private parties to make instream appropriations. See Ariz. Rev. Stat. Ann. § 45-151 (1987). Some commentators have criticized the recognition of private instream appropriations. See, e.g., A. Tarlock, *supra* note 1, § 5.07[3].

These two instream appropriation programs have already faced unsuccessful legal challenges.<sup>113</sup> In one such challenge,<sup>114</sup> the Colorado Supreme Court upheld statutory provisions allowing the state to appropriate such waters of natural streams and lakes as may be required "to preserve the natural environment to a reasonable degree."<sup>115</sup> Opponents of the program had claimed that any instream appropriation for recreational and ecological purposes would be invalid because of the absence of an actual diversion. They also argued that the statutory provisions authorizing instream appropriations were constitutionally infirm. In rejecting these arguments, the Colorado Supreme Court held that under state law an instream appropriation did not need to include an actual diversion and that the challenged provisions were not void for vagueness nor otherwise invalid under the state Constitution. The court explained that the state's minimum flow legislation clearly intended appropriations without diversions.<sup>116</sup> In addition, the court noted that the presumption of valid agency action "must stand in the absence of evidence that there is no rational connection between preservation of existing fish species . . . by minimum stream flows and preservation of the natural environment."<sup>117</sup> Though the court acknowledged the vagueness of the statutory language, it nevertheless upheld the delegation of authority to an administrative agency, reasoning that the delegated duties involved factual determinations that were within the specific expertise of the agency.<sup>118</sup> Any other conclusion would, in the court's view, impose an "impossible task" on the legislature.<sup>119</sup>

Recognition and acquisition of instream water rights is especially significant in prior appropriation jurisdictions. As the Colorado decision demonstrates, such recognition generally means that a court will accept the legitimacy of the instream right. Though statutory recognition of instream water rights clearly does not prevent challenges by private rights holders upset by the change in law, such

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<sup>113</sup> See, e.g., *Colorado River Water Conservation Dist. v. Colorado Water Conservation Bd.*, 594 P.2d 570 (Colo. 1979); *Idaho Dep't of Parks v. Idaho Dep't of Water Admin.*, 96 Idaho 440, 530 P.2d 924 (1974).

<sup>114</sup> *Colorado River Water Conservation Dist. v. Colorado Water Conservation Bd.*, 594 P.2d 570 (Colo. 1979).

<sup>115</sup> Colo. Rev. Stat. §§ 37-92-102(3), 37-92-103(4) (1973 & Supp. 1989).

<sup>116</sup> *Colorado River Water*, 594 P.2d at 574.

<sup>117</sup> *Id.* at 577. The Board had assumed that maintenance of adequate wildlife through minimum flows would promote environmental preservation. *Id.*

<sup>118</sup> *Id.* at 575-76.

<sup>119</sup> *Id.* at 576.

recognition does facilitate the judiciary's task of resolving the challenges. In addition, once the instream right is acquired, the holder gains priority over subsequent rights. Indeed, even when the instream right is junior to other water rights, the holder of the instream right retains the power to stop certain changes in stream conditions that would damage that right.<sup>120</sup>

## 2. *The Public Interest Standard*

Legislatures in both riparian and appropriation jurisdictions have modified their common law water allocation systems to include a public interest component. In some jurisdictions that component is incorporated directly into the water allocation process, while in others it appears in key definitional provisions. For the most part, prior appropriation jurisdictions seem to have been more aggressive in using the public interest legislation to protect instream use.

Although the extent of the legislative changes in riparian jurisdictions varies significantly from state to state, many of the statutes enable administrative agencies to consider the public interest in regulating water users.<sup>121</sup> Florida, for example, has enacted comprehensive water reforms which require development of a state water use plan incorporating economic and environmental considerations.<sup>122</sup> Virginia, although not adopting comprehensive reforms, has also enacted statutory provisions recognizing the legitimacy of environmental values. One 1989 enactment of particular

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<sup>120</sup> See A. Tarlock, *supra* note 1, §§ 5.08[1], 5.17[3][a]; Ausness, *supra* note 3, at 429-30. A junior appropriator generally "has the right to the continuation of stream conditions as they existed" at the time of his appropriation and can object to "all changes in the point of diversion or place of use." A. Tarlock, *supra* note 1, § 5.17[3][a], at 5-71.

<sup>121</sup> For a discussion of water reforms in eastern states, see Ausness, *Water Rights Legislation in the East: A Program for Reform*, 24 Wm. & Mary L. Rev. 547 (1983). Many of these reforms appear to be based on the Model Water Code, which sets forth a comprehensive permit system for allocating water rights. Among other provisions, the Model Water Code declares ecological, recreational, and scenic values to be "in the public interest." A Model Water Code § 1.02(3) (F. Maloney, R. Ausness & J. Morris 1972) [hereinafter cited as Model Water Code]. Public interest criteria, in turn, are relevant to the permit issuance process. *Id.* § 2.02(1). Although the Model Water Code also provides for the establishment of minimum flow levels, see *id.* § 1.07(4)-(5), some riparian jurisdictions appear to have ignored this provision in modifying their water allocation systems. Until recently, Virginia was one of those jurisdictions. See *infra* notes 123-24 and accompanying text. See generally Hayes & Watson, *Stream Flow Maintenance in Virginia*, 18 U. Rich. L. Rev. 485 (1984) (discussing instream protection under Virginia law).

<sup>122</sup> See Fla. Stat. § 373.036 (1987); see also *id.* ch. 373 (1987 & Supp. 1989) (setting forth comprehensive reforms for water resources).

significance refocuses the riparian doctrine's reasonable use requirement by defining "beneficial use" to include "both instream and offstream uses," with instream uses entailing "the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values."<sup>123</sup> The enactment also recognizes the importance of protecting beneficial instream uses.<sup>124</sup>

Many prior appropriation states also have modified their common law systems to allow consideration of the public interest in the water allocation process. The public interest provisions typically are found in comprehensive statutory permit schemes and are but one of several factors affecting water allocation decisions.<sup>125</sup> Although these states have not traditionally defined the public interest to include environmental values, the states are beginning to expand the concept to include such values.<sup>126</sup> In some jurisdictions this expansion is occurring through the legislative process. Utah, for instance, has a statutory provision that authorizes the state engineer to reject an appropriation request if it would "unreasonably affect public recreation or the natural stream environment" or the public welfare.<sup>127</sup> In other jurisdictions the expansion is being achieved through broad judicial interpretation of general public interest legislation. In the 1985 decision *Shokal v. Dunn*, for example, the Idaho Supreme Court interpreted the statutory duty to protect the public interest as including consideration of stream environment, wildlife, recreation, aesthetics, and other related values.<sup>128</sup> The court justified its broad interpretation by pointing to a related statutory provision generally declaring environmental values to be in the public interest.<sup>129</sup>

In applying the public interest standard, states either adopt a rebuttable presumption about the minimum flow needed to preserve instream values or take a case-by-case approach. Under the rebuttable presumption approach, the appropriate administrative

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<sup>123</sup> Act of Mar. 20, 1989, ch. 410, 1989 Va. Acts 584, 584 (codified at Va. Code Ann. § 62.1-10(b) (Supp. 1989)).

<sup>124</sup> *Id.*, 1989 Va. Acts 584, 585 (codified at Va. Code Ann. § 62.1-11(F) (Supp. 1989)).

<sup>125</sup> See generally A. Tarlock, *supra* note 1, §§ 5.12-13 (discussing the western permit systems and the public interest limitation).

<sup>126</sup> See *id.* § 5.13[1].

<sup>127</sup> Utah Code Ann. § 73-3-8(1) (1989); see also Cal. Water Code §§ 1253, 1255-1257.5 (West 1971 & Supp. 1990) (providing for consideration of beneficial use, including instream use, and for rejection of applications not in the public interest).

<sup>128</sup> 109 Idaho 330, 707 P.2d 441 (1985).

<sup>129</sup> *Id.* at 337-38, 707 P.2d at 448-49.

agency determines in advance the minimum flow needed to protect instream values in a particular stream or river. Permit applicants seeking a reduction in that flow then must establish that the reduction would be in the public interest. The case-by-case approach, in contrast, requires the appropriate agency to determine instream flow needs for each water rights application.<sup>130</sup>

Both approaches have their strengths and weaknesses. The rebuttable presumption approach, for example, tends to cause significant controversy while the minimum flow level is being set. After that decision is made, however, the approach helps to facilitate the permit process for most projects and thus to reduce the strain on administrative resources.<sup>131</sup> The case-by-case approach, on the other hand, diffuses controversy surrounding the setting of minimum flows. State agencies following that approach, however, tend to face a prolonged permitting process, for they generally have to consider the minimum flow issue for each water rights application.<sup>132</sup>

### *B. Minimum Flow Statutes*

A growing number of states have enacted legislation protecting minimum flows. This legislation comes in a variety of forms, including withdrawal programs, reservation provisions, and minimum or preservation flow programs.

#### *1. Withdrawal and Reservation Programs*

Some types of withdrawal legislation expressly authorize the withdrawal of water from further appropriation.<sup>133</sup> Other types provide for the suspension of proposed appropriations pending a determination of their impact on existing rights and on the public good.<sup>134</sup> All versions result in affirmative protection of instream uses.

Virtually identical in effect to withdrawal provisions, reservation programs set up a process for reserving water for a variety of purposes, including instream purposes. Montana law, for instance, au-

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<sup>130</sup> Lamb, *Predicting the Results of Instream Flow Policies*, in *Water for the 21st Century: Will It be There?* 840, 842 (M. Collins ed. 1984).

<sup>131</sup> See *id.*

<sup>132</sup> See *id.* at 842-43.

<sup>133</sup> See, e.g., Or. Rev. Stat. §§ 536.410, 538.110-.300 (1989).

<sup>134</sup> See, e.g., Mont. Code Ann. §§ 85-2-601 to 85-2-608 (1989); Utah Code Ann. §§ 73-6-1 to 73-6-2 (1989).

thorizes reservations by government officials for "existing or future beneficial uses," including "agricultural, municipal, and minimum flow purposes for the protection of existing rights and aquatic life."<sup>135</sup> To obtain a reservation, an applicant has to establish the purpose and need for the reservation, the quantity of water to be reserved, and consistency with the public interest.<sup>136</sup> Reservation programs typically enable a state agency to grant variances and require periodic review of reserved flows.<sup>137</sup>

In practice, instream reservations can have the same effect as recognition of instream water rights. Under the prior appropriation system, the reservations would acquire a priority over subsequently acquired water rights. Further, in a riparian jurisdiction, the instream reservation would be treated as a preferred riparian use. The variance and periodic review features of reservation programs, however, differentiate the programs from the more direct approach of recognizing instream water rights, making the reservation programs potentially weaker.<sup>138</sup>

## 2. Minimum or Preservation Flow Programs

Taking a slightly different approach from the withdrawal and reservation programs, numerous states have enacted specific provisions authorizing the setting of minimum or preservation flow levels for watercourses. These programs typically provide for the prohibition or the cessation of uses that interfere with the established flow levels.<sup>139</sup> Several different approaches are used to establish minimum flows. Some jurisdictions follow an ecological approach, defining the minimum flow to be the level required to sustain fish, vegetation, and other aquatic wildlife. Others take a broader approach, directing agencies to consider recreational and aesthetic interests as well.<sup>140</sup>

In recent years a few states have enacted more comprehensive

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<sup>135</sup> Mont. Code Ann. §§ 85-2-316(1), 85-2-605 (1989).

