NO FICTIONS REQUIRED: ASSESSING THE PUBLIC TRUST DOCTRINE IN PURSUIT OF BALANCED WATER MANAGEMENT

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I. INTRODUCTION

The public trust doctrine is controversial.[1] This article evaluates whether the public trust doctrine should be applied to water management. To illustrate the issue, consider the following legislation proposed in Michigan:

> The waters of the state, including groundwater, are held in trust by the state. The state shall protect these waters and other natural resources that are subject to the public trust for the benefit of present and future generations.[2]

Some states have enacted legislation applying the public trust doctrine to water management.[3] Other states, however, have rejected such application. For

1. Charles F. Wilkinson, *The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine*, 19 ENVTL. L. 425, 426 (1989) [hereinafter *The Headwaters of the Public Trust*] (noting that the public trust doctrine is "perhaps the single most controversial development in natural resources law"). *Compare* Michael C. Blumm, *Public Property and the Democratization of Western Water Law: A Modern View of the Public Trust Doctrine*, 19 ENVTL. L. 573, 595–97 (1999) [hereinafter *Public Property and the Democratization of Western Water Law*] (arguing that the public trust doctrine serves as a democratizing influence by incorporating the interests and liberty of the public at large in legal rules governing the use of natural resources), *with* James L. Huffman, *A Fish Out of Water: The Public Trust Doctrine in a Constitutional Democracy*, 19 ENVTL. L. 527, 549 (1989) [hereinafter *A Fish Out of Water*] (arguing that modern public trust doctrine threatens constitutional democracy and individual liberty by allowing courts to supersede the determinations of representative institutions and by disingenuously immunizing state actions from Fifth Amendment challenges on the basis of a legal fiction of public property). Illustrative of the attention applied to the doctrine, Professor Huffman calculated that more than 1,700 articles referencing the public trust doctrine were published between 1990 and 2007. James L. Huffman, *Speaking of Inconvenient Truths: A History of the Public Trust Doctrine*, 18 DUKE ENVTL. L. & POL'Y F. 1, 13 n. 59 (2007) [hereinafter *Speaking of Inconvenient Truths*].

2. H.R. 5319, 95th Leg. (Mich. 2009). The proposed legislation, which was not adopted, provoked significant controversy. *See* Sheri McWhirter, *Scripps' Water Rights Bill Draws Criticism: Michigan House Bill No. 5319,* THE RECORD-EAGLE (Mar. 24, 2010) *available at* http://record-eagle.com/grandtraverse/x794091158/Scripps-water-rights-bill-draws-criticism (reporting an explanation by the bill's legislative author that the bill was intended to "end the idea of groundwater as a commodity" and to curtail groundwater uses that are not sustainable; reporting argument by opponents that the bill would transfer "all private property water rights to the state without proper compensation").

3. *See, e.g.*, N. H. REV. STAT. ANN. § 481:1 (2013) (declaring the state to be trustee of the waters of the state for the public benefit); VT. STAT. ANN. tit. 10, § 1390 (2008) ("it is the policy of the state that the groundwater resources of the state are held in trust for the public"). Michigan law also declares that "waters of the state are valuable public natural resources held in trust by the state." MICH. COMP. LAWS § 324.32702(c) (2008). The Michigan courts have explained that such declaration "merely recognize[s] the importance of natural resources, including water, and exhort[s] the Legislature to exercise its police power to conserve them. . . [and does] not attempt to claim ownership of water by the state itself." Mich. Citizens for Water Conserv. v. Nestle Waters N. Am., Inc., 709 N.W.2d 174, 221 (Mich. Ct. App. 2005).

instance, an Idaho statute provides ". . . the public trust doctrine shall not apply to. . . [t]he appropriation or use of water, or the granting, transfer, administration, or adjudication of water or water rights. . . or any other procedure or law applicable to water rights in the state of Idaho."[4] Voters in Ohio overwhelmingly approved a ballot initiative to amend the state constitution to provide that "[g]round water underlying privately owned land and nonnavigable waters located on or flowing through privately owned land shall not be held in trust by any governmental body."[5]

Given such policy divergence among the states and the extensive controversy surrounding the doctrine, it is proper to ask whether the adoption of legislation declaring state waters subject to the public trust is necessary or prudent. This article argues that policymakers should resist calls to adopt the public trust doctrine as the basis for water resource management; instead, they should develop a coherent and comprehensive body of water management laws designed to maximize public welfare. We conclude that reliance on the public trust doctrine as a basis of water management would be imprudent, not only because its utility has faded with the law's evolution, but because it threatens to impede the development of a coherent and unified body of water management laws.[6]

Originating in Byzantine law and promulgated over the course of centuries,[7] the public trust doctrine is based on a legal fiction that certain common and shared natural resources, such as air, water, and wildlife, are "public property" held in trust by the state for the public's benefit.[8] The legal fiction of public ownership, or state trusteeship, over natural waters does not infer proprietary ownership by the state or the public, but rather provides a legal shorthand to express the societal importance of water and the state's sovereign power to regulate and manage it for the public's benefit.[9] For centuries, this legal fiction served a vital practical purpose. Before the development of the modern regula-

4. IDAHO CODE ANN. § 58-1203(2)(b) (2013).

5. OHIO CONST. art. I, §19b(E). The vote, held in 2008, was 71.95 percent in favor of the initiative. OHIO SECRETARY OF STATE, NOVEMBER 4, 2008 GENERAL ELECTION, REPORT FROM THE SECRETARY OF STATE TO THE GOVERNOR, GENERAL ASSEMBLY, AND THE CITIZENS OF OHIO app. at 249 (2008) *available at* http://www.sos.state.oh.us/sos/upload/elections/2008/gen/Report/AmendedOfficialResults/StateIssues.pdf.

6. *See* discussion *infra* Parts IV and V.

7. Erin Ryan, *Public Trust and Distrust: The Theoretical Implications of the Public Trust Doctrine for Natural Resource Management*, 31 ENVTL. L. 477, 481 (2001).

8. Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 452 (1892).

9. *Sporhase v. Neb. ex rel. Douglas*, 458 U.S. 941, 950–51 (1982) (explaining that the notion of public ownership of water is "a fiction expressive in legal shorthand of the importance to its people that a State have power to preserve and regulate the exploitation of an important resource"). The public trust doctrine is not objectionable because of its fictional foundation. *See* Hope M. Babcock, *The Public Trust Doctrine: What a Tall Tale They Tell*, 61 S.C. L. REV. 393, 394, 400 (2009) (noting that courts routinely resort to legal fictions to achieve efficient and equitable results, and arguing that the public trust doctrine is a good legal fiction because it performs a gap-filling function in the absence of positive law). However, for the reasons we explain herein we conclude that the public trust doctrine is a poor substitute for specific water management laws, and that it threatens to confuse and frustrate the development of water management law. *See* discussion *infra* Parts IV and V.

tory state, the law largely adhered to a classical liberal theory of property, which generally favored individual autonomy over broad public interests.[10] Protectable interests were principally limited to the defense of property.[11] In that legal environment, the fiction of "public property" served as a necessary analogue to private property, providing a *property* basis to control private activities that threatened essential public interests, such as access to navigable waters—the public trust doctrine's classic application.[12]

A legal fiction of public property in water is no longer necessary to protect public interests.[13] Modern legal jurisprudence and the growth of the administrative state have evolved to recognize and protect public interests in natural resources independent of the legal fiction of public property.[14] Indeed, the legal contours of what constitutes private property have generally changed to accommodate the protection of public interests.[15] This is particularly true in the context of water management where public and private interests are deeply intertwined due to water's immense and diverse societal importance and its nature as a transient and shared resource.[16] Private property interests pertaining to the acquisition, distribution, sale, transfer, and use of water are routinely defined to yield to statutory or judicial protections of the public interest.[17] As the notable law professor, Frank Trelease, rhetorically asked, "Why is it better

10. *See* Terry W. Frazier, *The Green Alternative to Classical Liberal Property Theory*, 20 VT. L. REV. 299, 299, 306 (1995) (reviewing and critiquing the classical liberal theory of property); *see also* Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1668 (1988); Robert C. Ellickson, *Property in Land*, 102 YALE. L. J. 1315, 1352–54 (1993); Ryan, *supra* note 7, at 484.

11. *See* Frazier, *supra* note 10, at 306–07.

12. *See* Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 633 (1986) ("Most simply put, the historical function of the public trust doctrine has been to provide a public property basis for resisting the exercise of private property rights in natural resources deemed contrary to the public interest."). *See generally* Harrison C. Dunning, *The Public Trust: A Fundamental Doctrine of American Property Law*, 19 ENVTL. L. 515, 519–23 (1989); Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards,* 82 NOTRE DAME L. REV. 699, 702–06 (2006); Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 721–23 (1986) [hereinafter *Comedy of the Commons*] (analyzing the notion and implications of "property" bestowed in a disorganized public).

13. *See* Lazarus, *supra* note 12, at 665 (explaining that the public trust doctrine arose at a time, long since gone, when sovereign power depended on ownership, and that modern judicial construction of sovereign police power does not turn on such strained legal fictions).

14. Throughout the law, modern jurisprudence is refining the definition of private property to include appropriate conditions for the protection of public interests. *See* Lazarus, *supra* note 12, at 669–773; Carol M. Rose, *A Dozen Propositions on Private Property, Public Rights and the New Takings Legislation*, 53 WASH. & LEE L. REV. 265, 274–287 [hereinafter *A Dozen Propositions*].

15. Lazarus, *supra* note 12, at 668 ("The relationship of the sovereign police power to private property has been marked by the steady erosion of private property's sanctity in the face of the sovereign police power's growth.").

16. *See* Brian E. Gray, *The Property Right in Water*, 9 HASTINGS W. NW. J. ENVTL. L. & POL'Y 1, 4 (2002).

17. Lazarus, *supra* note 12, at 655.

to say '[t]he state owns the water, therefore it may regulate its use' instead of '[t]he state may regulate the use of water?'"[18]

Even though the public trust doctrine is no longer needed to protect the public interest in water resources, skeptical readers may naturally ask what harm would come from embracing the doctrine with respect to water management. As we will explain, such an approach threatens to impair the development of a coherent body of water management law. Notably, application of the doctrine to the use of water substitutes a superficial and ambiguous legal doctrine where specific substantive and procedural provisions are necessary.[19] Further, on the basis of public "ownership" of a resource, some advocates assert that the doctrine demands specific substantive results and removes administrative and judicial discretion over water resource decisions,[20] presumably even to the detriment of overall public welfare. Such extreme agendas should be avoided in favor of balanced and nuanced water management. Finally, as a judicially-fashioned doctrine, judicial precedence and restraint inherently limit the public trust doctrine[21] and, thus, it is ill-suited to address many modern water allocation problems. Unlike the judiciary, the legislative and executive branches have broad latitude to adopt specifically tailored laws and statutes to establish a consistent and sophisticated legal framework to manage the resource.[22]

We evaluate the public trust doctrine with several fundamental policy objectives in mind. One measure of evaluating any water management policy is how well the policy maximizes social welfare, or, in economic terms, its "utility."[23] In pursuit of maximum utility, policymakers must thoroughly consider and balance competing and often countervailing social, environmental, and economic objectives.[24] For example, policymakers must weigh consumptive water uses against ecological and other instream demands. Likewise, policymakers must balance the need for flexible water management against the desire for legal certainty to promote beneficial planning and investments.[25] Ap-

18. Frank J. Trelease, *Government Ownership and Trusteeship of Water*, 45 CAL. L. REV. 638, 645 (1957) [hereinafter *Government Ownership*].

19. *See infra* Parts V.A and V.B.

20. *See e.g.,* James M. Olson, *Navigating the Great Lakes Compact: Water, Public Trust, and International Trade Agreements*, 2006 MICH. ST. L. REV. 1103, 1130–32 (2006).

21. *See* Lazarus, *supra* note 12, at 712–14.

22. *See* A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES, § 5:44 (2010) [hereinafter LAW OF WATER RIGHTS AND RESOURCES].

23. *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 12–13 (8th ed. 2011) ("Utility" refers to wealth, happiness, and welfare in both monetizable and non-monetizable metrics); *see also* Lloyd R. Cohen, *The Public Trust Doctrine: An Economic Perspective*, 29 CAL. W. L. REV. 239, 255 (1992).

24. *See A Dozen Propositions, supra* note 14, at 298 (emphasizing the importance of balancing public and private "rights" to "maximize the value of *the sum of private and public resources*."); *see also* NAT'L RESEARCH COUNCIL, WATER SCIENCE AND TECHNOLOGY BOARD, VALUING GROUNDWATER, 61–65 (1997) (discussing the difficulty and importance of calculating values for groundwater and presenting valuation methods); DIANA GIBBONS, THE ECONOMIC VALUE OF WATER 65–71 (1986) (discussing the empirical evidence of the economic rationale for inclusion of instream values in water use decisions).

25. *See* POSNER, *supra* note 23, at 66.

propriate limitations must, of course, bind utilitarian goals.[26] Most notably, utilitarian goals must respect the settled and reasonable expectations of individuals and the public concerning the operation of the law.[27]

These competing policy priorities require a mature and impartial analysis. Implicated policy issues include: (i) how to properly define property interests in water; (ii) when and how to apply regulatory oversight; and (iii) how to properly distribute the burdens of regulation among competing water users. The development of specific water management laws and institutions compels a careful consideration of these fundamental policy inquiries. By contrast, legislative adoption of the public trust doctrine as a water management principle evades this necessary analysis; it introduces undue ambiguity as regulators and courts seek to discern the legislature's intent in legislating a legal fiction that the judiciary fashioned to address legal deficiencies in a past legal era.[28]

This article explores these issues in five parts. Part II discusses the development of the public trust doctrine, including its selective application to water management. Part III considers the policy underpinnings of modern water management as a context for evaluating proposals advocating a broader application of the public trust doctrine to water resource management. Part IV discusses why the public trust doctrine is neither necessary to achieve balanced water management, nor to modify existing allocations to adapt to changing circumstances. Notably, Part IV also explains that the public trust doctrine is not needed to protect reasonable water management laws from Fifth Amendment takings claims, nor will the doctrine provide a defense from takings liability where such liability is otherwise justified. Part V examines why application of the doctrine to water management may impede efforts to establish a coherent and balanced body of water management laws. Finally, Part VI concludes with a brief discussion of how states may approach water management strategies to balance public and private interests in a legally-defensible manner.

II. DEVELOPMENT OF THE PUBLIC TRUST DOCTRINE

The scope of the public trust doctrine's application is vague.[29] Advocates champion the doctrine's amorphous character,[30] which has been described as

26. *See* POSNER, *supra* note 23, at 16–20,, 42, 63–66 (examining moral and practical limitations of efficiency, utility, and utilitarian theories and arguing that the economic concepts of efficiency and utility are vulnerable on the grounds of, *inter alia*, moral injustices stemming from wealth inequality, impacts to personal liberties and autonomy, and costs on voluntary transactions).

27. *See* Joseph L. Sax, *Liberating the Public Trust Doctrine From Its Historical Shackles*, 14 U.C. DAVIS L. REV. 185, 186–189 (1980) [hereinafter *Liberating the Public Trust Doctrine*].

28. *See* Lazarus, *supra* note 11, at 692 (discussing the evolution of natural resources law to balance competing private and social goals and explaining that the public trust doctrine's reliance on notions of property law and trusts threatens to undermine the law's development in this respect).

29. *See* Carol M. Rose, *Joseph Sax and the Idea of the Public Trust*, 25 ECOLOGY L.Q. 351, 359 (1998) [hereinafter *Sax and the Idea of the Public Trust*] ("cases and commentators on the public trust have been uncomfortably vague about its reach.").

30. *See Public Property and the Democratization of Western Water Law*, *supra* note 1, at 575 (noting that one of the reasons for the popularity of the public trust doctrine is that it some-

"amphibious," indicative of its modern expansion in some instances to resources beyond navigable waters,[31] or "androgynous" and "chameleon-like," to characterize the vast diversity of remedies it may provide.[32] At its core, the doctrine is a legal fiction the courts created to justify enhanced judicial scrutiny of governmental transactions involving common and shared resources, and "to avoid judicially perceived limitations or consequences of existing rules of law."[33]

Historically, the public trust doctrine principally protected *public access* to navigable surface waters for a limited set of public purposes (e.g., navigation, commerce, and fishing).[34] More recent decisions in some jurisdictions have broadened the doctrine's application to an expanded set of public interests, including environmental protection and resource conservation, which may effectively *prevent* public access in some instances.[35] Such expansion of the doctrine's scope differs substantially among the states.[36]

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times seems to be all things to all people); Ralph W. Johnson et al., *The Public Trust Doctrine and Coastal Zone Management in Washington State*, 67 WASH. L. REV. 521, 526–27 (1992) (discussing purported benefits of the doctrine's flexibility in application).

31. *See* Scott W. Reed, *The Public Trust Doctrine: Is It Amphibious?*, 1 J. ENVTL. L. & LITIG. 107, 116 (1986).

32. *Public Property and the Democratization of Western Water Law*, *supra* note 1, at 575, 579 (arguing that the "chief characteristic of the doctrine is not so much the resources to which it attaches or the scope of uses it favors, but the diversity of remedies it provides to resolve resource conflicts").

33. Lazarus, *supra* note 12, at 656.

34. *See* Cohen, *supra* note 23, at, 254; Patrick Deveney, *Title, Jus Publicum, and the Public Trust: An Historical Analysis*, 1 SEA GRANT L. J. 13, 41, 52–53 (1976); *see also* Molly Selvin, *The Public Trust Doctrine in American Law and Economic Policy, 1789–1920*, 1980 WIS. L. REV. 1403, 1408 (1980); *The Headwaters of the Public Trust*, *supra* note 1, at 428–30; *Speaking of Inconvenient Truths*, *supra* note 1, at 19–20.

35. *See* Robin Kundis Craig, *A Comparative Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries*, 16 PENN ST. ENVTL. L. REV. 1, 17–24 (2007) [hereinafter *A Comparative Guide to the Eastern Public Trust Doctrines*] (discussing the evolution of the public trust doctrine in the East from the "federal public trust doctrine" centered on the protection of navigation, commerce, and fishing in navigable waters to state articulations that promote an expanded set of public uses and interests); Robin Kundis Craig, *A Comparative Guide to the Western States' Public Trust Doctrines: Public Values, Private Rights, and the Evolution Toward an Ecological Public Trust*, 37 ECOLOGY L.Q. 53, 80–91 (2010) [hereinafter *A Comparative Guide to the Western States' Public Trust Doctrine*] (discussing the emergence of an ecological public trust doctrine in California and Hawaii, and to a lesser extent in other western states); *see also* William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 387 n.2 (1997) [hereinafter *Democracy, Distrust, and the Public Trust*] (discussing doctrine as a source of judicial authority to supervise and limit natural resource use).

36. *See generally A Comparative Guide to the Eastern Public Trust Doctrines*, *supra* note 35, at 30–43, *with A Comparative Guide to the Western States' Public Trust Doctrine*, *supra* note 35, at 76, 188–96.

A. THE NOTION OF PUBLIC WATER

The common law originally classified natural waters as *res nullius*—property of none—or *res communes*—property of all.[37] The *res communes* principle originated from the Institutes of Justinian, which declared: "[B]y natural law these things are common to all mankind: air, running water, the sea, and as a consequence the shores of the sea."[38] Open access to natural waters was, of course, essential to economic activity when navigable waters were the primary means of transport of goods and people.[39] The French civil code, Spanish civil law, and the English common law each perpetuated the characterization of natural waters as a common and public resource.[40] This notion ultimately evolved to treat navigable water resources as *publici juris*, public property held in trust by the state for the public's benefit.[41]

B. THE TRADITIONAL PUBLIC TRUST DOCTRINE

The public trust doctrine is founded on this characterization of water as *publici juris.* As the doctrine developed through English and ultimately American common law, courts applied it to proscribe public divestment of the beds and shorelines of tidal–and later navigable–waters in a manner inconsistent with the public's right of access for traditional public uses such as navigation, commerce, and fishing.[42] The doctrine effectively imposed a public easement on all private rights held in navigable waters, whereby any activity impairing traditional public uses of a navigable waterway was subject to abatement or

37. Sullivan v. Richardson, 14 So. 692, 709 (Fla. 1894); Baker v. Ore-Ida Foods, Inc., 513 P.2d 627, 631 (Idaho 1973); Walbridge v. Robinson, 125 P. 812, 814 (Idaho 1912); *see also Government Ownership, supra* note 18, at 640.

38. Rock Creek Ditch & Flume Co. v. Miller, 17 P.2d 1074, 1076 (Mont. 1933).

39. *See* Cohen, *supra* note 23, at, 254; *see also Comedy of the Commons, supra* note 12, at 753–54, 772–74.

40. *See* Lazarus, *supra* note 12, at 634–35.

41. *E.g.*, Cal. Or. Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 163–64 (1935).

42. *See* Phillips Petroleum Co. v. Mississippi, 484 U.S. 469, 483–84 (1988) (refusing to adopt a position denying the state an ability to retain fishing, hunting, and bathing rights for the public); Shively v. Bowbly, 152 U.S. 1, 11–14 (1894) (explaining similarities and differences between English and American conceptions of the doctrine); Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 463–64 (1892) (holding that grant of harbor and lakefront to a railroad company was invalid insofar as the state had abdicated its trust over lands beneath navigable waters and to allow such conveyance is inconsistent with state's obligation to preserve such water for public use); Barney v. Keokuk, 94 U.S. 324, 338 (1876) (as traditionally applied in the United States, the doctrine embodied federal and state components; the federal navigation servitude granted the federal government paramount control over commerce in interstate navigable waters, while the states maintained sovereign ownership of the beds of navigable waters within their respective borders); *see also* Lazarus, *supra* note 12, at 636–37 (noting that the doctrine recognized three types of interests in navigable waters and submerged lands: the *jus publicum*, the common right of the public for unobstructed use of trust lands and waters for traditional trust purposes; the *jus privatum*, referring to private interests to use and possess trusts lands and waters that remain subject to the public rights vested in the public under the *jus publicum*; and the *jus regium*, the sovereign's powers to regulate navigable waters and submerged lands on behalf of the public); *Speaking of Inconvenient Truths, supra,* note 1, at 93–94 (noting the extension of the trust from tidelands to navigable waters was a product of American common law).

removal.[43] Although states differ both as to what constitutes navigable waters and what public uses the trust protects, the principal purpose of the traditional doctrine has remained to preserve public access to navigable waters and their shores.[44]

The seminal case defining the traditional public trust doctrine in the United States is *Illinois Central Railroad v. Illinois.*[45] In that case, the United States Supreme Court held that there was no unconstitutional impairment of contract when the Illinois legislature repealed a prior grant to the railroad of a substantial portion of the Chicago lakefront and harbor because the state's title to the harbor and its shores was subject to the public trust.[46] The court concluded that any grant of trust property to a private entity was necessarily revocable, explaining that "the State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties, . . . than it can abdicate its police powers in the administration of government and the preservation of the peace."[47] The core principle emanating from *Illinois Central* and other traditional public trust cases is that public rights to access navigable waters and their shores for trust purposes shall be preserved.[48]

C. THE ECOLOGICAL PUBLIC TRUST DOCTRINE

Concurrent with the rise of the modern environmental movement in the early 1970s, environmental advocates, notably Professor Joseph Sax, began promoting a broader application of the public trust doctrine that would extend its geographic reach beyond navigable waters and expand the scope of protected trust values to include ecological, aesthetic, and recreational values, as well as other aspects of resource conservation.[49] Sax argued that the doctrine could be used as a legal basis for "effective judicial intervention" to protect natural resources and attendant environmental values.[50] His argument was effectively a

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43. *See Speaking of Inconvenient Truths, supra* note 1, at 94, 97–98.

44. *Ill. Cent.*, 146 U.S. at 452–53; *compare* CWC Fisheries, Inc. v. Bunker, 755 P.2d 1115, 1121 (Alaska 1988); City of Berkeley v. Super. Ct., 606 P.2d 362, 373–74 (Cal. 1980), *cert. denied*, 449 U.S. 840 (1980); Marks v. Whitney, 491 P.2d 374, 380–81 (Cal. 1971); Idaho Forest Indus. v. Hayden Lake Watershed Improvement Dist., 733 P.2d 733, 737 (Idaho 1987); Mont. Coal. for Stream Access v. Curran, 682 P.2d 163, 170–72 (Mont. 1984); Mont. Coal. for Stream Access v. Hildreth, 684 P.2d 1088, 1092 (Mont. 1984); Arnold v. Mundy, 6 N.J.L. 1, 71 (N.J. 1821); Caminiti v. Boyle, 732 P.2d 989, 994 (Wash. 1987), *cert. denied*, 108 S. Ct. 703 (1988); *see also The Headwaters of the Public Trust, supra* note 1, at 462–63.