<sup>136</sup> *Id.* § 85-2-316(4)(a).

<sup>137</sup> See Lamb, *supra* note 130, at 844.

<sup>138</sup> See *id.*

<sup>139</sup> See, e.g., Conn. Gen. Stat. Ann. §§ 26-141b, -141c (West 1975 & Supp. 1989); Fla. Stat. §§ 373.036(7), .042, .044 (1988); Miss. Code Ann. §§ 51-3-7, 51-3-55 (Supp. 1989). *But see* Or. Rev. Stat. §§ 536.235, .310(7), .310(13), .325 (1989) (providing for the establishment of minimum flows but explicitly preferring human consumption needs).

<sup>140</sup> See Ausness, *supra* note 3, at 432. See generally Lamb, *Quantifying Instream Flows: Matching Policy and Technology*, in *Instream Flow Protection in the West* 23-39 (L. MacDonnell, T. Rice & S. Shupe eds. 1989) (discussing instream assessment policy and technology).

legislation to preserve instream flows. Recent Virginia legislation, for example, establishes a low flow permitting system.<sup>141</sup> The statute authorizes the State Water Control Board to declare an area to be a surface water management area when the Board determines that the area has substantial instream values, that low flow conditions and offstream uses could threaten those values, and that the public welfare, health, and safety require regulation.<sup>142</sup> After such a declaration is made, no party in the area may withdraw surface water, unless otherwise exempted, without a withdrawal permit.<sup>143</sup> During periods of low flow, permittees may become subject to certain permit conditions designed to protect beneficial instream uses.<sup>144</sup> This type of legislation overcomes some of the weaknesses of the more specific mandates to establish minimum flows. By establishing a comprehensive and flexible administrative structure for protecting important instream values during periods of low flow, the Virginia General Assembly has avoided some of the problems caused by broad-based statutory exceptions and inflexible legislative determinations of regulatory need.<sup>145</sup>

### C. *Statutes Indirectly Protecting Instream Values*

In addition to direct protection of instream values, legislatures have also adopted indirect forms of protection. Several states, for example, have enacted environmental policy acts that have been interpreted as imposing an affirmative obligation on state agencies to consider environmental factors. The Louisiana decision discussed earlier demonstrates this point. In that decision, the court interpreted the state's Environmental Affairs Act as imposing a duty of environmental protection in conjunction with the constitutional provisions.<sup>146</sup> Many states have also followed the example of the federal government in enacting legislation to protect wild and

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<sup>141</sup> Act of Apr. 5, 1989, ch. 721, 1989 Va. Acts 1697 (codified at Va. Code Ann. §§ 62.1-242 to -253 (Supp. 1989)).

<sup>142</sup> Va. Code Ann. § 62.1-246 (Supp. 1989).

<sup>143</sup> *Id.* § 62.1-247.

<sup>144</sup> *Id.* § 62.1-248.

<sup>145</sup> Whether these advantages actually result in greater instream protection remains to be seen. The State Water Control Board currently is in the process of adopting regulations to implement the low flow statute. See State Water Control Board, Notice of Intended Regulatory Action, in 6 Va. Register of Regulations, issue 4, at 656 (Nov. 20, 1989).

<sup>146</sup> See *Save Ourselves, Inc. v. Louisiana Environmental Control Comm'n*, 452 So. 2d 1152, 1154-55, 1156-57 (La. 1984). For a discussion of the most significant environmental policy act, the National Environmental Policy Act, see 1 Law of Environmental Protection ch. 9 (S. Novick, D. Stever & M. Mellon eds. 1989).

scenic rivers. Because these statutes restrict access to protected rivers, they indirectly protect instream values.<sup>147</sup> Finally, some states protect instream flow through legislation regulating dam construction and operation.<sup>148</sup>

In conclusion, like its judicial counterpart, legislative protection of instream use also represents an important but limited step in the evolution of public property rights in environmental resources. Although the legislative forms of protection tend to be more comprehensive and specific than the judicial techniques, the legislative devices also suffer from numerous limitations and problems. For the most part, these weaknesses reflect the need for an overriding theory or concept of public rights. Part IV explores one such theory: the public property concept.

#### IV. ENVIRONMENTAL WATER RIGHTS AND THE CONCEPT OF PUBLIC PROPERTY

The discussion of the protectionist movement for instream uses clearly demonstrates that the law is gradually recognizing and accommodating the public interest in environmental uses of water resources. Yet to be established, however, is the actual or appropriate direction of this evolutionary process under the law. Of particular concern is the relationship of the newly protected public interest in instream use to private property rights. Because the public interest being recognized under the protectionist movement exists in resources that traditionally have been subject to a private allocation system, the emerging public interest is sure to have an adverse effect on private rights. As the demand for water resources rises,<sup>149</sup> conflicts between public and private interests will become increasingly common. Unless the evolutionary process provides a principled system for resolving those conflicts, they will, over time, escalate into angry confrontations and protracted legal disputes. Effective use of such a valuable and scarce resource as water, in other words, requires a balanced and fair conflict resolution system.

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<sup>147</sup> See Wild and Scenic Rivers Act of 1968, 16 U.S.C.A. §§ 1271-1287 (West 1985 & Supp. 1989); Cal. Pub. Res. Code §§ 5093.50-.69 (West 1984 & Supp. 1990); Ky. Rev. Stat. §§ 146.200-.360 (1987); S.D. Codified Laws Ann. §§ 46A-1-15 to 46A-1-16 (1987); Lamb, *supra* note 130, at 845.

<sup>148</sup> See, e.g., Me. Rev. Stat. Ann. tit. 12, §§ 401-407 (Supp. 1989); see also Ausness, *supra* note 3, at 433.

<sup>149</sup> For authorities discussing America's increasing demand for water, see *supra* note 1.

Current devices developed to protect public instream uses generally do not provide for such a conflict resolution system. For the most part, the protective devices serve a limited function: to establish the basic legitimacy of the public interest in environmental water uses. Little, if any, guidance is provided on the nature of the public interest, the level of protection owed to that interest, or the impact on private rights.<sup>150</sup> Nor do the devices attempt to provide a unified, consistent, or coherent approach to instream use protection. While some forms of protection focus on navigation-related uses, others take an ecological perspective. Still others follow a broad-based approach, protecting recreational, ecological, and aesthetic uses.<sup>151</sup> Similar variety exists in the allocation of decision-making responsibility. In some jurisdictions protection of instream uses arises from judicial declarations, while in others primary responsibility rests with the legislative and administrative branches.<sup>152</sup>

Judicial devices like the expansive readings of the navigability concept and the public trust doctrine demonstrate the limited usefulness of current forms of protection. The recreational use test for navigability, for example, simply provides a judicial basis for recognizing certain public recreational interests under the navigability concept. Unless a public purpose is related to recreational use, the purpose probably will not merit protection under the test.<sup>153</sup> Additionally, as a judicial interpretation of the navigability concept,

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<sup>150</sup> Some might argue that sufficient guidance has been provided in prior appropriation jurisdictions that have statutorily modified their water rights systems to recognize instream appropriations. *See supra* note 112 and accompanying text. As part of the prior appropriation system, an instream appropriation would be subject to the same priority rules that govern traditional water uses. *See supra* note 120 and accompanying text. But as recent challenges to those statutory amendments demonstrate, the incorporation of instream uses into the prior appropriation system is far from clear. *See supra* notes 113-19 and accompanying text.

<sup>151</sup> *See, e.g., supra* notes 139-40 and accompanying text.

<sup>152</sup> *See, e.g., supra* notes 44-57, 112, 135-37 and accompanying text.

<sup>153</sup> *See supra* note 90 and accompanying text. Some courts appear to limit public recreational interests to uses involving recreational navigation. *See, e.g., Elder v. Delcour*, 364 Mo. 835, 269 S.W.2d 17 (1954); *Curry v. Hill*, 460 P.2d 933 (Okla. 1969); *see also* A. Tarlock, *supra* note 1, § 8.05[2], at 8-29 to -30 (discussing judicial use of the pleasure boat test). *But cf. Southern Idaho Fish & Game Ass'n v. Picabo Livestock, Inc.*, 96 Idaho 360, 363, 528 P.2d 1295, 1298 (1974) (recognizing a broad category of recreational uses when a stream is physically navigable by small craft); *Lamprey v. Metcalf*, 52 Minn. 181, 199, 53 N.W. 1139, 1143 (1893) (suggesting a broader approach to recreational use). To the extent that recreational rights are not limited to navigational activities, serious legal problems could arise. *Cf. A. Tarlock, supra* note 1, § 8.05[3] (discussing the constitutionality of liberal navigability tests).

public recreational rights appear to be limited in scope. Once a watercourse loses the ability to sustain recreational use under normal conditions, public rights would seem to end.<sup>154</sup> Furthermore, as a general matter, courts have tended to protect public recreational rights only in situations involving private action designed primarily to prevent or interfere with public use.<sup>155</sup> With a few possible exceptions, the rights do not appear to include the power to prevent indirect or unintentional interference with public recreational use resulting from the exercise of traditionally recognized water rights.<sup>156</sup> Though the public trust doctrine clearly has the

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<sup>154</sup> Cf. *Montana Coalition for Stream Access, Inc. v. Hildreth*, 684 P.2d 1088, 1091 (Mont. 1984) ("capability of use of the waters for recreational purposes determines whether the waters can be so used"); *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163, 170 (Mont. 1984) (recreational capability is the key); cf. also A. Tarlock, *supra* note 1, § 8.05[2] (discussing the recreational capacity test).