45. *Ill. Cent.*, 146 U.S. 387.

46. *Id.* at 452.

47. *Id.* at 453.

48. *See* Lazarus, *supra* note 12, at 637–40.

49. Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 556–57 (1970) [hereinafter *Effective Judicial Intervention*].

50. *Id.* at 474, 555–58 (asserting that the public trust doctrine could be "useful as a tool of general application for citizens seeking to develop a comprehensive legal approach to resource management problems"); *see also* Lazarus, *supra* note 12, at 642 (characterizing Sax's assertions as an argument that the doctrine contains at least three potential characteristics essential for the development of an effective legal basis for environmental protection: (1) a legal right vested in

"natural law" theory, asserting that certain public interests are "so intrinsically important to every citizen that their free availability tends to mark the society as one of citizens rather than of serfs."[51] In select cases, the courts have applied the trust doctrine expansively to further ecological interests.[52] However, as we shall explain, in these cases the courts have principally ordered comprehensive *procedural* consideration of ecological interests by public decision makers, rather than commanding specific *substantive* results.[53]

The leading case for the "ecological" public trust doctrine is *National Audubon Society v. Superior Court.*[54] In that case, the California Supreme Court held that the public trust doctrine imposed an affirmative duty on the state water board to reconsider the effect of permitted water withdrawals by the City of Los Angeles's Department of Water and Power ("DWP") from non-navigable streams in the Sierra Nevada Mountains, withdrawls that significantly reduced inflow into Mono Lake.[55] The reduced inflow caused the lake level to recede, thereby impairing the lake's environmental, scenic, and recreational assets.[56] Although the state issued licenses to DWP in 1940, authorizing DWP to make withdrawals, DWP did not utilize these licenses until the late 1960s.[57] Although the court recognized that it could have resolved the conflict on other legal grounds,[58] the plaintiffs' claims rested on the public trust doctrine.[59] The case thus presented a conflict between the public trust doctrine and California's appropriative water rights system, a conflict that the court described as "the two systems of legal thought . . . on a collision course."[60]

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the public, (2) enforceable against the government, and (3) capable of interpretation consistent with contemporary environmental concerns).

51. *Effective Judicial Intervention, supra* note 49, at 484 (citing Martin v. Waddell's Lessee, 41 U.S. 367, 414 (1842)).

52. *See, e.g.,* Nat'l Audubon Soc'y v. Super. Ct., 658 P.2d 709 (Cal. 1983) (applying the public trust doctrine to require state water board to consider reductions of authorized withdrawals), *cert. denied sub nom.* City of Los Angeles Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983); Kelly v. 1250 Oceanside Partners, 140 P.3d 985 (Haw. 2006) (holding that the public trust imposes on the state an affirmative duty to protect trust resources from pollution); *In re* Water Use Permit Applications, 9 P.3d 409 (Haw. 2000) (applying the public trust doctrine to management of surface water and groundwater withdrawals and impoundments); Selkirk-Priest Basin Ass'n v. Idaho, 899 P.2d 949, 953–55 (Idaho 1995) (overturning summary judgment on grounds that public trust doctrine conferred standing to an environmental group to challenge a timber sale on state forest lands based on possible impacts to ecology of navigable stream); United Plainsmen Ass'n v. N.D. State Water Conservation Comm'n, 247 N.W.2d 457, 463 (N.D. 1976) (holding that the public trust doctrine requires evidence of planning by appropriate state agencies with respect to allocation of water rights); Lake Beulah Mgmt. Dist. v. Wis. DNR, 335 Wis. 2d 47 (2011) (requiring consideration of environmental harm to waters of the state when reviewing a permit application for a high capacity groundwater well); *see also* Lazarus, *supra* note 12, at 647–52.

53. *See* discussion *infra* Part II.D.

54. *Nat'l Audubon Soc'y*, 658 P.2d at 719.

55. *Id.* at 728–29.

56. *Id.* at 711.

57. *Id.*

58. *See id.* at 728, n. 28.

59. *Id.* at 712.

60. *Id.* ("[t]his case brings together for the first time two systems of legal thought: the appropriative water rights system. . . and the public trust. . . . Ever since we first recognized that the

DWP argued that the appropriative water rights system subsumed the public trust doctrine, and, by virtue of its state-granted licenses, it enjoyed a vested right in perpetuity to take water without concern for the consequences to the lake's ecology.[61] The court rejected this defense, explaining that possession of existing water rights did not preclude a later reconsideration and reallocation to mitigate ecological impacts.[62]

The *National Audubon* opinion expanded the public trust doctrine in several key ways. First, it recognized that the public trust doctrine evolves with the changing public perception of the values and uses of waterways.[63] In this respect, the court found that the scope of protection afforded by the trust includes ecological, scenic, and recreational purposes.[64] Second, the opinion extended the geographic reach of the doctrine to include withdrawals from non-navigable tributaries that affect navigable waters.[65] Third, the court emphasized that water rights remain subject to the public trust and the state's continuing supervisorial duty under the trust.[66] Fourth, the court explained that the state has an affirmative duty to take the public trust into account and protect public trust uses whenever feasible, both when initially planning and allocating water resources and continually thereafter through the supervision of existing and ongoing withdrawals.[67] Finally, the court emphasized that "[i]n exercising its sovereign power to allocate water resources in the public interest, the state is not confined by past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs."[68]

Several other California opinions followed *National Audubon* and affirmed the public trust doctrine's broader ecological application in cases affecting water management.[69] Courts in several other states have similarly applied, or alluded to a willingness to apply, the doctrine to the withdrawal and use of

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public trust protects environmental and recreational values the two systems of legal thought have been on a collision course.") (citing Marks v. Whitney, 491 P.2d 374 (1971); Ralph Johnson, *Public Trust Protection for Stream Flows and Lake Levels*, 14 U.C. DAVIS L. REV. 233 (1980)).

61. *Nat'l Audubon Soc'y*, 658 P.2d at 727.

62. *Id.* at 728–29.

63. *Id.* at 719.

64. *Id.* ("The principal values plaintiffs seek to protect, however, are recreational and ecological—the scenic views of the lake and its shore, the purity of the air, and the use of the lake for nesting and feeding by birds. Under *Marks v. Whitney* it is clear that protection of these values is among the purposes of the public trust.") (internal citations omitted).

65. *Id.* at 721. The court refrained from determining whether the public trust extends to protection of fishing, environmental values, and recreation interests in non-navigable streams. *Id.* at 721 n. 19.

66. *Id.* at 727–28.

67. *Id.* at 728.

68. *Id.* at 728.

69. *See, e.g.,* Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d 588, 601 (Ct. App. 2008) (extending the public trust doctrine to wildlife); United States v. State Water Res. Control Bd., 227 Cal. Rptr. 161, 201-02 (Ct. App. 1986) (holding that the public trust doctrine empowers the state to modify both federal and state appropriative permits and riparian rights to meet state salinity and other water quality standards in the Sacramento-San Joaquin Delta).

water. These states include Hawaii,[70] North Dakota,[71] South Dakota,[72] Utah,[73] and Wisconsin.[74] Notably, the Hawaii Supreme Court has strongly embraced the doctrine, holding that the public trust reinforces existing statutory duties to protect natural water bodies and may impose additional instream flow requirements and resource conservation duties on the state.[75]

The states have differed as to whether the doctrine applies to nonnavigable surface waters and groundwater. Hawaii, Vermont, and New Hampshire specifically apply the doctrine to groundwater, fully removing the navigability restriction inherent in the traditional doctrine.[76] Although California has not extended the doctrine to groundwater,[77] *National Audubon* required the state to consider the impacts to navigable water bodies stemming from withdrawals of water from tributary nonnavigable streams.[78] That reasoning could imply that the public trust doctrine might extend to groundwater extractions that adversely impact navigable waters. Other state courts have ruled that the public trust doctrine does not apply to groundwater.[79] Additionally, a ballot initiative

70. *See In re* Water Use Permit Applications, 9 P.3d 409, 453 (Haw. 2000) ("Under the public trust, the state has both the authority and duty to preserve the rights of present and future generations in the waters of the state.").

71. *See* United Plainsmen Ass'n v. N.D. State Water Conservation Comm'n, 247 N.W.2d 457, 463 (N.D. 1976) ("[T]he Public Trust Doctrine requires, as a minimum, evidence of some planning by appropriate state agencies and officers in the allocation of public water resources" and "permits alienation and allocation of precious state resources only after an analysis of present supply and future need.").

72. *See* Parks v. Cooper, 676 N.W.2d 823, 835 (S.D. 2004) (citing *United Plainsmen*, 247 N.W.2d at 463, with approval for the proposition that the public trust doctrine requires a state to undertake public planning before it grants permits for appropriation of water).

73. *See* J.J.N.P. Co. v. Div. of Wildlife Res., 655 P.2d 1133, 1136 (Utah 1982) ("The State regulates the use of water, in effect, as trustee for the benefit of the people").

74. *See* Lake Beulah Mgmt. Dist. v. Wis. DNR., 799 N.W.2d 73, 75 (Wis. 2011) (requiring consideration of potential environmental harm in reviewing an application for a high capacity groundwater well).

75. *See, e.g.,* Kelly v. 1250 Oceanside Partners, 140 P.3d 985, 1003 (Haw. 2006); *In re* Wai'ola O Moloka'i, Inc., 83 P.3d 664, 684 (Haw. 2004); *In re* Water Use Permit Applications, 9 P.3d at 466–67 (explaining that the state must apply a "precautionary principle" in protecting water resources); *see also* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, at § 5:57 (summarizing the Hawaii Supreme Court's pronouncements concerning the application of the public trust doctrine to the conservation of surface water and groundwater within the state).

76. *See* N.H REV. STAT. ANN. § 481:1 (2011); VT. STAT. ANN. tit. 10, § 1390 (2011); *Wai'ola O Moloka'i, Inc.*, 83 P.3d at 668. Legislatures in Michigan and Maine introduced bills recognizing the public trust doctrine's application to groundwater but ultimately did not enact either piece of legislation. *See* H.R. 5319, 95th Leg. (Mich. 2009); H.R. 886, 124th Leg. (Me. 2009).

77. Santa Teresa Citizen Action Group v. City of San Jose, 7 Cal. Rptr. 3d 868, 884 (Ct. App. 2003) (noting that the public trust doctrine has no direct application to groundwater sources).

78. Nat'l Audubon Soc'y v. Super. Ct., 658 P.2d 709, 721 (Cal. 1983), *cert. denied sub nom.* Los Angeles Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983).

79. *See* Mich. Citizens for Water Conservation v. Nestle Waters N. Am., Inc., 709 N.W.2d 174, 221–22 (Mich. Ct. App. 2005) (holding public trust doctrine does not apply to nonnavigable waters); Rettkowski v. State, 858 P.2d 232, 239 (Wash. 1993) (noting the court has never held extended the public trust doctrine to non-navigable waters or groundwater).

in Ohio amended the state constitution to provide that groundwater and non-navigable waters "shall not be held in trust by any governmental body."[80]

D. REQUIREMENTS OF THE ECOLOGICAL PUBLIC TRUST IN THE WATER MANAGEMENT CONTEXT

An important difference between the new "ecological" public trust cases and the traditional "public access" cases is the nature of the duty each imposes on the government and the judicial remedies the doctrine may afford. The traditional cases protecting public access to trust resources applied *substantive* restrictions on activities—private or governmental—in navigable waters that impaired public access to navigable waters.[81] By contrast, the ecological-based cases have largely avoided substantive commands; instead, the cases have principally imposed *procedural* remedies, insisting on consideration and protection of public values, including ecological and other instream interests, to the extent feasible.[82]

The standard articulated in *National Audubon*—consideration and protection of trust values "*whenever feasible*"[83]—reflects the need to balance instream interests with consumptive needs.[84] Feasibility, however, is not an absolute standard requiring protection of trust resources whenever technically possible; rather it is a reasonableness standard requiring a determination of whether protection of instream values is feasible in relation to competing social priori-

80. OHIO CONST. art. I, §19(b)(E) (2008).

81. *See, e.g., In re* Crawford County Levee & Drainage Dist. No. 1, 196 N.W. 874 (Wis. 1924) (holding that the state did not have power to change navigable waters into agricultural fields no matter how great the public benefits of doing so); Priewe v. Wis. State Land and Improvement Co., 67 N.W. 918 (Wis. 1896) (overturning state legislature's grant to a private party of title to a lake bed and permission to drain the lake despite a legislative finding that drainage was required for public health). Professor Lazarus summarized three types of traditional public trust cases: (1) those that require that the challenged governmental action satisfy a public trust purpose; (2) those that require that the disputed action occur only after consideration of any adverse impact on the trust resource, and then only if such impact is either minimal or necessary; and (3) those that require specific legislative authorization for executive branch agency decisions. Lazarus, *supra* note 12, at 651–55. The general rule emanating from the traditional cases was that the use of trust property (e.g., navigable waters and their shores) was limited to public trust purposes (e.g., navigation, commerce, or fishing). *Effective Judicial Intervention*, *supra* note 49, at 477. Court may allow defeasances of trust resources to private ownership, but only to promote the natural uses the people traditionally made of the property. *Id.* at 486–89. For example, Professor Sax explained that the doctrine could allow a private owner to build a dock on a navigable waterway such as the San Francisco Bay, but not fill the bay for trash disposal or a housing project. *Id.* at 477.

82. *See Public Property and the Democratization of Western Water Law*, *supra* note 1, at 590–97 (arguing that recent ecological public trust cases require "fairness and 'reasoned decision-making' from administrators, rather than particular substantive results").

83. *Nat'l Audubon Soc'y*, 658 P.2d at 728.

84. *See id.* (holding that the state must "preserve, so far as consistent with the public interest, the uses protected by the trust"); *see also In re* Water Use Permit Applications, 9 P.3d 409, 453, 453 (Haw. 2000) (noting that the state's duty to consider the public trust "may not readily translate into substantive results," and that "reason and necessity dictate that the public trust may have to accommodate off-stream diversions inconsistent with the mandate of protection, to the unavoidable impairment of public instream uses and values").

ties.[85] Accordingly, the public trust doctrine should not prohibit private uses of water resources that impose reasonable burdens on common public values. Rather, the doctrine imposes an affirmative duty on the government to perform a thorough, fair, and deliberate "hard look" at those values, and to protect them whenever feasible.[86] This standard is similar to the procedural requirements of many environmental review statues (e.g., the National Environmental Policy Act,[87] the California Environmental Quality Act,[88] or the New York State Environmental Quality Review Act[89]), which require public agencies to demonstrate comprehensive consideration of the environmental impacts of

85. *See Nat'l Audubon Soc'y*, 658 P.2d at 728 ("[a]s a matter of practical necessity the state may have to approve appropriations despite foreseeable harm to public trust uses"); *see also* State Water Res. Control Bd. Cases, 39 Cal. Rptr. 3d 189, 272 (Ct. App. 2006) (public trust does not require that state resolve conflicts in favor of public trust values "whenever possible" because determination as to feasibility is a matter for the state to decide); Michael C. Blumm, *The Public Trust Doctrine and Private Property: The Accommodation Principle*, 27 PACE ENVTL. L. REV. 649, 666 (2010) [hereinafter *The Public Trust Doctrine and Private Property*] (arguing that although the public trust doctrine has had a transformative effect on private property rights in trust resources to accommodate the protection of public rights, the doctrine has not eliminated private property rights); Barton H. Thompson, *The Public Trust Doctrin: A Conservative Reconstruction & Defense*, 15 SOUTHEASTERN ENVTL. L.J. 47, 61 (2006) (discussing the California Supreme Court's opinion in *Nat'l Audubon Soc'y* as a balancing of private interests inherent in the prior appropriation doctrine with the public interests reflected in the public trust doctrine); *Effective Judicial Intervention, supra* note 49, at 559–60 (explaining that the judicial role is not to impose substantive results or usurp legislative or administrative discretion, but rather to ensure a truly democratic and representative decision-making process); *but see* discussion *infra* Part V.C, reviewing efforts by some advocates to cast the public trust doctrine as a substantive rather than procedural standard, including the prohibition of particular uses of water.

86. *Public Property and the Democratization of Western Water Law, supra* note 1, at 589–94 (citing Greater Boston Television Corp. v. F.C.C., 444 F.2d 841, 851 (D.C. Cir. 1970); Envtl. Def. Fund v. Ruckelshaus, 439 F.2d 584, 597–98 (D.C. Cir. 1971)). Sax also framed the public trust doctrine as a common-law form of the "hard-look" doctrine, and argued that the doctrine compels public bodies to take note of, and properly respond to, shifts in public interest while also closely scrutinizing government actions to privatize natural resources. *See Effective Judicial Intervention, supra* note 49, at 560–63; *see also Sax and the Idea of the Public Trust*, *supra* note 29, at 355.

87. 42 U.S.C. §§ 4331– 4375 (West 2006); Baltimore Gas & Elec. v. Nat. Res. Defense Council, 462 U.S. 87, 97 (1983) ("Congress in enacting NEPA . . . required only that the agency take a 'hard look' at the environmental consequences before taking a major action.") (citations omitted).

88. CAL. PUB. RES. CODE §§ 21000–21177 (West 2011) [hereinafter CEQA]; *Public Property and the Democratization of Western Water Law, supra* note 1, at 591 (stating that the public trust doctrine's mandate to consider adverse effects and to protect public uses where feasible in the ecological context is similar to the requirements of CEQA); *but see* Cynthia L. Koehler, *Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy*, 22 ECOLOGY L.Q. 541, 583–86 (arguing that the standard required by the public trust doctrine in the water management context is, in fact, substantive, rather than just procedural, and that the duty imposed by the doctrine is far more arduous than the requirements of CEQA).

89. N.Y. ENVTL. CONSERV. LAW §§ 8-0101 to 8-0117 (West 2011); Stewart Park & Reserve Coal., Inc. v. Slater, 352 F.3d 545, 558 (2d Cir. 2003) (noting the court's role "to review the record to determine if the agency identified the relevant areas of environmental concern, took a 'hard look' at them, and make a 'reasoned elaboration' of the basis for its determination.") (citations omitted).

an agency action and to undertake feasible mitigation efforts.[90] In the water management context, courts have typically afforded deference to legislative and regulatory decisions so long as there is sufficient evidence in the record to demonstrate comprehensive consideration of competing societal interests.[91]

III. THE GOAL IS BALANCED WATER MANAGEMENT

A. MANAGING WATER RESOURCES FOR THE "TRIPLE BOTTOM LINE"

To evaluate the public trust doctrine in the context of water management, it is necessary to define the desired policy goal. In our view, the goal of water management should be to maximize the social utility stemming from the resource by considering and balancing all social, economic, and environmental interests—the "triple bottom line." In doing so, water management must also protect reasonable public and private expectations developed under the applicable legal framework.

Professor Sax advocated the public trust doctrine as a means to protect legitimate, yet underrepresented, public values concerning natural resources against "rent seeking" by discrete pecuniary interest.[92] In other words, Sax promoted the public trust doctrine as a means to "balance the scales" by inserting common public interests that states might otherwise wrongly exclude

90. Review of federal agency decisions under the Federal Administrative Procedures Act is often also undertaken under a "hard look" standard of review. *See, e.g., Greater Boston Television Corp.*, 444 F.2d at 851 (supervisory function of the court calls for intervention if the court "becomes aware . . . that the agency has not really taken a 'hard look' at the salient problems.") Hard look analysis is particularly required when an agency decision "touches on fundamental personal interests in life, health, and liberty." *Envtl. Def. Fund*, 439 F.2d at 598.

91. *See e.g.,* Casitas Municipal Water Dist. v. United States, 102 Fed. Cl. 443, 459 (2011) (noting "[i]mplementation of the public trust doctrine requires not only the balancing of the various public trust values, but also the weighing of those values against other, broader public interests"); Big Bear Mun. Water Dist. v. Bear Valley Mut. Water Co., 254 Cal. Rptr. 757, 767 (Ct. App. 1989) (refusing to apply the public trust doctrine to modify a water management plan to enhance environmental values because "a responsible body did weigh and consider the public trust uses of the lake"); Golden Feather Community Ass'n v. Thermalito Irrigation Dist., 257 Cal. Rptr. 836, 840 (Ct. App. 1989) (noting the state's power to accommodate different water demands and refusing to require the state to elevate fishery protection as an absolute priority over other uses of water); *see also Democracy, Distrust, and the Public Trust, supra* note 35, at 452 ("Because resource decision making is inherently a technical process that requires the balancing of competing goals, judicial enforcement of these constitutional provisions must refrain from second-guessing those value balances. Instead, courts must restrict themselves to ensuring that the government understood and implemented the polity's concern with environmental conservation"); Thompson, *supra* note 85, at 69 ("[T]he public trust doctrine should not override democratic decisions regarding trust assets. To the contrary, courts should employ the public trust doctrine to affirm and preserve the authority of the legislative and executive branches over trust assets.").

92. *See Liberating the Public Trust Doctrine*, *supra* note 27, at 186–89; *Public Property and the Democratization of Western Water Law, supra* note 1, at 582, 590; *Joseph Sax and the Idea of the Public Trust*, *supra* note 29, at 357–58; *Effective Judicial Intervention*, *supra* note 49, at 473–74.

from resource management decisions.[93] Sax's premise was understandable in 1970, when he published his seminal public trust article given the emerging public recognition of environmental exploitation and the relative deficiency of laws to protect public interests in natural resources as compared to the present.[94] However, as social perceptions have evolved, the policy "pendulum" has swung meaningfully to vindicate Sax's goals. The federal and state governments have adopted laws to protect environmental values, including those intended to foster balanced water management and the protection of broader public values respecting the resource.[95] As we explain below, such substantive laws are better suited than the public trust doctrine to balance competing environmental, social, and economic interests.[96]

B. PROTECTING REASONABLE PUBLIC AND PRIVATE EXPECTATIONS

As with other natural resources, appropriate protection of reasonable expectations, both public and private, is essential to a balanced and efficient water management policy. As Sax explains, "[t]he essence of property law is respect for reasonable expectations. The idea of justice at the root of private property protection calls for identification of those expectations which the legal system ought to recognize."[97] Sax advocated an ecological application of the public trust doctrine as a means to infuse consideration of legitimate, yet diffuse, public expectations into the legal system.[98]

Professor Sax correctly advocated for mutual consideration of reasonable public and private expectations in the management of natural resources. Applied to water management, we offer the following observations. First, specific circumstances naturally influence expectations. For instance, a comparatively minor withdrawal that is unlikely to adversely affect public interests may warrant less scrutiny than larger withdrawals. Second, water management must be sufficiently adaptable to accommodate evolving social norms and new technical and scientific understanding.[99] Third, this need for adaptability must be counterbalanced against the desire for legal certainty on which planning and investments can rely.[100] Last, effective water management policy requires consideration of the "distribution" of regulatory burdens among competing water users when assessing the reasonableness of private expectations in relation to

93. *See Effective Judicial Intervention*, *supra* note 49, at 557–65; *see also Democracy, Distrust, and the Public Trust*, *supra* note 35, at 433 ("Despite the technocratic flavor of his comments, the general thrust of Sax's analysis remains toward politics, that is, political ordering, choices, and access. For Sax, a major goal of the doctrine is to 'equalize' the political playing field in order to ensure that pro-trust interests be able to attempt to influence the decision makers.").

94. *See Effective Judicial Intervention*, *supra* note 49, at 473–74.

95. *See* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, at § 5:57.

96. *See infra* Parts IV and V.

97. *Liberating the Public Trust Doctrine*, *supra* note 27, at 186–87 (citing Frank I. Michaelman, *Property, Utility and Fairness: Comments on the Ethical Foundation of "Just Compensation" Law*, 80 HARV. L. REV. 1165 (1967)).

98. Sax, *Liberating the Public Trust Doctrine*, *supra* note 27, at 186–89.

99. *See infra* note 106, and general discussion *infra* Parts IV.A and IV.F.

100. *See discussion infra notes 103, 104, and 105 and accompanying text.*

water management.[101] In fact, whether a water regulation will withstand a constitutional attack is likely to depend, in large part, upon whether it distributes regulatory burdens in a manner consistent with reasonable private expectations relying on the state's underlying framework of water laws.[102]

A central tension underlying many water management issues is the competing policy priorities of legal certainty on one hand and adaptable management on the other. Legal certainty in the reliability of water supplies is important because it streamlines water management and promotes investment in the resource, including voluntary efficiency upgrades and reallocations of water from lower to higher-valued uses.[103] Conversely, uncertainty can deter socially-valuable investments in the resource.[104] Sufficient legal certainty is also necessary to support voluntary water transfers, including voluntary reallocations of water from consumptive to instream uses.[105]

Absolute legal certainty (i.e., guaranteed protection of existing allocations), on the other hand, is neither practical nor efficient.[106] The quest for legal certainty cannot come at the expense of the inherent need to adapt and modify water allocations over time to address changing circumstances, evolving societal goals, and technical understanding.[107] Private individuals must reasonably

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101. *See* Dan Tarlock, *The Creation of New Risk Sharing Water Entitlement Regimes: The Case of the Truckee-Carson Settlement*, 25 ECOLOGY L.Q. 674, 688–90 (1995) [hereinafter *Creation of New Risk Sharing Water Entitlement Regimes*] (describing water rights as a system of risk allocation among competing users).