<sup>155</sup> See, e.g., *Elder v. Delcour*, 364 Mo. 835, 269 S.W.2d 17 (1954) (where the court ordered a private waterfront landowner to desist in efforts to block passage down adjoining stream); *Montana Coalition for Stream Access, Inc. v. Hildreth*, 684 P.2d 1088 (Mont. 1984) (where the court enjoined a private waterfront landowner from installing a fence to block public use); *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163 (Mont. 1984) (where the court protected public recreational use against interference and harassment by a private waterfront landowner); *Coleman v. Schaeffer*, 163 Ohio St. 202, 126 N.E.2d 444 (1955) (where the court granted an injunction requiring the removal of steel cables and a wire fence built by waterfront landowners to block other riparians' use of a stream). Quite a few of the decisions involve trespassing claims by private waterfront landowners or declaratory judgment requests by members of the public. Typically a private landowner has asserted exclusive use rights in water flowing past his land and has denied even the existence of a right of passage in the public. See, e.g., *Arkansas v. McIlroy*, 268 Ark. 227, 595 S.W.2d 659, *cert. denied*, 449 U.S. 843 (1980); *Southern Idaho Fish & Game Ass'n v. Picabo Livestock, Inc.*, 96 Idaho 360, 528 P.2d 1295 (1974); *State Game Comm'n v. Red River Valley Co.*, 51 N.M. 207, 182 P.2d 421 (1945); *Curry v. Hill*, 460 P.2d 933 (Okla. 1969); *Day v. Armstrong*, 362 P.2d 137 (Wyo. 1961).

<sup>156</sup> See *supra* note 155 and accompanying text. But cf. *State ex rel. Brown v. Newport Concrete Co.*, 44 Ohio App. 2d 121, 336 N.E.2d 453 (1975) (where the court ordered the removal of a concrete structure built by a waterfront landowner for a purpose that is not clearly a traditional water right—the creation of a crossing for the landowner's trucks).

The courts are somewhat inconsistent, though, in describing the nature of public recreational rights. Some Montana courts, for example, have suggested that private water rights sometimes are superior to public recreational rights. See *Montana Coalition for Stream Access, Inc. v. Hildreth*, 684 P.2d 1088, 1094 (Mont. 1984) (appearing to accommodate the wharf rights of private waterfront landowners by recognizing a very limited public right to portage around barriers); *Montana Coalition for Stream Access, Inc. v. Curran*, 682 P.2d 163, 170, 172 (Mont. 1984) (apparently making a similar accommodation, as well as recognizing the private landowner's superior right to appropriate for irrigation purposes). But then, in recognizing the existence of public recreational rights, the courts sometimes broadly state that private parties cannot interfere with the public rights. See, e.g., *id.* at 170. The inconsistency may be due, in part, to the overlapping origins of public recreational rights. In Montana, for example, the navigability concept, public trust doctrine, and state Constitution all appear to play a role. See *id.* at 169-71.

capability of providing more meaningful protection,<sup>157</sup> judicial use of the doctrine to protect instream use raises many unanswered questions. As noted earlier, those questions include the criteria to be used in defining the scope of the public trust interest in instream use, as well as the relationship of that interest to the private water rights system.<sup>158</sup>

Legislative forms of protection suffer from similar limitations. Some statutory devices, for example, are nothing more than vague policy statements, committing to instream use protection in general terms only.<sup>159</sup> These devices often recognize the importance of instream use protection, but then fail to provide for implementation of a specific instream use program.<sup>160</sup> Other legislative provisions represent a clear commitment to environmental water uses, typically authorizing a particular state agency or official to promote instream values.<sup>161</sup> With some exceptions, though, these provisions tend to be narrow or restrained in scope. They, for example, may limit instream appropriations to particular waters<sup>162</sup> or provide for a case-by-case determination of instream flow needs.<sup>163</sup> Furthermore, even when a relatively strong legislative commitment exists, it often is weakened by statutory exceptions<sup>164</sup> or by provisions permitting variances.<sup>165</sup> Few, if any, of the legislative devices provide sufficient guidance on the nature and scope of public environmental water rights and on their relationship with private rights.<sup>166</sup>

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<sup>157</sup> See *supra* notes 84-90 and accompanying text. For further discussion of the implications of the public trust doctrine for environmental regulation, see Butler, *supra* note 101, part III.A.

<sup>158</sup> See *supra* notes 63-66 and accompanying text.

<sup>159</sup> See, e.g., *supra* notes 123-29, 133-34 and accompanying text.

<sup>160</sup> See generally *supra* notes 125-29 and accompanying text (discussing the public interest legislation in prior appropriation states).

<sup>161</sup> See, e.g., *supra* notes 112, 135-37, 141-45 and accompanying text.

<sup>162</sup> See, e.g., *supra* note 112 and accompanying text (Idaho legislation).

<sup>163</sup> See, e.g., *supra* note 112 and accompanying text (Colorado legislation).

<sup>164</sup> See, e.g., Va. Code Ann. § 62.1-243 (1989).

<sup>165</sup> See, e.g., *supra* notes 137-38 and accompanying text.

<sup>166</sup> Although legislation does not have to—and arguably should not—provide detailed guidance to regulators, legislation still must define basic policies and standards in order for implementation to be responsive and effective. Statutory forms of instream protection vary in their effectiveness in providing guidance. Legislation protecting instream values in designated waters probably is as specific as any instream legislation. See, e.g., Cal. Pub. Res. Code §§ 5093.50-.69 (West 1984 & Supp. 1990); Ky. Rev. Stat. §§ 146.200-.360 (1987). But even that legislation does not always provide specific guidance on the relationship of instream uses to private land uses. See Cal. Pub. Res. Code §§ 5093.546, .58 (West 1984 & Supp. 1990). But see Ky. Rev. Stat. § 146.290 (1987) (defining land uses permitted in in-

For the evolutionary process to be complete, lawmakers must move beyond the legitimation stage and provide some content to the public interest in instream use. Current protective devices represent an important first step in the evolution of public environmental water rights: they reflect growing acceptance of instream values in a wide array of legal arenas and thus make significant strides in establishing the legitimacy of the public interest in instream use. But while current devices have opened the door for public instream uses, they have not provided a principled or coherent body of law to govern the emerging public interest, especially its relationship with other interests. In addition to legitimation, the evolutionary process must find an effective way to integrate the new concept of public environmental water rights into the established legal system. Among other topics, this integration process must address the issue of conflict resolution, for standards and policies definitely will be needed to guide public and private parties in the exercise of their rights and courts and regulators in the administration of the water rights system.

Application of the public property concept to environmental water uses would move the evolutionary process from the legitimation to the integration stage. As the following discussion will explain, the public property concept is a natural and necessary complement to the private rights system. Though use of the public property concept runs contrary to the normal preference for private property rights, the utilitarian and nonutilitarian justifications supporting the private rights system sometimes require public rights instead. By identifying when these justifications support public, as opposed to private, rights, lawmakers can provide a basis for defining the nature and extent of public instream uses and for resolving conflicts between public and private interests. Many instream uses, with their site-specific nature, their positive societal

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stream area). On the surface at least, prior appropriation legislation recognizing instream water rights also would appear to be effective in providing guidance. By extending the appropriation doctrine to include instream values, this form of legislation has incorporated instream use into the traditional priority system governing water appropriations. But as recent challenges to the instream water rights legislation suggest, the implications of the extension are not clear nor well-accepted. See *supra* note 150 and accompanying text.

One step in the right direction is the recently enacted Virginia low flow statute. That legislation overlays instream use protection on the private water rights system, making instream protection an obligation of nonexempt parties holding withdrawal permits. The effectiveness of the statute is not yet clear, though, for the state agency charged with responsibility under the statute is currently developing regulations to implement the statute. See *supra* notes 141-45 and accompanying text.

effects, and their value-generating tendencies, seem especially suited to the public property concept. Recognizing appropriate in-stream uses as public property thus will serve the valuable function of integrating emerging public interests into more traditional law.

#### *A. Public Property as a Necessary Complement to Private Property*

Virtually since the time of the first English settlement, America has relied on a private property system to allocate rights and interests in most of its natural resources.<sup>167</sup> By now, the economic arguments for a private property system are both well-known and well-accepted. Valuable resources must be privately owned to encourage parties to engage in productive activities. Without private ownership rights, a user would have no incentive to invest in the long-term use of resources, not even if it was more efficient than short-term use. Absent a private ownership interest, the user would not be guaranteed a return on her investment. Third parties who did not contribute to the resource's development would be able to capture the profit from that development without fear of reprisal through the property system. Because the user would not be able to seek judicial protection of her expectancy, she eventually would pursue other uses requiring less investment and providing a quicker, but lower, return.<sup>168</sup>

Noneconomic justifications for private property rights also are well-known, though perhaps not as well-accepted. According to one commentator's view, our private property system is the product of

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<sup>167</sup> A private rights system appeared as early as 1616 in Virginia. Although King James I had authorized private land distribution when he issued the first two charters for the colonization of Virginia, the patentees initially preferred to hold land in a communal-type arrangement for the general benefit of the colonists. Eventually the patentees realized that this arrangement was stymieing growth, and they then authorized private land distribution. L. Butler & M. Livingston, *supra* note 35, § 8.1, at 245.

<sup>168</sup> See R. Posner, *supra* note 65, § 3.1; see also Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. Chi. L. Rev. 711, 711-12 (1986). Posner's well-known example of a farmer planting corn demonstrates the arguments for private property. He writes:

Imagine a society in which all property rights have been abolished. A farmer plants corn, fertilizes it, and erects scarecrows, but when the corn is ripe his neighbor reaps and sells it. The farmer has no legal remedy against his neighbor's conduct since he owns neither the land that he sowed nor the crop. After a few such incidents the cultivation of land will be abandoned and the society will shift to methods of subsistence (such as hunting) that involve less preparatory investment.

R. Posner, *supra* note 65, § 3.1, at 27 (footnotes omitted).

the Lockean theory of government adopted by the framers of the Constitution.<sup>169</sup> Under a Lockean political structure, individuals give up their right to use force in exchange for the right to keep the surplus gains resulting from the formation of the government.<sup>170</sup> Private parties generally are allowed to keep the fruits of their labor—that is, their expectation of gain from the use of property—as long as the profits are not obtained by force or to the total exclusion of others.<sup>171</sup> According to another commentator, private property provides a necessary basis for civil liberties.<sup>172</sup> Without private property, an individual would not be adequately protected from government exploitation and aggression. Because such an individual would be dependent on government for all necessities, he would be an easy target for majoritarian exploitation. Private property thus provides the individual with a “zone of privacy,” enabling him to move freely and without fear of government reprisal.<sup>173</sup>

Despite the economic and political arguments for private property rights, some public property rights do indeed exist. The concept of public property, very generally speaking, involves resources not held exclusively by private parties, but rather open to the public. To the extent, then, that public property rights exist in a resource, private entitlements in that resource are necessarily limited. At the very least, private parties lose the right of exclusivity, and if the public right is strong enough, private parties may even find they lack an ownership interest.<sup>174</sup>

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<sup>169</sup> See R. Epstein, *supra* note 67, at 13-16.