102. *See* infra Parts IV.F and IV.G.

103. *See* Arizona v. California, 460 U.S. 605, 620 (1983) (the "doctrine of prior appropriation, the prevailing law in the Western States, is itself largely a product of the compelling need for certainty in the holding and use of water rights"); *see also Changing Conceptions*, *supra* note 12, at 702 ("Undoubtedly, the most difficult problem facing environmental and natural resources law is to reestablish some level of certainty and security in private interests in natural resources"); Legal certainty is important in many facets of water management including procedures for acquisition of rights, relations among users and between users and instream interests, assumption of reductions under shortage conditions, and administrative procedures necessary to modify management decisions and to resolve conflicts. POSNER, *supra* note 23, at 68–69; *A Dozen Propositions, supra* note 14, at 268.

104. *See, e.g., In re Determination of Rights to Waters of Long Valley Creek*, 599 P.2d at 666 ("Uncertainty concerning the rights of water users has pernicious effects. Initially, it inhibits long range planning and investment for the development and use of waters in a stream system. . . . Uncertainty also fosters recurrent, costly and piecemeal litigation. . .") (citations omitted).

105. Brian E. Gray, *The Shape of Things to Come: A Model Water Transfer Act for California*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 623, 624, 638, 657 (2008).

106. *See* POSNER, *supra* note 23, at 68 ("Economic theory implies that property rights will be redefined from time to time as the relative values of different uses of land [or in our case water] change."). Although Posner notes the importance of legal certainty to promote investment and the potential disutility created by uncertainty on people who are risk adverse, he also acknowledges that "the amount and consequences of uncertainty are easily exaggerated." *Id.* at 69.

107. We should also acknowledge that optimal water management often requires *partial* sacrifice of important societal interests to accommodate other overriding interests as necessary to maximize overall public welfare. For instance, we may need to tolerate a use that is less than optimally efficient out of respect for water rights priorities and the legal certainty that the priority system affords. Conversely, we may need to sacrifice legal certainty to allow for reasonable and necessary adaptability of the management system.

temper their expectations to accommodate the necessity of adaptive management.

The law's distribution of regulatory burdens among competing water users provides a means to reconcile this tension between the competing goals of legal certainty and adaptability.[108] Water users shape their expectations based upon applicable water laws. Where the state fails to adhere to the legal framework—notably applicable water rights priorities—and thus, violates reasonably formed expectations, the state is legally vulnerable, including possible takings liability.[109] Conversely, distribution of regulatory burdens pursuant to a transparent water rights system will likely fare better under judicial scrutiny.[110] Where the state maintains and adheres to a clear and predictable water rights system, water users can rely on the legal framework to plan and invest in water-dependent enterprises despite water supply variability caused by natural conditions or adaptive management.[111] Thus, the water rights system can afford a significant degree of legal certainty while, nonetheless, maintaining flexibility to adjust total, system-wide allocations over time as necessary to accommodate public interests.

C. PRIVATE RIGHTS IN "PUBLIC" WATER

The law's characterization of property interests in water reflects a balancing of diverse public and private expectations concerning the resource. States have long deemed naturally-occurring water as "public" property.[112] In consistent fashion, many state constitutions and statutes declare water to be publicly or state-owned,[113] or held in trust by the state,[114] although states differ as to

108. *See* discussion *infra* Parts IV.F, VI.

109. *See* El Dorado Irrigation Dist. v. State Water Res. Control Bd., 48 Cal. Rptr. 468, 494 (Ct. App. 2006) (holding that state could not burden only a senior water right holder in contravention of water rights priority law without sufficient justification). Although the court decided this case pursuant to an administrative mandamus action, the same reasoning could apply in an inverse condemnation context. *See* discussion *infra* Part IV.G.

110. *See* MacDonald v. State, 722 P.2d 598, 599 (Mont. 1986) (upholding against takings claims a statutory change in the quantification format for state water rights from a flow-based regime to a total allowable diversion quantity even though the change resulted in a lower total allowable appropriation); Belle Fourche Irrigation Dist. v. Smiley, 204 N.W.2d 105, 107–08 (S.D. 1973) (upholding against takings claims the state's authority to limit the rights of riparian owners to domestic uses or to uses granted under state's statutory prior appropriation scheme); s*ee also* discussion *infra* Part IV.F.

111. For a defense of the prior appropriation doctrine against proposals for water management that rely on bureaucratic reallocation, *see* Frank J. Trelease, *The Model Water Code, the Wise Administrator, and the Goddam Bureaucrat*, 14 NAT. RESOURCES J. 207, 216 (1974); *see also infra* text accompanying notes 262–64.

112. *See supra* text accompanying notes 36–40.

113. *See, e.g.*, COLO. CONST. art. XVI, § 5 (property of the public); MONT. CONST. art. IX, § 3(3) (property of the state); WYO. CONST. art. VIII, § 1 (property of the state); CAL. WATER CODE § 102 (West 2013) (property of the people); IDAHO CODE ANN. § 42-101 (West 2013) (property of the state); S.D. CODIFIED LAWS § 46-1-3 (2013) (property of the people); UTAH CODE ANN. § 73-1-1 (West 2013) (property of the public).

114. *See, e.g.*, HAW. CONST. art. XI, § 1 ("held in trust by the State for the benefit of the people"); N.H. REV. STAT. ANN. § 271:20 (2013) ("held in trust by the state for public use"); TEX. WATER CODE ANN. § 11.0235(a) (West 2013) ("held in trust for the public").

who is the owner and what they own.[115] Each state also provides for the right to *use* water in the manner provided by state law, often in the same statutes characterizing water as publicly or state-owned.[116]

There is well-settled accord among the states that a water right, regardless of type, is a usufructuary right; a water right only conveys a right to *use* water on a recurring basis.[117] Usufructuary water rights are nonetheless property interests that afford rights to control, consume, earn income from, and, in many cases, transfer the entitlement.[118] Thus, as a species of property, the Constitution affords water rights protection from government expropriation.[119] Gov-

115. *Compare* COLO. CONST. art. XVI, § 5 ("every natural stream, not heretofore appropriated"), *with* MONT. CONST. art. IX, § 3(3) ("all surface, underground, flood, and atmospheric waters"), *and with* WYO. CONST. art. VIII, § 1 ("all natural streams, springs, lakes or other collections of still water"). *See also*, *Government Ownership*, *supra* note 18, at 642 (evaluating differences in statutory and constitutional treatment of water "ownership" among several states and explaining that "[i]f real differences were intended by the framers of these varying statements, the courts have failed to find them and have blurred the distinctions").

116. *See, e.g.*, ALASKA CONST. art. VIII, § 13 ("All surface and subsurface waters reserved to the people for common use . . . are subject to appropriation."); N. M. CONST. art. XVI, § 2 ("The unappropriated water of every natural stream, perennial or torrential, within the state of New Mexico, is hereby declared to belong to the public and to be subject to appropriation for beneficial use, in accordance with the laws of the state."); ARIZ. REV. STAT. ANN. § 45-141(A) (2013) (West) ("[W]aters of all sources . . . belong to the public and are subject to appropriation and beneficial use as provided in this chapter."); CAL. WATER CODE § 102 (West 2013) ("All water within the State is the property of the people of the State, but the right to the use of water may be acquired by appropriation in the manner provided by law."); WASH. REV. CODE ANN. § 90.03.010 (West 2013) ("[A]ll waters within the state belong to the public, and . . . shall be hereafter acquired only by appropriation for a beneficial use . . .").

117. *See, e.g.*, Turlock Irrigation Dist. v. Zanker, 45 Cal. Rptr. 3d 167, 170 n.2 (Ct. App. 2006) ("Water itself is not subject to ownership in California by private parties. Instead, a party can own the right to use water."); Vill. of Tequesta v. Jupiter Inlet Corp., 371 So. 2d 663, 667 (Fla. 1979) ("The right of the owner to ground water underlying his land is to the usufruct of the water and not to the water itself."); *In re* Application U-2, 413 N.W.2d 290, 298 (Neb. 1987) ("The protected right of landowners is the right to the use of groundwater, and does not reach the ownership of the water itself."); *see also* City of Denver v. Bayer, 2 P. 6, 7 (Colo. 1883); Knight v. Grimes, 127 N.W.2d 708, 711 (S.D. 1964).

118. United States v. State Water Res. Control Bd., 227 Cal. Rptr. 161, 168 (Cal. Ct. App. 1986) ("[O]nce rights to use water are acquired, they become vested property rights. As such, they cannot be infringed by others or taken by governmental action without due process and just compensation."); King v. White, 499 P.2d 585, 588 (Wyo. 1972) ("A water right is a 'property right of high order,' with 'none of the characteristics of personal property,' and it is real property."); Fed. Land Bank of Spokane v. Union Cent. Life Ins. Co., 29 P.2d 1009, 1011 (Idaho 1934) ("A water right is real property and may be sold and transferred separately from the land upon which it has been used, the same as any other real property.") (quoting *In re* Rice, 299 P. 664, 666 (Idaho 1931)); Northern Ohio Traction & Light Co. v. Quaker Oats Co., 114 Ohio St. 685, 696 (1926) ("A water right is a species of property in and of itself..."); *see also* Norman K. Johnson & Charles T. DuMars, *A Survey of the Evolution of Western Water Law in Response to Changing Economic and Public Interest Demands*, 29 NAT. RESOURCES J. 347, 351 (1989) ("[A]n appropriative water right, once vested, became a constitutionally protected property interest. It could be sold, leased, or transferred in other ways. It was a usufructuary right, or a right to use, and was protected as a property right.").

119. Wash. Dep't of Ecology v. Grimes, 852 P.2d 1044, 1054–55 (Wash. 1993) ("A vested water right is a type of private property that is subject to the Fifth Amendment prohibition on takings without just compensation."); *see also* discussion *infra* Part IV.G.

ernment agencies also frequently treat water rights as property for other purposes, such as taxation.[120]

On the other hand, constitutional or statutory expressions of public ownership or state trusteeship of water does not afford the state a *proprietary* ownership interest in natural waters. Rather, such expressions simply reflect the state's sovereign regulatory control over water resources.[121] For this reason, when a public agency seeks to obtain water for a proprietary purpose, such as for a park or to purvey water to others, it cannot take the desired water at will; it must comply with applicable state laws and procedures to obtain a water right in the same manner as any other user.[122]

The duality of *public control* of water combined with *private rights to use* water reflects the resource's unique physical attributes and vast societal importance.[123] Water rights support public and private consumptive water uses essential to the public welfare. Yet property rights in water are interests in a shared resource that impact diverse and often countervailing public interests.[124] The state must therefore regulate water use to curb waste, promote and protect the public's interest in the use of water, and mitigate negative externalities of water use.[125]

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120. The tax assessor may separately assess water rights depending on the tax regime of a particular state. *See, e.g., In re* Assessment of Taxes, Booth, 15 Haw. 516, 516 (Haw. 1904); CAL. STATE BOARD OF EQUALIZATION, ASSESSORS' HANDBOOK § 542 ASSESSMENT OF WATER COMPANIES AND WATER RIGHTS, PART II: ASSESSMENT OF WATER RIGHTS 6 (2000), *available at* http://www.boe.ca.gov/proptaxes/pdf/ah542.pdf. Similarly, water rights owners may exchange their water rights for like-kind property pursuant to section 1031 of the Internal Revenue Code. *See* Rev. Rul. 55-749, 1955-2 C.B. 295.

121. State v. Superior Court of Riverside Cnty., 93 Cal. Rptr. 2d 276, 285–87 (Ct. App. 2000) (construing a state statute declaring all waters to be the property of the people as indicative of the state's sovereign control of water resources and not proprietary ownership); Walbridge v. Robinson, 125 P. 812, 814 (Idaho 1912) (a state's interest or title to water is not "in the proprietary sense, but rather in the sovereign capacity as representative of all the people for the purpose of guaranteeing that the common rights of all are protected . . ."); Willey v. Decker, 73 P. 210, 221–22 (Wyo. 1903) (holding that an expression that the water is the property of the public denotes a state's sovereignty over the resource as a representative of the people and does not indicate proprietary owner).