<sup>170</sup> See *id.* at 9-10, 12-15. See generally J. Locke, *The Second Treatise of Government* (1976) (discussing, among other topics, the state of nature, property, and political or civil society).

<sup>171</sup> See R. Epstein, *supra* note 67, at 10-11.

<sup>172</sup> Reich, *The New Property*, 73 *Yale L.J.* 733, 771-72 (1964).

<sup>173</sup> *Id.* at 771, 778. For more of Reich's views on the relationship between property, civil liberties, and the modern welfare state, see *id.* at 771-77.

<sup>174</sup> Examples of traditionally recognized public property concepts include the public trust doctrine and the commons concept. As explained earlier, under the public trust doctrine, government holds certain resources, principally navigable waters and their beds, in trust for the benefit of the public. Although the nature of the public's trust interest varies according to the jurisdiction, it typically includes a use right in trust resources. See *supra* notes 35-43 and accompanying text. In some jurisdictions, those resources may even be privately owned. See generally L. Butler & M. Livingston, *supra* note 35, ch. 5 (discussing the public trust doctrine).

Though similar in scope, the commons concept does not impose any trust responsibilities on government, but rather recognizes interests in the public at large. During the early development of the concept in England, common rights generally existed in arable lands and entitled the rightholders, or the commoners, to make certain defined uses like pasturage and

Traditionally lawmakers and commentators have recognized public property rights in one of two situations. The first situation, sometimes called the plenteous goods exception, involves resources that are so abundant or unbounded it is not worthwhile to create a private allocation system. The costs of such an effort would outweigh any benefits derived from privatization.<sup>175</sup> Resources typically included in this category are the oceans and air.<sup>176</sup>

The second situation, sometimes referred to as the public goods exception, involves resources for which the private market system predictably fails to produce socially optimal uses.<sup>177</sup> Although private agreements among resource owners could cure some of these market failures, the costs of private negotiation are high. Further, where a large number of resource owners are involved, collective agreements may be impossible. Government ownership and control thus are needed in the public goods situation to correct the market's inefficiencies and achieve an optimal allocation of resources.<sup>178</sup>

Such a situation would exist, for example, when many people want to use a resource, like the national forests, but their numbers

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timber-cutting. Although a common right of fishing also existed, the main function of the English commons concept was to promote agricultural uses. The American version, in contrast, focuses primarily on coastal waters and lands. In addition to the common uses of fishing, fowling, and hunting, the American version also can involve an ownership interest. See generally *id.* ch. 6 (discussing the development of the commons concept).

For further examples of traditional public property theories, see Rose, *supra* note 168, at 713-14, 723-49.

<sup>175</sup> Rose, *supra* note 168, at 717.

<sup>176</sup> *Id.* at 717-18.

<sup>177</sup> Scholars have defined the phrase "public goods" in a variety of ways. Some, for example, focus generally on the existence of free riders. See, e.g., R. Posner, *supra* note 65, § 16.4, at 351 & n.4 ("A public good is simply a good the provision of which involves free-rider problems."). Others tie the definition of "public goods" more specifically to the existence of free riders who can benefit at no additional cost to anyone else. See, e.g., H. Manne, *The Economics of Legal Relationships* 353 (1975) ("The public goods problem arises because certain kinds of economic goods, once produced, can be enjoyed by individuals for whom they have positive value at zero marginal cost."). Still others use the phrase "public goods" to refer to any resource that should not, under economic theory, be privately owned. See R. Cooter & T. Ulen, *Law and Economics* 112 (1988). In contrast to the textual approach, some of these other definitions would include plenteous goods. See *id.*; cf. Demsetz, *The Exchange and Enforcement of Property Rights*, 7 J.L. & Econ. 11, 19-20 (1964) (recognizing the plenteous goods situation as a public goods problem).

<sup>178</sup> Rose, *supra* note 168, at 718-19; see also *id.* at 719-20 (discussing four caveats that apply to this conclusion). See generally H. Manne, *supra* note 177, at 351-480 (setting forth readings on public goods, collective goods, and externalities). But cf. Demsetz, *supra* note 177, at 19-20 (arguing that efficiency concerns justify excluding free riders even in most public goods situations).

are too high and their individual interests are too diffused and small for their needs to be met by marketplace transactions.<sup>179</sup> Or a public goods situation would arise when use of a resource, like railroads or bridges, involves economies of scale.<sup>180</sup> When such a production condition exists, the average cost of production decreases as the level of output increases, making it advantageous to have only one firm producing the good. To ensure the realization of these advantages, government needs to become the manager of the resource.<sup>181</sup>

Some scholars would further limit the definition of public goods to resources having two related characteristics. First, the resource would have to involve "non-rivalrous consumption"—that is, resource consumption by one person would not reduce the amount available to other persons.<sup>182</sup> Second, the costs of excluding nonpaying consumers of the resource would need to be too high for any party seeking profit-maximization to pursue production of the resource.<sup>183</sup> This definition excludes some situations meeting the more general definition. Some resources involving economies of scale, for example, would not qualify as public goods. Although government management still might be needed to correct the market failure surrounding these resources, the non-rivalrous consumption characteristic would not necessarily exist. At some point, increased consumption would reduce the amount available to others; high demand for a bridge during rush hour, for instance, would preclude some from using the bridge.

The plentiful resources and public goods situations represent exceptions to the private property regime. In both instances, rights of ownership or control are awarded to the government, or the organized state, as the representative of the public interest in the

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<sup>179</sup> See Rose, *supra* note 168, at 719; cf. Stroup & Baden, *Externality, Property Rights, and the Management of Our National Forests*, 16 J.L. & Econ. 303, 306-09 (1973) (presenting the arguments against market management of our national forests).

<sup>180</sup> Rose, *supra* note 168, at 719.

<sup>181</sup> R. Cooter & T. Ulen, *supra* note 177, at 38-39; Rose, *supra* note 168, at 766-67.

<sup>182</sup> R. Cooter & T. Ulen, *supra* note 177, at 46.

<sup>183</sup> *Id.* Cooter and Ulen identify the national defense as an example of a good meeting their two-part test. They explain:

Consider the conventional example of a public good: national defense. The fact that one citizen is secure from the threat of invasion by a foreign army does not leave any less security for other citizens. Furthermore, it is difficult to exclude any citizen from enjoying the security provided to others. Because of these two characteristics, public goods are not likely to be provided at all by the market, or if they are privately provided, provided in less than socially optimal amounts.

*Id.*

regulated resource. To these two exceptions, Professor Carol Rose would add a third that recognizes property rights in the unorganized public. Calling this exception the "inherently public property" situation, Professor Rose explains that the two traditional categories "do not logically exhaust all the possible solutions" to the market failure problem; nor do they adequately explain all of the public rights theories that have developed under the common law.<sup>184</sup> In addition to the legal developments that have recognized property rights in the organized public, there also are doctrines that seem to place property interests in the public at large—interests that are collectively shared by society and thus independent of any interest existing in a government manager.<sup>185</sup> Justification for this last category of public property is derived from the realization that government management, like private management, can pose "difficult problems," including high management costs and ill-advised, politically motivated redistributions.<sup>186</sup> Recognizing property rights in the unorganized public can, in appropriate situations, result in what Professor Rose labels the "comedy of the commons"—that is, in a comedic or happy result producing infinitely expanding wealth and positive socialization effects.<sup>187</sup>

Under this theory, two key criteria serve as the basis for identifying inherently public property. One criterion, the holdout factor, concerns a resource's potential for private economic exploitation of the public interest. Because of the inherent nature of certain resources, the public sometimes develops a particularly strong demand or need for a resource and may even begin to express its interest informally through a pattern of use.<sup>188</sup> In the absence of public property rights, such a resource could become subject to the private holdout power. That is, if market transactions were allowed to occur, the private resource owner could "hold out" for an exorbitantly high price, demanding "rent" from the public far in excess of fair market value. Too high a price, in turn, may block fulfillment of important public projects or needs.<sup>189</sup> The public's clear demand for a resource thus creates the opportunity for private rent-seeking behavior. Avoiding this behavior requires recognition of public rights in the resource.

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<sup>184</sup> Rose, *supra* note 168, at 720.

<sup>185</sup> *Id.*

<sup>186</sup> *Id.*

<sup>187</sup> *Id.* at 723.

<sup>188</sup> *See id.* at 760-61.

<sup>189</sup> *Id.* at 749-50. The holdout problem is the rationale for the eminent domain power. *Id.*

The second criterion, described alternately as the publicness or relative value test, concerns the public's contribution to the value of a resource. When inherently public property is involved, increasing public use of a resource enhances, rather than diminishes, its value. Due to nonexclusive, open-ended public access to the resource, increasing returns to scale result: the greater the public participation, the larger the rate of return. The public, in other words, deserves a property right in the resource because publicness—or nonexclusive, open-ended public use—has created the property's highest value.<sup>190</sup>

Rose offers several examples of resources meeting the two criteria for inherently public property. One of the examples concerns navigable waterways.<sup>191</sup> She justifies traditional caselaw recognizing the public's superior right of navigation<sup>192</sup> by explaining that navigable watercourses involve both the holdout problem and the publicness factor. Absent recognition of a public right of navigation, private waterfront landowners could demand prohibitively high prices from the public for the right to pass through their section of a watercourse.<sup>193</sup> Though this factor is not sufficient, by itself, to justify the existence of public property rights,<sup>194</sup> waterways also present the classic example of publicness and thus of increasing returns to scale. Nonexclusive, open-ended public navigation of waterways, in other words, produces the property's highest value: the more people participating in navigation, the greater the opportunities for commerce and trade and the larger the increase in wealth and productivity.<sup>195</sup>

Expansion of the concept of public property to include interests in the unorganized public is appealing because of its economic justifications. The criteria that Rose develops to define inherently public property continue the economic exploitation theme of the traditional public property categories. Requiring a holdout situation ensures that the third category—inherently public prop-

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<sup>190</sup> *Id.* at 768-71.

<sup>191</sup> The other examples involve the public interest in roadways and customary claims. *See generally id.* at 750-53, 758-61 (discussing the examples).

<sup>192</sup> For her discussion of the traditional caselaw, *see id.* at 727-30, 735-39.

<sup>193</sup> *See id.* at 753-54; *see also id.* at 753-58 (discussing the dangers of private monopolization of waterways).