122. *See, e.g., Superior Court of Riverside Cnty.*, 93 Cal. Rptr. 2d at 285; *see also* City of Barstow v. Mojave Water Agency, 5 P.3d 853, 860 n.7 (Cal. 2000).

123. David B. Anderson, *Water Rights as Property in Tulare v. United States*, 38 MCGEORGE L. REV. 461, 473–74 (2007) (noting that "[w]ater rights do not, as a species of property, fall within our normal sense and everyday understanding about property in land and chattels" because water is "neither static nor well-defined," and that for this reason, "water ill-fits property's foundational concept of possession and defies the very order and predictability" that are intended from designated property rights); Gray, *supra* note 16, at 4 (discussing the various physical and legal factors that render water rights a unique form of property and "seldom affect real property and other property rights").

124. *See* Peabody v. City of Vallejo, 40 P.2d 486, 491 (Cal. 1935); Gray, *supra* note 16, at 4–5.

125. *See, e.g.*, Pac. Live Stock Co. v. Lewis, 241 U.S. 440, 449 (1916) ("Water rights, like all other rights, are subject to such reasonable regulations as are essential to the general welfare, peace and good order of the citizens of the state, to the end that the use of water by one, however absolute and unqualified his right thereto, shall not be injurious to the equal enjoyment of others entitled to the equal privilege of using water from the same source, nor injurious to the

Rhetorical emphasis on competing property characterizations of water or water rights is largely devoid of sophisticated analysis. The balancing of reasonable public and private expectations should ultimately define the scope of property interests in water.[126] The notion of public ownership of water does not provide helpful guidance to clarify and balance public and private expectations.

We should clarify that our argument is focused only on the management of the allocation and use of water. The notion of "public property" may be appropriate as a definition of lands and resources that the state should preserve for open *access* by the public.[127] However, with respect to the use and conservation of water resources (apart from physical access to surface water bodies), a fictitious characterization of water as public property is unnecessary and confusing and detracts from the development of substantive water management policy.[128]

IV. BALANCED WATER MANAGEMENT DOES NOT NEED THE PUBLIC TRUST DOCTRINE

As discussed above, the legal fiction of water as public "property" once served an important public interest by establishing an analogue to private property, when legal protections were largely centered on private property interests.[129] Although debate will naturally continue regarding the extent to which government should intrude into the autonomy of private property,[130] the law's shift away from a classical liberal approach to property law—with its traditional bias for personal autonomy over collective interests—is undeniable.[131]

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rights of the public.") (quoting *In re* Willow Creek, 144 P. 505, 514 (Or. 1914); *see also* discussion *infra* Parts IV.C–F.

126. *See* discussion *infra* Parts IV.F–G. The legal understanding of private property interests in natural resources has substantially evolved to accommodate regulatory oversight to protect reasonable public expectations. As Professor Lazarus observed, "modern trends in natural resources law increasingly have eroded traditional concepts of private property rights in natural resources and substituted new notions of sovereign power over those resources." Lazarus, *supra* note 12, at 633.

127. *See* Thompson, *supra* note 85, at 62 (arguing that "some degree of common property is essential in a nation in which private property is (rightfully) dominant. A world in which all land and resources are privatized would be not only unworkable from a utilitarian perspective but socially weaker."); *see also Comedy of the Commons*, *supra* note 12, at 722–23, 775–81 (discussing the important role and socializing effect of public property in the historical and modern context).

128. *See* Thompson, *supra* note 85, at 64 ("The public trust doctrine, however, loses much of its animation, strength, and unique justification if and when it moves beyond its traditional focus on balancing private and common property and turns instead to purely environmental considerations."); *see also* discussion *infra* Part V.

129. *See supra* notes 9–11 and accompanying text.

130. *See A Dozen Propositions*, *supra* note 14, at 273–87; Lazarus, *supra* note 12, at 668–72, 674; *see also* Frazier, *supra* note 10, at 365–66 (1995); Laura S. Underkuffler, *On Property: An Essay*, 100 YALE L.J. 127, 128–29 (1990).

131. *See* Lazarus, *supra* note 12, at 668 ("The relationship of the sovereign police power to private property has been marked by the steady erosion of private property's sanctity in the face of the sovereign police power's growth.").

Building from early cases such as *Euclid v. Ambler*,[132] the law has evolved to recognize the legitimacy of government police powers to enact laws and regulations to protect diffuse public interests directly.[133] In our increasingly populated and interconnected society, the very contours of what constitutes property have adapted to accommodate reasonable regulatory intrusions necessary for protection of broad public interests.[134] This significant legal shift has supplanted the need for a legal fiction of public property in natural resources.[135] Thus, a state may act upon its ample police powers to manage water resources in a manner that effectively balances diverse and competing interests in the resource.[136]

A. THE REASONABLE AND BENEFICIAL USE DOCTRINE PROVIDES A MORE DIRECT MEANS TO PROTECT THE PUBLIC INTEREST

A core tenet of virtually all state water management laws is the requirement that users must put water to beneficial purposes by reasonable means.[137] The specific terms used among the states vary between "reasonable," "benefi-

132. Vill. of Euclid v. Ambler Realty Co., 272 U.S. 365, 387 (1926) (upholding comprehensive zoning law as a valid exercise of municipal police powers).

133. *See, e.g.,* Goldblatt v. Hempstead, 369 U.S. 590, 592–93 (1962) (denying a takings claim relating to a safety regulation that prohibited operation of a previously legal sand and gravel pit in a suburban area because the regulation was a reasonable and a non-compensable exercise of a city's police power); *accord* Gorieb v. Fox, 274 U.S. 603, 610 (1927) (upholding city setback ordinance as a valid exercise of the police power); *but see* Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 835 n.3 (1987) (criticizing the reasoning in Goldblatt for assuming that due process, equal protection, and takings clause analyses are the same with respect to the level of scrutiny of property regulations). *See also* Penn Cent. Transp. Co. v. New York, 438 U.S. 104, 124–25, 131 (1978) (discussing regulations that the courts upheld despite "substantial individualized harm" to property owners). *See also* John Leshy, *A Conversation About Takings and Water Rights*, 83 TEX. L. REV. 1985, 2000–2003 (2005).

134. *See A Dozen Propositions*, *supra* note 14, at 273–87. Rose provides an apt example of the evolution of common law protection of public interests into statutory protections, specifically with respect to pigsties in expanding urban communities. *Id.* at 274. She notes that as cities grew, the noise and smell of pigsties increasingly became the target of nuisance suits, but that such suits are now virtually nonexistent because general public legislation about animal husbandry in urban areas has superseded such nuisance actions. *Id.*

135. *See* Lazarus, *supra* note 12, at 657–64, 679–91 (arguing that developments in the law, including liberalized standing requirements, growth of administrative law and procedure, and expanded application of the nuisance doctrine and tort law have supplanted the need for the ecological public trust doctrine as a basis for judicial review of government decisions relating to natural resources).

136. *See* discussion *infra* Parts IV.A and IV.C. Water management is largely a state affair. *See* DAVID H. GETCHES, WATER LAW IN A NUTSHELL 372 (4th ed. 2009).

137. *See, e.g.*, ALASKA CONST. art. VIII, § 13; CAL. CONST. art. X, § 2; N.M. CONST. art. XVI, § 3; ARIZ. REV. STAT. ANN. § 45-141(a) (2013) (West); FLA. STAT. §§ 373.019(16), .223(1) (2013); GA. CODE ANN. § 12-5-91 (West 2013); HAW. REV. STAT. § 174-49(a) (2013); IDAHO CODE ANN. § 42-104 (West 2013); 525 ILL. COMP. STAT. 45/6 (2013); IND. CODE § 14-25-1-1 (2013); KY. REV. STAT. ANN. § 151.110(1)(a) (West 2013); MISS. CODE ANN. § 51-3-1 (West 2013); NEB. REV. STAT. § 46-702 (2012); NEV. REV. STAT. ANN. § 533.035 (West 2012); N.C. GEN. STAT. ANN. § 143-215.12 (West 2013); N.D. CENT. CODE § 61-04-01.2 (2013); OR. REV. STAT. § 537.525(3) (2013); S.D. CODIFIED LAWS § 46-1-4, -8 (2013); TEX. WATER CODE ANN. § 11.025 (West 2013); UTAH CODE ANN. §§ 73-1-3, 73-3-1(4) (West 2013); WYO. STAT. ANN. § 41-3-101 (West 2013).

cial," or "reasonable and beneficial."[138] The meaning and legal requirements of the terms "reasonable" and "beneficial" vary among the states.[139] Some states require that the state's limited water supplies "be put to beneficial use to the fullest extent of which they are capable."[140] Other states provide that beneficial use defines the scope of a water right.[141] In general, such standards—which for simplicity we refer to as the "beneficial use requirement"—prohibit unreasonable or wasteful uses of water deemed contrary to the public interest.[142] Accordingly, there is no property interest in a use that does not comport with the beneficial use requirement.[143]

The beneficial use requirement has evolved with social norms.[144] Historically, the requirement largely focused on the avoidance of wasteful uses of water given the scarcity of supply, particularly in western states.[145] Modern application of the beneficial use requirement arguably includes consideration of

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138. *See* 1 JOSEPH W. DELLAPENNA, WATERS AND WATER RIGHTS §§ 9.03(b)(1)–(2) REGULATED RIPARIANISM (Amy K. Kelly ed., 3rd ed. LexisNexis 2013) [hereinafter *Regulated Riparianism*]; *see also* discussion *infra* notes 136–37.

139. *Regulated Riparianism*, *supra* note 138, §§ 9.03(b)(1)–(2). Dellapenna discusses variations in the use of the terms "reasonable" and "beneficial," as well as definitions of such terms provided by the Model Water Code, the Regulated Riparian Model Water Code, and by certain states. He further explains that many states express preferences for various uses and criteria to be applied by administrative agencies in management of water resources that may, in effect, act as a proxy for definitions of these terms.

140. CAL. CONST. art. X, § 2; GA. CODE ANN. § 12-5-91 (West 2013); MISS. CODE ANN. § 51-3-1 (West 2013); N.C. GEN. STAT. ANN. § 143-215.12 (West 2013); S.C. CODE ANN. § 49-5-20 (2013); S.D. CODIFIED LAWS § 46-1-4 (2013).

141. N.M. CONST. art. XVI, § 3 ("Beneficial use shall be the basis, the measure and the limit of the right to the use of water."). Laws of several other states have nearly identical language. *See, e.g.*, COLO. REV. STAT. ANN. § 37-62-101, art. III, § (b)(2) (West 2013); NEV. REV. STAT. § 533.035 (2012); N.D. CENT. CODE § 61-04-01.2 (2013); OKLA. STAT. tit. 82, § 105.2(A) (2013); OR. REV. STAT. § 537.525(3) (West 2013); S.D. CODIFIED LAWS § 46-1-8 (2013); UTAH CODE ANN. § 73-1-3 (West 2013); WYO. STAT. ANN. § 41-3-101 (West 2013).

142. *See, e.g.*, CAL. CONST. art. X, § 2; MISS. CODE ANN. § 51-3-1 (West 2013); S.D. CODIFIED LAWS § 46-1-4 (2013).

143. *E.g.*, CAL. WATER CODE § 100 (West 2013); N.M. STAT. ANN. § 72-5-28 (West 2013); OR. REV. STAT. § 540.610 (2013); UTAH CODE ANN. § 73-1-4.5 (West 2013); *see also* Steven J. Shupe, *Waste in Western Water Law: A Blueprint for Change*, 61 OR. L. REV. 483, 487–88 (1982).

144. *See In re* Water of Long Valley Stream Sys., 599 P.2d 656, 665 (Cal. 1979) ("a reasonable use of water varies with the facts and circumstances of the particular case"); Joslin v. Marin Mun. Water Dist., 429 P.2d 889, 894 (Cal. 1967) ("a reasonable use of water depends on circumstances of each case"); Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist., 45 P.2d 972, 1007 (Cal. 1935) ("What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time."); Mich. Citizens for Water Conservation v. Nestle Waters N. Am., Inc., 709 N.W.2d 174, 194-95 (Mich. Ct. App. 2005) (reasonableness is determined by whether the use of water by one user is reasonable and consistent with a corresponding use by others); *In re* Water Right Claim No. 1927-2, 524 N.W.2d 855, 858 (S.D. 1994) (explaining that beneficial use is an evolving concept that can be expanded consistent with changing societal values).

145. *See generally* GETCHES, *supra* note 136, at 137–38; *see also* Tulare Irrigation Dist. v. Lindsay–Strathmore Irrigation Dist., 45 P.2d 972 (Cal. 1935) (holding that field flooding to exterminate rodents was wasteful and non-beneficial); Blaine Cnty. Inv. Co. v. Mays, 291 P. 1055 (Idaho 1930) (holding that flooding to form ice to preserve soil moisture was not beneficial).

environmental and other social values.[146] Specifically, one may argue that in order to put water to beneficial use "to the fullest extent . . . capable,"[147] for the "best utilization,"[148] or "consistent with the best interests of the people,"[149] it is necessary to consider and balance the full range of costs and benefits of all potential uses of water.[150] Social, economic, and environmental concerns are each important considerations, as each carries definite public value.[151]

The beneficial use requirement has historically had more influence ensuring consideration of public interests in relation to the initiation of new water uses (e.g., pursuant to a permit application) than influencing efforts to force reallocation of water from existing uses.[152] To date, courts have been reluctant to limit an existing and ongoing water use on the grounds that the use is no longer beneficial in light of alternative and more beneficial water uses.[153] Such judicial reluctance is arguably justifiable because the courts must balance the benefits of water reallocation against the uncertainty and disutility resulting from reallocation under the pretext of "comparative beneficial use."[154] However, pursuant to the beneficial use requirement, courts may nonetheless curtail existing water uses that substantially impair the public interest or that constitute a public nuisance.[155] A water right holder cannot assert a right to use water in a

146. *See* ROBERT E. BECK & OWEN L. ANDERSON, *Elements of Prior Appropriation,* in WATERS AND WATER RIGHTS, § 12.02(c)(2) (Amy L. Kelly ed., 4th ed. Lexis Nexis/Matthew Bender 2011) [hereinafter *Elements of Prior Appropriation*].

147. CAL. CONST. art. X, § 2 (West, 2013).

148. S.D. CODIFIED LAWS § 46-1-6(3) (West, 2013).

149. N.D. CENT. CODE ANN. § 61-04-01.1 (West 2013).

150. Trelease, *supra* note 111, at 4 (noting that "[w]hat is to be maximized is welfare from water use, not water use itself").

151. *See, e.g.*, COLO. REV. STAT. ANN. § 37-92-103(4) (West, 2013) (defining "beneficial use" to include appropriations for instream recreational and environmental uses); HAW. REV. STAT. § 174C-3 (West 2013) (defining instream uses as beneficial uses of water for instream purposes and listing examples); VA. CODE ANN. § 62.1-10(b) (defining "beneficial use" to include instream uses and listing examples); Pagosa Area Water & Sanitation Dist. v. Trout Unlimited, 170 P.3d 307, 314 (Colo. 2007) ("Maximum utilization does not mean that every ounce of Colorado's natural stream water ought to be appropriated; optimum use can be achieved only through proper regard for all significant factors, including environmental and economic concerns."); State v. Idaho Dep't of Water Admin., 530 P.2d 924, 928 (Idaho 1974) (aesthetic and recreational uses are beneficial uses even though not included in a list of beneficial uses set forth in state constitution).

152. *See* Gregory A. Thomas, *Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Streamflows in California*, 15 STAN. ENVTL. L.J. 3, 27–31 (1996); *see, e.g.*, State of Wash. Dep't of Ecology v. Grimes, 852 P.2d 1044 (Wash. 1993) (acknowledging state policy to balance consumptive and instream interests, but refusing to include impacts on flora and fauna as factors for setting allowable withdrawals within a general stream adjudication, reasoning that such factors cannot operate to impair existing water rights).

153. *See* GETCHES, *supra* note 136, at 137–38.

154. *See supra* notes 100–103 and accompanying text (discussing the importance and social benefit that stem from legal certainty in relation to water rights); *see also infra* notes 262 and 264.

155. *See e.g.*, Nat'l Audubon Soc'y v. Super. Ct., 658 P.2d 709, 728 n.28 (Cal. 1983) (acknowledging an argument by the California Attorney General that the state water board could review water rights harmful to the public interest for curtailment pursuant to the beneficial use doctrine).

way that fails to comport with the beneficial use requirement.[156] Furthermore, the legislature may specify uses or circumstances that would not comport with the beneficial use requirement,[157] thus empowering the judiciary and regulatory agencies to curtail existing uses deemed by the legislature to be unreasonable or non-beneficial.

State actions that enforce the beneficial use requirement to balance instream and consumptive demands will generally not incur takings liability because no water right exists for non-beneficial uses. Thus, a user may not claim inverse condemnation if the user is applying the water right to a non-beneficial use.[158] As the Supreme Court of Washington explained:

> A vested water right is a type of private property that is subject to the Fifth Amendment prohibition on takings without just compensation. Nevertheless, the concept of "beneficial use", as developed in the common law . . . operates as a permissible limitation on water rights.[159]

To the extent application of the public trust doctrine to water resource management demands only thorough procedural consideration of the feasibility of protecting instream interests (as opposed to substantive results),[160] the beneficial use requirement and the public trust doctrine impose the same procedural bar. The beneficial use requirement, however, is preferable because it does not rely on legal fiction, ambiguous standards, and narrow doctrinal constraints.[161] Unlike the public trust doctrine, the beneficial use requirement also does not present the risk of arbitrary favoritism for particular uses.[162] Rather, the beneficial use requirement demands a candid and fact-specific assessment of potential water management options to determine which will best advance the public welfare.[163]

B. RIPARIANISM AND PRIOR APPROPRIATION

Aside from the core beneficial use requirement, states employ diverse water management approaches. Eastern states, which have historically enjoyed ample water supplies, have traditionally adhered to a riparian doctrine of water

156. *Elements of Prior Appropriation*, *supra* note 146, § 12.02(c)(2). Such a result is similar to applications of the public nuisance doctrine as a basis for judicial intervention with respect to environmental and natural resource problems in general. *See* Lazarus, *supra* note 12, at 660–64.

157. *Elements of Prior Appropriation*, *supra* note 146, § 12.02(c)(2).

158. *See* discussion *infra* Part IV.F.

159. Wash. Dept. of Ecology v. Grimes, 852 P.2d 1044, 1054–55 (Wash. 1993) (citing Wash. Dept. of Ecology v. Adsit, 694 P.2d 1065 (Wash. 1985)).

160. *See* discussion *supra* Part II.D.

161. *See* discussion *infra* Parts V.B and V.D.

162. *See* discussion *infra* Part V.C.

163. *See, e.g.*, United States v. State Water Res. Control Bd., 227 Cal. Rptr. 161, 188 (Ct. App. 1986) (holding that the state water board has broad power to prevent unreasonable methods of use, which includes balancing between water quality and diversions of water for consumptive uses); Simpson v. Cotton Creek Circles, 181 P.3d 252, 260 (Colo. 2008) (holding that the state requirement that water be put to optimal use requires the state to provide proper regard for all significant factors, including environmental and economic concerns).

use derived from English common law.[164] The riparian doctrine generally imposes reciprocal rights and obligations on landowners abutting a water body, whereby each riparian landowner possesses the right to withdraw water from the abutting water body for reasonable uses.[165] Similar principles govern groundwater use in these states. Landowners overlying a source of groundwater possess rights to withdraw groundwater as a right appurtenant to land ownership.[166] Many riparian states, however, have adopted regulatory and permitting schemes that modify many of the limitations inherent in the riparian doctrine.[167]

Western states have repudiated the riparian doctrine in favor of the prior appropriation doctrine because of water scarcity and the need for non-riparian water uses.[168] Prior appropriation, which originated from western mining camps in the 19th century West,[169] does not limit withdrawals to riparian landowners. Instead, it mandates that users obtain water rights through historic use and prioritizes water rights based on the date of initial appropriation.[170] Earlier appropriators are granted priority to available water over later appropriators.[171]

C. STATE PERMITTING AND REGULATORY OVERSIGHT

As water scarcity, growing population, and emerging environmental values have led to increased water conflicts, states have adopted more robust permitting and oversight systems. All western states, except Colorado, utilize administrative permitting systems to control the acquisition, use, transfer, and termination of water rights.[172] Hawaii and many eastern states have also modified common law riparianism in favor of "regulated riparianism," which incorporates various permitting schemes.[173] Although permitting systems are more

164. *See* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, §1:1.

165. United States v. Willow River Power Co., 324 U.S. 499, 505 (1945); Harris v. Brooks, 283 S.W.2d 129, 133–34 (Ark. 1955); Carlsbad Mut. Water Co. v. San Luis Rey Dev. Co., 178 P.2d 844, 853 (Cal. Ct. App. 1947); *see generally Regulated Riparianism*, *supra* note 138, § 6.01.

166. *Regulated Riparianism*, *supra* note 138, §§ 22.02-.03; *see also* RESTATEMENT (SECOND) OF TORTS § 858 (2013).

167. *See, e.g.* FLA. STAT. ANN. § 373.042 (West 2011).

168. Norman K. Johnson & Charles T. DuMars, *supra* note 118, at 348–49; 1 WELLS HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 1–144 (1974); *see* GETCHES, *supra* note 136, at 272–73. California applies a hybrid of the two legal regimes. People v. Shirokow, 605 P.2d 859, 864 (Cal. 1980); Lux v. Haggin, 4 P. 919, 923–24 (Cal. 1884).

169. Irwin v. Phillips, 5 Cal. 140, 140 (Cal. 1855); *see also* Charles F. Wilkinson, *Western Water Law in Transition*, 56 U. COLO. L. REV. 317, 318–320 (1985).

170. Pleasant Valley Canal Co. v. Borror, 72 Cal. Rptr. 2d 1, 24 (Ct. App. 1998).

171. Empire Lodge Homeowners' Ass'n v. Moyer, 39 P.3d 1139, 1148 (Colo. 2001); Am. Falls Reservoir Dist. No. 2 v. Idaho Dep't of Water Res., 154 P.3d 433, 438 (Idaho 2007).

172. *See* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 5:44. Colorado administers water rights through the judiciary by means of a "water court," with assistance from the state engineer. *See* COLO. REV. STAT. §§ 37-92-101 to -602 (West 2013); Bd. of Cnty. Comm'rs of Cnty. of Arapahoe v. Collard, 827 P.2d 546, 551 (Colo. 1992).

173. *See, e.g.*, ARK. CODE ANN. §§ 15-22-210 to -219 (2013); CONN. GEN. STAT. ANN. §§ 22a-368 to -374 (West 2013); DEL. CODE ANN. tit. 7, §§ 6001-6031 (West 2013); FLA. STAT. ANN. §§ 373.216, 373.219 (West 2013); GA. CODE ANN. § 12-5-31(b)(1) (2013); HAW. REV. STAT. § 174C-27 (2013); *see also* Joseph W. Dellapenna, *Special Challenges to Water Markets*

common and comprehensive for surface water, states continue to develop and strengthen groundwater permitting programs as well.[174]

Permitting statutes generally require the state's permitting agency to consider broad public interests prior to issuing or modifying a permit, including protection of minimum streamflow or aquifer levels for environmental and other instream purposes.[175] Generally, the state may deny a water right application or condition the grant of any permit as it deems appropriate to protect the public interest.[176]

States routinely rely on various other water management laws as well. Examples include laws pertaining to: local or system-wide planning, monitoring, data collection and reporting,[177] maximum total withdrawals,[178] management

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in Riparian States, 21 GA. ST. U. L. REV. 305, 314-35 (2004) [hereinafter *Special Challenges*]; LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 3:90; George W. Sherk, *Eastern Water Law: Trends in State Legislation*, 9 VA. ENVTL. L.J. 287, 291-92 (1990).

174. *See, e.g.*, MICH. COMP. LAWS § 324.32723 (2008) (requiring a permit for large quantity withdrawals and other specified circumstances); OKLA. STAT. ANN. tit. 82, §1020.9 (West 2011) (allocating groundwater resources among overlying landowners by a percentage formula); S.C. CODE ANN. § 49-5-60 (2013) (requiring groundwater withdrawal permits in designated capacity use areas); VT. STAT. ANN. tit. 10, § 1418 (2013) (requiring groundwater withdrawal permit for daily withdrawals in excess of 57,600 gallons); WASH. REV. CODE ANN. § 90.44.050 (West 2013) (requiring a permit to withdraw groundwater, albeit with numerous exceptions to the permitting requirement). *See generally* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 4.28.