<sup>194</sup> *See id.* at 770-71. The holdout factor is a necessary, but not a sufficient, reason because it does not guarantee that public use will be more valuable than private use. *Id.* at 761.

<sup>195</sup> *Id.* at 764-66, 769-70.

erty—also focuses on the problem of market failure. Similarly, requiring the publicness of a resource to create its highest value guarantees that inherently public property promotes socially optimal uses. Under these criteria, then, inherently public property becomes, with the help of modern economic thought, a natural and logical extension of the traditional public property concept.

Rose's criteria for inherently public property may be too strict, though. Not all of the justifications that she offers for her criteria are economic. Yet when she actually defines the criteria, she seems to retreat unnecessarily to economic principles. Her discussion of the publicness or relative value test demonstrates this point. In explaining why the public should acquire a property right in resources meeting this criterion, Rose stresses that the public "*deserve[s]*" the right "because 'publicness,' nonexclusive open access, create[s] . . . [the property's] highest value."<sup>196</sup> The apparent suggestion is that the public would not deserve a right if publicness did not create the highest value for a resource. Yet doesn't the underlying theory of desert apply regardless of whether public use results in the highest valued use? Is a private party entitled to capture publicly created value just because that value is not the highest? If the public does not have a property interest in the value that it creates, then a private party will be able to exploit the public by capturing that value without giving the public any return on its investment. Unless a public property interest is recognized, the private party will not have to buy out the public interest.

Nor does Rose adequately account for situations where the public interest is difficult, if not impossible, to value. Although the process of valuing environmental assets has progressed significantly,<sup>197</sup> accurate valuation of the public interest in natural resources still may not be possible for a variety of reasons. The diffuseness of the public interest in natural resources, the intangible nature of some public interests, and the absence of an effective market for measuring public preferences all contribute to the valuation problem. The inability to measure the full value created by public interest in a resource should not necessarily favor private rights, at least not when the holders of the private rights would be

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<sup>196</sup> *Id.* at 770 (emphasis in original).

<sup>197</sup> *Cf., e.g.,* Valuing Wildlife: Economic and Social Perspectives (D. Decker & G. Goff eds. 1987) (providing state-of-the-art information on methods of valuing wildlife). *But cf. Sagoff, Economic Theory and Environmental Law*, 79 Mich. L. Rev. 1393 (1981) (criticizing reliance on economic theory and market values to justify environmental regulation).

nonpaying beneficiaries of the publicly created value. Perhaps the answer is to "fudge" the estimates of the value created by nonexclusive, open-ended public use; the valuator could simply assume that, because of the sheer numbers, such use must produce the highest value. In any event, Rose's analysis seems to assume an ability to value the public interest not necessarily present in the real world. Eliminating the highest value requirement admittedly would mean that the public interest, if preferred, would not necessarily promote optimal use. But at least such a step would make accurate valuations less important and thus would permit recognition of a public property right in less compelling, but nevertheless important, circumstances.

Noneconomic justifications also are, for the most part, missing from the Rose theory of inherently public property.<sup>198</sup> To the extent that private property rights fit into our overall theory of government, political ideology and philosophy would appear to offer as important a basis for public property as economic thinking. If, as many assert, private property rights are supposed to serve important political and ethical values, then it seems logical to extend the public property concept to promote those values when the private system fails to do so.<sup>199</sup> Political exploitation achieved through ma-

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<sup>198</sup> As explained above, she hints at a moral foundation to her theory, but fails to incorporate that foundation into her two criteria. See *supra* note 196 and accompanying text. In addition, she suggests the possibility of some noneconomic applications of her theory, but no conclusions are reached. See Rose, *supra* note 168, at 779-81.

<sup>199</sup> For discussions of the political importance of private property rights, see L. Becker, *Property Rights: Philosophic Foundations* 75-80 (1977); *Liberty, Property, and the Foundations of the American Constitution* (E. Paul & H. Dickman eds. 1989); Philbrick, *Changing Conceptions of Property in Law*, 86 U. Pa. L. Rev. 691 (1938); and Reich, *supra* note 172, at 771-74. For a discussion of their moral importance, see L. Becker, *supra*, at 81-87. See generally L. Becker, *supra* (exploring the different philosophic foundations of property); Michelman, *supra* note 68, at 1202-13 (summarizing different theories of property).

Both public and private property rights appear to be playing a crucial role in the development of a new political structure for Eastern European countries. An English-language draft of the statement of principles being used in writing the new Czechoslovakian Constitution, for example, devotes an entire article to the concept of property. Among other principles, the article declares that "[o]wnership is inviolable," that "[a]ll forms of ownership are equal and enjoy equal protection," and that "[e]xpropriation is possible only with compensation." Civic Forum in Bohemia and Moravia, *Statement of Principles for First Draft of the New Czechoslovak Constitution art. VII* (English-language draft) [hereinafter cited as *Czech. Statement of Principles*] (copy on file with author). In addition, the statement recognizes "all forms of ownership which serve the general benefit and welfare of the country and advance enterprise and prosperity" and declares the earth's waters, energy resources, and raw materials to be in the "exclusive ownership of the state." *Id.* Finally, the statement allows state "intervention into economic activity . . . only in urgent cases, on the basis of law," to "preserve live [*sic*] and health," to "preserve and protect a sound natural environ-

nipulation of private property can be just as devastating as economic exploitation. Thus, for example, public property rights may deserve recognition when a resource becomes so scarce, valuable, and vital that recognition is needed to preserve the peace, ensure fair and equitable results, and maintain democratic values. Alternatively, public property rights may be justifiable when a resource is closely linked to fundamental political rights, much like navigable waters are linked to the right to travel or the broadcast spectrum is linked to freedom of speech.<sup>200</sup> Recognition of public property rights, in other words, may become necessary when our private property system no longer allocates interests in resources consistent with crucial aspects of our political ideology.

Using political theory and democratic values to justify public property rights would remove some of the tangibleness required by the Rose analysis. Her explanation of inherently public property tends to tie the concept to physical resources like roads and waterways and to traditional property rights like ownership and use.<sup>201</sup> Though the public interest in natural resources often will include traditional property interests in physical resources, it also may involve intangible concerns like environmental preservation and ecological appreciation. Just because the interest is esoteric and intangible, it does not necessarily follow that the public interest is not legitimate nor valuable. To the contrary, ecological purposes, if effectively pursued, can have significant long-term benefits.<sup>202</sup>

Recognition of these intangible public interests may require some broadening of the public property concept to include not

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ment," and to ensure the "nourishment" of the population, the "protection of the rights and freedoms of citizens," and the "interests of the national defense." *Id.*

<sup>200</sup> Although Rose defines navigable waters as inherently public property and the broadcast spectrum as public goods, she appears to rely solely on economic justifications. See Rose, *supra* note 168, at 718-19, 753-58, 764-66, 769-70.

<sup>201</sup> See Rose, *supra* note 168. At the end of her article, however, she explores, on a preliminary basis only, some more abstract applications of her theory. See *id.* at 777-81.

<sup>202</sup> See, e.g., 1980 Council on Environmental Quality Ann. Rep. 31-40 (discussing, among other topics, the utilitarian justifications for preserving endangered species); U.S. Office of Technology Assessment, Wetlands: Their Use and Regulation 37-65 (OTA-O-206 Mar. 1984) (discussing the importance and value of wetlands); cf. also Stewart, *Economics, Environment, and the Limits of Legal Control*, 9 Harv. Envtl. L. Rev. 1 (1984) (arguing that the conflict between environmental quality and economic development is a false one). For examples of the economic benefits to be derived from natural resources, see L. Butler & M. Livingston, *supra* note 35, at 74-84, 100-01 (describing commercial and noncommercial uses of Virginia's coastal resources). Even weak environmental programs can produce surprising results. See generally Butler, *supra* note 101 (discussing the effectiveness of state environmental programs).

only a right in the unorganized public that can be asserted against the government, but also the power to achieve a reallocation of resources through proper government channels and in appropriate circumstances. That is, while recognition of a public property right may not always enable the public to take action against its government, recognition may empower the public to pursue majoritarian measures perhaps even without having to account to private property owners adversely affected by the measures.<sup>203</sup> Such a property right thus would serve a legitimating function—legitimizing future government action instigated by members of the unorganized public pursuant to their property interest.<sup>204</sup> By expanding public property to include intangible, nontraditional property interests like this legitimating interest, the law would be better able to deal with all economic and political failures of the private property system.

#### *B. Instream Water Use as Public Property*

Instream water uses provide an excellent example of how the concept of public property is needed to complement private property rights. As explained earlier, America's water allocation systems have tended to serve narrow categories of private interests having a clear consumptive-use orientation. For the most part, those systems have not accommodated the public interest in water resources, especially its interest in nonconsumptive or noncommercial uses like environmental preservation, ecological appreciation, and recreational pursuits. With the riparian doctrine's focus on privately owned waterfront land and its preference for reasonable domestic uses, the doctrine would seem, as a practical matter, to provide little protection for instream water use.<sup>205</sup> Nor does the prior appropriation doctrine offer much hope for the public interest in instream use. Due to the doctrine's actual diversion and beneficial use requirements, consumptive uses clearly are favored over

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<sup>203</sup> Under the federal Constitution, government may not take private property for public use without payment of just compensation. U.S. Const. amend V. Whether this constitutional guarantee would be violated by majoritarian measures adopted pursuant to the suggested type of public interest is a question beyond the scope of the present article. For further discussion of the relationship between environmental regulation and the takings principle, see Butler, *supra* note 101, part I.A.

<sup>204</sup> For further discussion of this legitimating function, see Butler, *supra* note 101, part I.B.2.

<sup>205</sup> See *supra* notes 13-24 and accompanying text.

nonconsumptive interests.<sup>206</sup> Recognition of public property rights in environmental water uses thus appears to be the only effective way to correct the deficiencies of the private water rights systems.

Such recognition has already begun to occur in a growing number of jurisdictions. As explained earlier, changes to statutory and common law are forcing consideration of the public interest in the water allocation process. Although these changes are rarely, if ever, couched in terms of public property, they do involve many of the characteristics of property. The changes, for example, typically give a use right either to the unorganized public or to its representative, the government.<sup>207</sup> Additionally, the public interest being recognized often limits private rights in the same resource and generally can be protected in court.<sup>208</sup> Finally, at least some changes require the public interest in instream uses to be defined in the same terms as private rights. Under these laws, for example, public rights must have quantitative limits and acquire a priority status similar to private rights.<sup>209</sup>

In addition to having many of the characteristics of property, instream water rights also reflect economic and political values underlying the concept of public property. As will be explained momentarily, utilitarian and nonutilitarian justifications work well in the instream use context. The development of public property rights in environmental water uses, in other words, is precisely the type of action the law should be taking to correct the economic and political failures of the private water rights systems. Jurisdictions thus need to recognize the importance of the public property concept in the instream use context. Some of the economic, political, and ethical justifications supporting such recognition are examined below.

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<sup>206</sup> See *supra* notes 28-34 and accompanying text.

<sup>207</sup> See, e.g., *supra* notes 53-57 and accompanying text (discussing one court's expansion of the public trust doctrine to include environmental uses in the unorganized public); *supra* note 135 and accompanying text (discussing a Montana law that provides for instream use rights in the government).

<sup>208</sup> See, e.g., *supra* notes 65-69 and accompanying text (discussing how the public trust interest in instream uses could result in the modification of water allocation decisions and how the public trust interest might limit private rights); *supra* note 139 (citing statutory provisions that provide for judicial protection of minimum flow levels).

<sup>209</sup> See, e.g., *supra* note 120 and accompanying text (describing the priority status granted holders of instream water rights); *supra* note 136 and accompanying text (describing a reservation program providing for quantitative limits).

### 1. Utilitarian Justifications

Absent recognition of public environmental water rights, private parties have no incentive to consider the public interest in nonconsumptive use of water resources. Despite calls for the establishment of a comprehensive water rights market, such a structure has not, to date, been developed.<sup>210</sup> Among other problems, the current market structure often imposes artificial restrictions on alienation of water rights<sup>211</sup> and generally only focuses on traditional consumptive uses. It fails, for example, to give adequate consideration to the value of the return flow generated by water uses.<sup>212</sup> Since the current water market does not even adequately account for private interests, its failure to accommodate the more diffused interests of the public in nonconsumptive uses should not be surprising.

The absence of a comprehensive market suggests the possibility of a market failure. Because transferability is limited under the current water rights systems, it is easy to imagine a situation where the market does not promote socially optimal uses. The public interest in ecological or recreational water use is not directly recognized by traditional water allocation principles or by many statutory modifications of those principles.<sup>213</sup> Thus, holders of private

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<sup>210</sup> For arguments for a market approach to water rights, see C. Meyers & R. Posner, *Market Transfers of Water Rights: Toward an Improved Market in Water Resources* (National Water Comm'n 1971). See generally 1 *Waters and Water Rights* §§ 60-64 (R. Clark ed. 1967 & Supp. 1978) (discussing economics and its relation to water law).

<sup>211</sup> The traditional riparian doctrine, for example, prohibits the interbasin transfer of water, or the diversion of water from a watercourse to areas located outside of the watershed or basin of the watercourse. Though their rationale for the prohibition is not always clear, courts apparently reason that such a transfer would violate the requirement that water must be used for the benefit of riparian land. See Butler, *supra* note 1, at 108-25, 154-56. The riparian doctrine, however, does allow severability of riparian rights. That is, in the majority of riparian jurisdictions, the owner of riparian land can sever the water rights that attach to that land and transfer the rights without conveying the land. See *id.* at 137-43. For further analysis of the severability and transferability of riparian rights, see *id.* at 137-56.

Most modern permit systems also do not allow free transferability. See Butler, *Defining a Water Ethic Through Comprehensive Reform: A Suggested Framework for Analysis*, 1986 U. Ill. L. Rev. 439, 456-57.

<sup>212</sup> See R. Posner, *supra* note 65, § 3.11, at 56-57; Butler, *supra* note 1, at 150-51. See generally Butler, *supra* note 211, at 454-58 (discussing the nature of the water market). According to one prominent water law scholar, the water market "cannot be relied upon to always produce optimum results" in part because of "the physical properties of water, its transient nature, and the interdependence of its use in common by a number of users" and because of "acknowledged imperfections in the market for water and water rights." Trelease, *Policies for Water Law: Property Rights, Economic Forces, and Public Regulation*, 5 Nat. Resources J. 1, 39 (1965) (footnotes omitted).

<sup>213</sup> As explained earlier, some modern permit systems have corrected this oversight. See *supra* Part III.

water rights generally do not need to consider that interest in making water use decisions. Although the organized public admittedly could force consideration of the public interest through the exercise of the government's eminent domain power, that type of government action typically is reserved for public consumptive needs.<sup>214</sup> The interest of the unorganized public in nonconsumptive uses thus would, in all likelihood, fall through the cracks of the current market structure, absent affirmative judicial or legislative recognition of the interest.

Applying the Rose criteria for inherently public property suggests that such recognition is warranted under the public property concept. Watercourses easily qualify as the type of resource subject to the holdout problem. Because of the confined location of waterways, a person owning land along a river or stream could easily control the flow of the watercourse.<sup>215</sup> Whether such control necessarily means that the public interest in nonconsumptive uses is susceptible to private economic exploitation is not as clear.

To an extent, the answer will depend on the nature of the specific use being promoted and on the strength of the public interest in that use. Instream uses like navigation present compelling examples of public interests subject to the private holdout power: because of the economic benefits derived from traveling navigable waters, a private party in a strategic geographic position could easily exploit public demand for navigation.<sup>216</sup> Other instream uses like recreational activities and ecological preservation are not as clear-cut. If the public interest in such a use already has been expressed informally over time through habit or custom, then the public interest could, if intense enough, represent a value or investment that is capable of private exploitation.<sup>217</sup> The public's investment in a resource need not be measurable in precise monetary

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<sup>214</sup> Indeed, under a restrictive interpretation of the public use requirement, such a result may be mandated. The just compensation clause of the federal and state constitutions empowers government to take private property for public use upon payment of just compensation. See, e.g., U.S. Const. amend. V; Cal. Const. art. I, § 19; Va. Const. art. I, § 11. To the extent that this requirement is interpreted literally to mean actual public use, nonconsumptive public interests would not provide a basis for the exercise of the eminent domain power. See generally Berger, *The Public Use Requirement in Eminent Domain*, 57 Or. L. Rev. 203, 204-25 (1978) (discussing and analyzing broad and narrow approaches to the public use requirement). For a criticism of the expansive reading given the public use requirement by the United States Supreme Court, see R. Epstein, *supra* note 67, at 161-81.

<sup>215</sup> Rose, *supra* note 168, at 753-54, 757-58.

<sup>216</sup> Accord *id.* at 735-39, 753-61.

<sup>217</sup> Accord *id.* at 759-60.

terms for value to exist. Emotional investments also create demand and therefore value<sup>218</sup> and can, in some ways, make a party more vulnerable to exploitation. To the extent, then, that the public already has developed the habit of using a waterway for birdwatching, hiking, and other ecological pursuits, these habits would appear to be susceptible to private exploitation.<sup>219</sup> But if the public interest is vague and, as yet, undefined or unestablished, then the case for a holdout problem is considerably weaker, and any recognition of public property rights for that specific instream use must rest on other grounds. In any event, because of the overlapping nature of many instream uses, preservation of waterways for public navigational purposes will result in the promotion of other instream uses as well. Thus, if one instream use merits attention because of the holdout problem, other instream uses also will benefit.

A similar type of analysis would apply under Rose's second criterion, the publicness or relative value test. At least when the instream use is navigation, the public interest in the nation's waterways presents an easy case for review. Navigable watercourses are an important avenue of commerce, and commerce, in turn, is one of the key socializing activities having increasing returns to scale. The greater the public participation in commerce, the larger the productivity and the higher the value created by public use.<sup>220</sup> Open-ended public participation in navigation, in other words, results in increasing rates of return.<sup>221</sup>

The public interest in other instream uses is not as easy to eval-

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<sup>218</sup> *Accord id.* at 759.

<sup>219</sup> The more intangible a use, however, the more one can question whether a private party really can exploit public value. *Cf. id.* at 781 (questioning whether private parties can "siphon off the value of expansive public uses").

<sup>220</sup> *Id.* at 766-71, 775-76.

<sup>221</sup> For a discussion of the costs and benefits of navigational use, see 1987-1988 Council on Environmental Quality Ann. Rep. 107-09. The intent of this analysis is not to suggest that public navigational use should be unmanaged or that unlimited navigation by individual members of the public would lead to increasing returns to scale. At some point, if too many members of the public actually use a river or stream for navigation, the watercourse may become overcrowded and commerce could be hindered. Other costs of overcrowding also would result. Ecological habitats, for example, would experience greater disturbance as watercourses reached and surpassed their optimal carrying capacity. States have recognized the ecological costs of navigation-related activities in their regulatory programs. *See, e.g.,* Va. Marine Resources Comm'n, Subaqueous Guidelines for the Permitting of Activities Which Encroach in, on or over the Submerged Lands of the Commonwealth of Virginia 8-9 (revised Mar. 1986). Increasing public participation, however, does not necessarily require actual use by all participants. Public participation, for example, could occur through formation of groups or companies in the business of navigation or through group use of ships or boats.

uate. But, though the argument is more difficult to make, instream uses like recreational activities and ecological pursuits also seem to involve significant public value, if not increasing returns to scale. For example, since recreational activities serve an important social purpose,<sup>222</sup> greater public participation should enhance the value of recreational sites. The higher the number of public users interested in a recreational resource, the greater the potential for positive socialization effects and the higher the value of the recreational resource.<sup>223</sup> Ecological uses of waterways similarly involve a socializing element: one person's goal of improved environmental quality, for instance, cannot be realized without the help of others.<sup>224</sup> Nonexclusive, open-ended public participation in ecological pursuits helps considerably to promote those pursuits and therefore is responsible for creating much, if not all, of the value resulting from ecological water use. The only way to achieve the ecological and recreational goals of instream use is through collective action, and the greater the public commitment, the larger the return. The very publicness of instream uses like environmental preservation and recreational pursuits thus produces the value of the uses, which, in turn, can be exploited by private parties.<sup>225</sup>

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<sup>222</sup> See Rose, *supra* note 168, at 779-81.

<sup>223</sup> Once again, this analysis is not suggesting that open-ended public use necessarily involves unrestricted or unmanaged public use. See *supra* note 221. For increasing value to result, public recreational use must be managed either informally by the unorganized public through doctrines like customary or common rights or by the organized public. Cf. Rose, *supra* note 168, at 739-49 (discussing custom and the concept of a managed commons). Without appropriate management, the benefits of sociability could decrease as the number of users at any given place and point in time increase. Overcrowding at popular national parks, in other words, diminishes the immediate enjoyment of the users, though high public demand for a resource solidifies its position as a public resource. Furthermore, even with management, increasing public use can result in rising costs and therefore in a decreased return. For an example of a management plan designed to promote both the goals of environmental preservation and public use, see Fish and Wildlife Service, U.S. Dep't of the Interior, Final Environmental Impact Statement: Proposed State-Federal Land Exchange Involving Portions of False Cape State Park and Back Bay National Wildlife Refuge (1983). See also L. Butler & M. Livingston, *supra* note 35, § 4.4, at 86-89 (discussing the government's response to problems caused by increasing public use of Back Bay and False Cape).

<sup>224</sup> Others have expressed the societal value of environmental preservation in slightly different terms, focusing on the contemplative and civilizing effects of wilderness areas. See, e.g., R. Nash, *Wilderness and the American Mind* (3d ed. 1982).

<sup>225</sup> The publicness of a use does not necessarily mean that a property right should be placed in the unorganized, as opposed to the organized, public. As explained earlier, ecological and recreational public use may require management to ensure optimal social value. See *supra* notes 221, 223. Management could occur through common law doctrine recognizing the accountability of users to the public or through statutory law placing control in the government.

Whether the value created by public instream use is the highest value is not clear, however, due in large part to the difficulty of measuring ecological and recreational benefits. What is clear is that as more members of the public become committed to environmental water use, the payoff resulting from their efforts increases. One person's participation in ecological and recreational instream uses becomes, in a sense, more valuable when reciprocated by others; wider-based use has a greater chance of becoming an established practice. At the very least, then, greater public participation in instream uses will enhance the value of the affected water resource both from an environmental and an economic perspective—though for many instream uses, value comparisons with private uses will be difficult to make.

But even if the public value attached to instream uses is not the highest, the potential for private exploitation nevertheless exists. Because collective action is required for effective promotion of ecological uses, the very enormity of such collective action suggests that any value generated by open-ended public involvement will be large and therefore tempting to private parties. Cleaner, healthier waters will result in more abundant aquatic resources and thus in more opportunities and incentives for exploitation. Further, to the extent that recreational uses have become established patterns of use, the emotional investment of the public will be high and therefore susceptible to exploitation. Because ecological and recreational pursuits are very useful to society, both in a socializing and an economic sense, private users should not be allowed to significantly undermine the public's ecological and recreational investment in a resource. Even if the only focus of public property is the correction of market failures, private users still should be required to consider the public's investment in a resource.<sup>226</sup> When a nonutilitarian focus is added, the need for such consideration becomes even clearer.

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Recreational and ecological uses sometimes will be conflicting. See, e.g., L. Butler & M. Livingston, *supra* note 35, § 4.4, at 86-89 (discussing conflicts between public recreational use and ecological interests).

<sup>226</sup> Some scholars have argued that this position improperly focuses on the social costs of private use, ignoring the beneficial externalities of private use. See H. Manne, *supra* note 177, at 353-54. To the extent that a private use creates instream benefits enjoyed by the public at no cost, those benefits could be weighed against the social costs of the use to determine whether private economic exploitation really is occurring. Indeed, if significant instream benefits are created by private use, it seems doubtful that public use also would be generating significant value. In other words, the existence of significant privately created instream benefits seems to negate the possibility of publicness and thus of high publicly created value.

## 2. Political and Other Nonutilitarian Justifications

Several noneconomic bases support recognizing public property rights in instream uses. One such basis focuses on the problem of political exploitation of property, or the exploitation of resources for political advantage in a manner inconsistent with fundamental political rights or democratic values. To the extent that private property rights are supposed to promote democratic values,<sup>227</sup> a system of public property rights is needed to correct some of the failures of the private rights system.<sup>228</sup> Though it may be difficult to reach a consensus on when the failures exist or on what the democratic values are, at least some of the more compelling cases arguably are identifiable. As explained earlier, those cases would involve political exploitation of resources vital to the public health or welfare and resources related to fundamental political rights and values.<sup>229</sup>

To the extent that waterways are navigable, they clearly present the potential for political exploitation. If the public interest in navigation were not considered a property right, private parties could exploit the public's need for navigation, significantly curtailing access to navigable waters absent payment of appropriate extortion fees. In addition to losing important commercial advantages, members of the public also would have their fundamental right to travel abridged. Preservation of key democratic values thus would require recognition of the public interest in the instream use of navigation.<sup>230</sup>

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<sup>227</sup> The relationship between property rights and political theory has been explored in depth by other commentators. For some examples, see *supra* note 199.

<sup>228</sup> Professor Sax seems to be making a similar argument in his famous article on the public trust doctrine. In that article he asserts that courts should use the public trust doctrine to promote "democratization" and "equality of political power." Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 Mich. L. Rev. 471, 560-61 (1970). He identifies four benchmarks for determining when public trust rights should be recognized: (1) government disposal of public property below market value with no obvious reason for the subsidy; (2) government action that empowers a private interest to make resource-use decisions which could subordinate public use needs to that private interest; (3) the reallocation of diffuse public uses to private uses or to narrower public concerns; and (4) the use of a resource for unnatural purposes. *Id.* at 562-65.

One philosophy scholar has argued for recognition of a constitutional right to environmental quality. Sagoff, *On Preserving the Natural Environment*, 84 Yale L.J. 205, 265-67 (1974). For a critical response, see Tribe, *From Environmental Foundations to Constitutional Structures: Learning from Nature's Future*, 84 Yale L.J. 545 (1975).

<sup>229</sup> See *supra* notes 198-200 and accompanying text. Rose recognizes this possibility in the context of free speech. See Rose, *supra* note 168, at 778-79.

<sup>230</sup> Traditional caselaw appears to reflect this thinking. See, e.g., *Martin v. Waddell*, 41

Across-the-board recognition of other instream uses as public property may not be consistent with the political exploitation rationale. On the surface, other instream uses do not appear to raise the same fundamental concerns about political rights and democratic values as the navigational use. An argument probably could be made that ecological uses are linked to democratic values. Some might assert that, in a country based on equal opportunity, private landowners should not control access to the rich environments of the nation's waters—that the ecological fate of those waters should not be in the hands of a privileged class of landowners.<sup>231</sup> This argument might be more convincing in a state that has added environmental provisions to its constitution.<sup>232</sup> But unless such a provision is effectively worded,<sup>233</sup> it is difficult to see how the ecological access argument raised above really presents a problem of political exploitation rather than a matter of environmental ethics.<sup>234</sup>

Despite the lack of a compelling argument for across-the-board protection, instream uses other than navigation may nevertheless merit protection under the political exploitation rationale in certain limited situations. If, for example, the environmental quality of a vital waterbody has reached the point where it poses a serious threat to the public health, then the political exploitation rationale arguably would justify recognition of a public property right in the instream use of environmental preservation. The key to such recognition would be the importance of the waterway to the public and the severity of the threat. If either factor is compelling enough, the failure to recognize some sort of public right could enable a private party with sufficient control over the resource to ex-

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U.S. (16 Pet.) 367, 410-11, 414 (1842); see also Sax, *supra* note 228, at 484.

<sup>231</sup> Cf. Sagoff, *supra* note 228, at 265-67 (arguing that environmental quality is deeply entrenched in our cultural tradition and therefore in our Constitution); Sax, *supra* note 228, at 565 (suggesting that the "extraordinary diversity of many natural systems" might support the recognition of public trust rights).

<sup>232</sup> Most states have incorporated some sort of environmental provision into their constitutions, but the provisions vary significantly. See generally Butler, *supra* note 101, part I.B (discussing environmental provisions in state constitutions).

<sup>233</sup> Many of the provisions are vaguely worded, providing few explicit details to guide courts in applying the provisions. Some courts accordingly have interpreted the provisions as nonbinding policy statements. See, e.g., Butler, *supra* note 101, part I.B.1 (discussing such a decision). For alternatives to that approach, see *id.* part I.B.2.

<sup>234</sup> Several commentators have similarly rejected a broad-based constitutional theory of environmental protection. See, e.g., Tarlock, *Appropriation for Instream Flow Maintenance: A Progress Report on "New" Public Western Water Rights*, 1978 Utah L. Rev. 211, 216-17; Tribe, *supra* note 228. Some have also rejected any nonutilitarian basis for a common law right to environmental protection. See, e.g., Tarlock, *supra*, at 216-17.

exploit public dependence on the health of the waterway and gain inappropriate political power.<sup>235</sup> Similarly, if the ecology of a particular waterbody is unique, high public demand for the resource could create the potential for political exploitation; private parties in a position to control the resource could abuse the political process by exploiting public demand for the resource.<sup>236</sup>

In addition to the political exploitation rationale, some morally based justifications provide support for the recognition of public property rights in instream uses. Professor Rose momentarily focuses on one of those moral rationales in developing her criteria for inherently public property. She notes that when nonexclusive, open-ended public use creates a property's highest value the public deserves a right in the resource.<sup>237</sup> Rose's reliance on this moral basis for recognizing public property admittedly is limited; her economic thinking tempers the development of her moral foundation, allowing it to have weight only when it is consistent with the economic goal of promoting optimal use.

The basic moral proposition that she suggests, though, is intuitively appealing, and if applied in the public property sphere as it has been in the private sphere, it could have far-reaching consequences. For hundreds of years, philosophers have justified the existence of private property rights by arguing that a person who labors to develop a resource deserves the fruits of that labor.<sup>238</sup> Absent from those justifications is any requirement that the laborer produce the highest valued use. One apparent explanation for this absence is that if a laborer does not create the highest value of a resource, a second party who could produce that value would buy out the first. Thus, as long as the law allows such buyouts, there is no need to require a private user to produce the highest value; the marketplace would automatically correct inefficiencies in use by encouraging transfers to the efficient user. Because efficient mar-

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<sup>235</sup> Some might argue that recognition of public property rights is not necessary in such a situation because of pollution laws. This argument ignores the realities of current enforcement efforts, which often are ineffective and virtually nonexistent. For a discussion of the inadequate implementation and enforcement structure of state environmental programs, see Butler, *supra* note 101, part IV.A.

<sup>236</sup> Rose also suggests that the uniqueness of a resource might justify public rights, but she relies on her economic theory of inherently public property. See Rose, *supra* note 168, at 781 n.329.

<sup>237</sup> *Id.* at 770.

<sup>238</sup> See, e.g., L. Becker, *supra* note 199, at 48-56; J. Locke, *supra* note 170, ch. 5; see also Michelman, *supra* note 68, at 1203-05 (summarizing the various moral or desert theories developed to justify private property rights).

ketplace transactions are more difficult to achieve in the public sphere, Rose may have decided to limit application of the moral desert theory to situations where it was consistent with economic thinking. Thus, her stipulation that the public deserves a property right when its use creates the highest value could simply reflect her unease over inefficiencies inherent in the public sphere.

Such a result, though appealing from an economic perspective, ignores the basic point being made by the moral desert rationale. If the publicness of a resource creates value, then under this rationale the public would seem to have a moral right to that value. Because the moral desert rationale is appealing and has gained some acceptance in the private rights system,<sup>239</sup> it seems both logical and fair to extend the rationale to the public sphere at least in certain limited situations. Among other possibilities, such an extension could occur when the publicly created value is significant enough and definite enough to permit identification and to make the private holdout situation possible. Public instream uses that meet these conditions thus should be justifiable as public property rights under the moral desert theory.

A second moral basis for recognizing public property rights in instream uses involves the concept of stewardship, or the notion that man has a moral obligation to present and future generations and to natural communities to act as a steward of the earth's resources.<sup>240</sup> In recent years, scholars have debated the merits and the meaning of this proposition.<sup>241</sup> Though no consensus has been reached, support for the stewardship concept is growing, as evidenced by the increase in environmental laws and in the widespread adoption of environmental provisions in state constitutions.<sup>242</sup> To the extent that the stewardship concept is accepted,<sup>243</sup>

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<sup>239</sup> Some, for example, interpret the adverse possession doctrine as reflecting a moral or desert rationale. See Holmes, *The Path of the Law*, 10 Harv. L. Rev. 457, 476-77 (1897). See generally *Symposium: Time, Property Rights, and the Common Law*, 64 Wash. U. L.Q. 661-865 (1986) (discussing, among other topics, the policy implications of adverse possession).

<sup>240</sup> For a comprehensive treatment of the stewardship concept, see *Symposium: Stewardship of Land and Natural Resources*, 1986 U. Ill. L. Rev. 301-668 [hereinafter cited as *Stewardship Symposium*]. A draft statement of principles proposed for consideration in writing the new Czechoslovak Constitution recognizes the stewardship concept as one of only three obligations of the citizens of Czechoslovakia. See Czech. Statement of Principles, *supra* note 199, art. V.

<sup>241</sup> See generally *Stewardship Symposium*, *supra* note 240.

<sup>242</sup> For a discussion of the different environmental programs now applicable in the United States, see 1-2 Law of Environmental Protection, *supra* note 146. For a discussion of environmental provisions in state constitutions, see Butler, *supra* note 101, part I.B.

recognition of public property rights in instream uses would be one way to fulfill the stewardship obligation.

On a related matter, some scholars have argued that environmental decisionmaking should occur through collective action to ensure that ethically responsible choices are made.<sup>244</sup> Under this position, collective action would be necessary not to meet the stewardship obligation, but rather to have morally responsible laws. Recognizing public property rights in resources meeting Rose's criteria for inherently public property would fulfill this moral responsibility since, through the publicness of the resource, the public has collectively, but informally, demonstrated its choice. Thus, in addition to promoting the stewardship concept, public property rights in instream uses also would, under appropriate circumstances, ensure the development of ethical environmental laws.

#### V. SOME CONCLUDING THOUGHTS ON THE EVOLUTION OF ENVIRONMENTAL WATER RIGHTS

In recent years, the legal system has developed a number of devices for protecting the public interest in instream use. Though the devices vary significantly in form and in content, they collectively represent an important evolutionary trend: the legitimation of public rights in instream water use. But while the current devices represent an important political and environmental victory, they generally fail to provide a principled or coherent way to define the relationship between newly recognized public rights and traditional private interests. Because the current forms of instream protection alter the scope of private water rights, that relationship will become increasingly important as the demand for water resources rises. For the instream protection movement to be complete, then, the evolutionary process must achieve the integration of public and private water rights. A principled way of resolving conflicts between emerging public interests and established private rights is needed to ensure the long-term acceptance and effectiveness of public environmental water rights. The public property concept

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<sup>243</sup> A discussion of the merits of the stewardship concept is beyond the scope of this article. For a good discussion of the different arguments and for an ethical justification of environmental decisionmaking, see Farber, *From Plastic Trees to Arrow's Theorem*, 1986 U. Ill. L. Rev. 337.

<sup>244</sup> See, e.g., H. Rolston, III, *Environmental Ethics* 246-48 (1988); see also Farber, *supra* note 243, at 354-60 (arguing for environmental decisionmaking by social democracy or majority rule).

can provide such a principled approach.

Utilitarian principles suggest that lawmakers need to realize the wisdom of complementing private water rights systems with public property rights in instream use. Though economic theory normally supports private property rights, utilitarian principles nevertheless justify recognition of public instream rights when two conditions exist: one, an instream use is susceptible to the private holdout problem and, two, public instream use would generate either the highest value of the property or at least a significant value that is reasonably identifiable and definite. Because waterways are vital resources having a relatively confined location, they are precisely the type of resource that generally satisfies these two conditions. Whether a particular instream use similarly satisfies the two criteria will depend on the nature of the use.

The likelihood and severity of the private holdout problem, for example, will vary according to the use. While virtually all navigational uses present a compelling case for private exploitation, recreational uses raise much weaker grounds for concern. Only defined areas of established recreational importance to the public would appear to merit consideration under the private holdout test. While ecological uses present similar problems under the holdout criterion, the magnitude of these problems will depend, to an extent, on the nature of the environmental interest at stake. Whereas preservation of particular ecological habitats or wildlife communities may require site-specific determinations of private holdout potential, protection of water quality may enjoy a broader approach. Because the qualitative health of a watercourse is dependent on land use activities occurring within its watershed,<sup>245</sup> waterfront landowners have the power to control the health of the resource and therefore to exploit public dependence on water quality. In any event, even when an ecological use is site-specific, recognition of public rights in that use may require instream protection for the entire stream.

Satisfaction of the value criterion also depends on the nature of the use. Public navigational uses, with their link to commerce, clearly result in increasing returns to scale and thus in the highest valued use. The comparative values of public recreational and eco-

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<sup>245</sup> The waters of the Chesapeake Bay, for example, are affected by farming practices occurring throughout the Bay's extensive watershed. See generally L. Butler & M. Livingston, *supra* note 35, §§ 3.1.A, 3.2.A, 3.3 (discussing the physical characteristics of the Bay and the geological and chemical processes affecting those characteristics).

logical uses are not as easy to determine. Because of the socialization effects of recreational and ecological uses, greater public involvement should produce increasing value, especially in the context of ecological use. As the public commitment to ecological water use grows, the value of public participation will increase; environmental protection efforts simply do not work well without significant public support. But whether that use is the highest valued use is not clear due in part to the difficulty of measuring publicly created value and to the speculativeness of the valuation process. What is clear is that the value created by public ecological water use will be significant enough to entice private parties to reap the benefits of the use. If the amount recaptured is large, public efforts to further ecological purposes will be seriously undermined. Thus, even if the publicly created value is not the highest value, a significant public investment will be misdirected absent recognition of public property rights.

The inability of public recreational and ecological water uses to clearly produce the highest value would be enough to convince some of the inadvisability of recognizing public property rights in those uses. This position ignores not only the difficulty of making value comparisons in the public and the environmental contexts, but also the existence of other value systems.<sup>246</sup> Besides economic theory, political and ethical theories also serve as important sources of societal values. The public interest in navigation, for example, has long been accepted as an integral part of our political structure. Freedom to travel and prosper would mean little to those dependent on the nation's waterways if the waterways were monopolized by a select few. Nonnavigational environmental water uses pose a much weaker case for political recognition of public property rights; the public interest in those uses would implicate fundamental political values only in rare situations. Recreational and ecological uses, however, fare better under theories of morality and ethics. Notions of just desert and stewardship are intricately connected to these types of public environmental water use, especially ecological water use. Large-scale public efforts to preserve the environment of water resources for recreational and ecological purposes can generate significant value.<sup>247</sup> Unless the public

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<sup>246</sup> For a more thorough discussion of the need to consider noneconomic values in environmental decisionmaking, see Farber, *supra* note 243.

<sup>247</sup> See generally L. Butler & M. Livingston, *supra* note 35, ch. 4 (discussing the value and impact of man's use of Virginia's coastal resources).

reaches a consensus that the only important value system is economic theory, the public deserves to recoup some of the value that it creates.

Growing acceptance of the stewardship concept suggests that such a consensus has not been reached. Indeed, if any value system is emerging in the area of resource management, it is the notion that man owes some sort of obligation to the present and future inhabitants of the earth. While proving the emergence of this system admittedly is difficult, evidence of its development can be found worldwide in all walks of life:<sup>248</sup> in the expanding scope of environmental laws, in the increasingly aggressive enforcement efforts of environmental regulators,<sup>249</sup> in the growing international movement for environmental quality,<sup>250</sup> in the surprising adoption of resource management programs by environmentally conservative jurisdictions,<sup>251</sup> in the public outrage over serious environmental accidents, and in the efforts of some Eastern Europeans to make environmental quality a constitutional value.<sup>252</sup> Finally, it can be seen in the trust that the American people place, perhaps naively, in their government to provide the fundamentals of environmental quality—clean air and water. In the end, then, the public interest in environmental water use becomes a matter of trust. For years the American people have taken their natural resources for granted, in part because of their abundance but also because of the faith that the people have put in their government to implement federal environmental law and properly manage the nation's resources. If this trust is not enough to justify recognition of public

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<sup>248</sup> Cf. Farber, *supra* note 243, at 354-58 (discussing the need for social democracy and ways to define public opinion).

<sup>249</sup> For examples of these enforcement efforts, see Bender, *Farming Family Loses Wetlands Violation Suit*, Daily Press, Jan. 27, 1990, at C1, col. 5 (discussing precedent-setting wetlands violation suit), and Washington Post, Jan. 17, 1990, at A2, col. 5 (discussing recent appellate decision upholding conviction and jail sentence for unauthorized wetlands filling).

<sup>250</sup> In 1987, for example, a number of countries signed the first international treaty on air quality. See Note, *An Attempt to Stop the Sky from Falling: The Montreal Protocol to Protect Against Atmospheric Ozone Reduction*, 15 Syracuse J. Int'l L. & Com. 391, 393 (1989); see also Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 14-16, 1987, U.N. Environment Programme. See generally 1985 Council on Environmental Quality Ann. Rep. chs. 5-13 (discussing international environmental problems); 1981 Council on Environmental Quality Ann. Rep. ch. 8 (discussing the global environment).

<sup>251</sup> See, e.g., Chesapeake Executive Council, *The First Progress Report Under the 1987 Chesapeake Bay Agreement* 1-11 (Jan. 1989) (where the traditionally conservative state of Virginia joined other jurisdictions in executing a management program for the Chesapeake Bay).

<sup>252</sup> See Czech. Statement of Principles, *supra* note 199, art. V.

environmental water rights, then our system of democratic decisionmaking is fundamentally flawed.