175. S*ee, e.g.*, ALASKA STAT. §§ 46.15.080(b)(1)–(8) (2010); ARIZ. REV. STAT. ANN. § 45-153 (2010); CAL. WATER CODE §§ 1253-1259 (West 2010); FLA. STAT. ANN. § 373.042 (West 2011); HAW. REV. STAT. § 174C-49(4) (2010); *see also* Shokal v. Dunn, 707 P.2d 441, 448–49 (Idaho 1985) (citing IDAHO CODE ANN. § 42-1501 and requiring the Director of Water Resources to consider factors such as protection of fish and wildlife habitat, aquatic life, aesthetic beauty, and water quality in assessing an application for water rights); Stempel v. Dep't of Water Res., 508 P.2d 166, 172 (Wash. 1973) (citing WASH. REV. CODE ANN. § 90.54.020(3) in holding that the protection of the quality of the natural environment must be a condition to issuance of water use permit). *See generally* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 5:52.

176. *See, e.g.,* NEB. CONST. art. XV, § 6 (state may deny permit if denial is "demanded by the public interest"); CAL. WATER CODE §§ 1253, 1255; IDAHO CODE ANN. § 42-203A(5) (2010) (director of Department of Water Resources may grant, deny or condition permit for appropriative permit); IOWA CODE § 455B.267 (authority to deny permit if withdrawal would impair navigability of a water body, the long-term availability of water from a ground or surface water source, or otherwise adversely affect the public health or welfare); NEB. REV. STAT. §§ 46-234, -235 (2010); NEV. REV. STAT. ANN. § 533.370 (West 2011); N.M. STAT. ANN. § 72-5-7 (West 2010); OR. REV. STAT. § 537.153 (West 2010); WASH. REV. CODE ANN. § 90.03.290 (West 2010); TEX. WATER CODE ANN. § 11.147 (Vernon 2010) (providing for analysis of impacts on bays, estuaries, and aquatic life in denying or approving permit to appropriate water); MD. CODE ANN. § 5-507; N.Y. ENVTL. CONSERV. LAW § 15-1501(4); Central Platte Natural Res. Dist. v. City of Fremont, 549 N.W.2d 112, 118 (1996) (holding that protection of endangered whooping crane was in the public interest and justified denial of water permit). *See also* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 5:52; George A. Gould, *A Westerner Looks at Eastern Water Law: Reconsideration of Prior Appropriation in the East,* 25 U. ARK. LITTLE ROCK L. REV. 89, 93 (2002). The state can also expressly condition a permit to yield to later-in-time modifications. CAL. CODE REGS., tit. 23 §780 (2013).

177. *See, e.g.*, CAL. WATER CODE §§ 10610, 10610.4 (West 1992) (enacting the Water Management Planning Act); CONN. GEN. STAT. §§ 22a-351, -352 (2011) (authorizing a ten-year program of detailed geological and hydrological studies); MASS. GEN. LAWS ANN. ch. 21G, § 3

criteria for specific water sources,[179] instream flows for fish habitat,[180] preferential uses,[181] well drilling,[182] water supply showings for land use approvals,[183] use of reclaimed water,[184] and water right transfers.[185] Additionally, environmental review statutes, such as the California Environmental Quality Act and the New York State Environmental Quality Review Act ensure that government agencies fully consider environmental impacts to water resources when approving water withdrawals or other projects affecting water resources.[186]

Some state water management laws are far from comprehensive, and some are in need of refinement.[187] However, the states possesses ample police powers to manage water resources to protect the public interest without relying on the public trust doctrine.

D. WATER RIGHTS ADJUDICATION

The courts may also play a significant role in water management through water rights adjudications.[188] The courts possess the power to adjudicate water

(West 1985) (enacting Massachusetts Water Management Act); MICH. COMP. LAWS ANN. § 324.32725 (West 2008) (encouraging the creation of a water users committee to evaluate water trends within a watershed and to assist in water management planning).

178. *See, e.g.*, MONT. CODE ANN. § 85-2-319 (West 2010) (generally prohibiting withdrawals from highly-appropriated basins and subbasins); N.J. STAT. ANN. § 58:22-7 (West 2001) (prohibiting withdrawals from the Raritan River when river flow is less than a certain rate).

179. ALA. CODE § 9-10B-21 (1993) (providing for declaration of capacity stress areas when demands exceed supply and for the promulgation of rules to protect public interests); ARIZ. REV. STAT. ANN. §§ 45-411 to -421 (2010) (designating Arizona's active groundwater management areas and criteria).

180. S*ee, e.g.*, CAL. WATER CODE § 1257.5 (West 2011). *See generally* Jesse A. Boyd, Note, *Hip Deep: A Survey of State Instream Flow Law From the Rocky Mountains to the Pacific Ocean*, 43 NAT. RESOURCES J. 1151 (2003) (discussing how one may change instream flows in Rocky Mountains, Great Basin, and Pacific states to benefit the fishery resource).

181. *See, e.g.,* NEB. CONST. art. XV, § 6 (ranking water use priorities in times of shortage); CAL. WATER CODE § 106 (West 2010) (declaring water for domestic purposes as the highest use of water, followed by irrigation use).

182. *See, e.g.*, COLO. REV. STAT. §§ 37-91-101 to -113 (2003); CONN. GEN. STAT. ANN. § 19a-209a (West 2007); UTAH CODE ANN. § 73-2-1(4)(b) (West 1953).

183. *See, e.g.*, CAL. WATER CODE §§ 10910-10912, 10914-10915 (West 2002); WASH. REV. CODE ANN. § 19.27.097 (West 2010).

184. *See, e.g.*, CAL. WATER CODE §§ 13550-13557 (West 2009). *See generally* Ginette Chapman, Note, *From Toilet to Tap: the Growing Use of Reclaimed Water and the Legal System's Response*, 47 ARIZ. L. REV. 773 (2005) (explaining various water reuses).

185. *See e.g.*, CAL. WATER CODE §§ 1725, 1735 (West 2011); OKLA. STAT. ANN. tit. 82, § 105.22 (West 2011). *See generally* George A. Gould, *Water Rights Transfers and Third-Party Effects*, 23 LAND & WATER L. REV. 1 (1988); LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, §§ 5:71–5:85.

186. *See* CAL. PUB. RES. CODE §§ 21000-21177 (West 2011); N.Y. ENVTL. CONSERV. LAW §§ 8-0101 to 8-0117 (Gould 2011).

187. *See* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 3:97 (arguing that eastern state permit systems often present a confusing and vague mix of permitting criteria between property rights protection and administrative allocation, and that as a result such systems fail to define with any precision the public interest in water management).

188. S*ee, e.g.*, Wash. Dep't of Ecology v. Grimes, 852 P.2d 1044 (Wash. 1993); *In re* the Big Horn River Sys., 835 P.2d 273 (Wyo. 1992). *See generally* Stuart T. Waldrip, *Water Rights—Finality of General Adjudication Proceedings in the Seventeen Western States*, 1966

rights and establish water management plans pursuant to statutory procedures, the state's beneficial use requirements, and inherent legal and equitable powers vested in the courts.[189] Many states provide a statutory process for initiation and processing of comprehensive adjudications by a state water management agency, followed by judicial review and adoption of the agency's recommended decree (with or without modification by the court).[190] Adjudication decrees typically limit or condition withdrawals with respect to both the resource as a whole and individually by each water right holder. In so doing, the adjudication may cap water withdrawals, which, in some states, may not otherwise be possible.[191] Most decrees also reserve jurisdiction for the court to monitor and impose new orders, resolve future disputes, and amend the judgment as necessary to adapt the management plan to changing conditions or water supply needs.[192]

Adjudication decrees often also impose a comprehensive management plan that is tailored to the unique physical conditions of the water source and local water needs.[193] In some circumstances, more effective and efficient management is possible pursuant to a judicially-fashioned management plan than under generally applicable laws.[194]

E. THE STATE'S POLICE POWER PROVIDES AMPLE AUTHORITY TO MANAGE THE INITIATION OF NEW WATER WITHDRAWALS

As discussed, states possess ample police powers to impose water management laws to balance competing water demands and ensure the resource's long-term sustainability.[195] The states possess robust powers to restrict and condition initiation of new water withdrawals,[196] limited only by constitutional

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UTAH L. REV. 152; SCOTT S. SLATER, CALIFORNIA WATER LAW AND POLICY §§ 9.09, 9.10 (2011) [hereinafter WATER LAW AND POLICY].

189. *See, e.g.*, COLO. REV. STAT. § 37-92-103(9) (2013) (defining "plan of augmentation"); MONT. CODE ANN. § 85-2-234 (2013) (describing elements of adjudication required by statute); Cal. Am. Water v. City of Seaside, 107 Cal. Rptr. 3d 529, 536 (Ct. App. 2010). (discussing implementation of a "physical solution" as an equitable remedy).

190. *See, e.g.*, CAL. WATER CODE §§ 2500-2868 (West 2013) (as applied to surface water); OR. REV. STAT. ANN §§ 539.005-.220 (West 2011); IDAHO CODE ANN. §§ 42-1406, 42-1412 (West 1994). *See generally* A. Lynne Krogh, *Water Right Adjudications in the Western States: Procedures Constitutionality, Problems & Solutions*, 30 LAND & WATER L. REV 12, 19–21 (1995).

191. *See, e.g.*, *In re* Water of Long Valley Creek, 599 P.2d 656, 665–69 (Cal. 1979).

192. *See, e.g.*, Cent. & W. Basin Water Replenishment Dist. v. S. Cal. Water Co., 135 Cal. Rptr. 2d 486, 491–92 (Ct. App. 2003).

193. *See, e.g.*, *Cal. Am. Water*, 107 Cal. Rptr. 3d at 532–33, 536.

194. *See, e.g.*, *Long Valley,* 599 P.2d at 665–69 (subordinating the priority of unused riparian rights within a general stream adjudication to eliminate the legal uncertainty caused by the potential activation of unquantified riparian rights under the state's common law); *but see* A. Dan Tarlock, *The Illusion of Finality in General Water Rights Adjudications*, 25 IDAHO L. REV. 271 (1989) (arguing that adjudications are expensive, controversial, and often do not achieve finality with respect to water rights).

195. *See* discussion *supra* Part IV.C.

196. *See e.g.*, Colo. Ground Water Comm'n v. N. Kiowa-Bijou Groundwater Mgmt. Dist. 77 P.3d 62, 77–78 (Colo. 2003).

boundaries.[197] In fact, generally, there is no protected expectation that a court will grant a new water right.[198] Thus, constitutional restraints are unlikely to burden reasonable and even-handed regulation of new water rights.[199]

F. THE PUBLIC TRUST DOCTRINE IS NOT NEEDED TO REDIRECT AND REALLOCATE EXISTING WATER USES WITHOUT INCURRING TAKINGS LIABILITY

Water management cannot be static if it is to serve the public interest. Old allocation decisions must be susceptible to modification to accommodate new scientific and technical understanding, as well as evolving perceptions of the public interest. Some champion the public trust doctrine as a perceived basis for the state to reallocate or restrict existing water rights without incurring takings liability.[200] However, as explained below, the public trust doctrine should have no bearing on takings analysis. Rather, a takings analysis should consider reasonable public and private expectations undistorted by legal fictions.[201] As long as the state adheres to water management protocols that do not violate reasonable private expectations, the state should not be liable.[202] On the other hand, the public trust doctrine should not shield the state from takings liability where such liability would otherwise arise.[203]

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197. *See e.g.*, Sporhase v. Neb. ex rel. Douglas, 485 U.S. 941, 951 (1982) (holding that state water regulations must comport with the dormant commerce clause).

198. Catherland Reclamation Dist. v. Lower Platte N. Natural Res. Dist., 433 N.W.2d 161, 166 (Neb. 1988) (holding that a water right applicant has no property right in a mere application for water rights); Vill. of Tequesta v. Jupiter Inlet Corp., 371 So. 2d 663, 667 (Fla. 1979) (holding that a potential user does not obtain property right in water until he or she diverts water and applies it to beneficial use).

199. *See e.g.*, Omernik v. State, 218 N.W.2d 734, 741–43 (Wis. 1974) (upholding permitting requirement from equal protection challenge). S*ee generally Regulated Riparianism*, *supra* note 138, §§ 9.04(a)–(b).

200. The reasoning of those arguing such views is that the trust imposes a public servitude on all water rights and, thus, subordinates the privileges of a water right holder to state actions that serve the purpose of furthering the public interest. On this basis, some may argue that there is no compensation requirement where the state restricts private use of a trust resource because the public trust – the *jus publicum* – burdens a title to a trust resource – the *jus privatum*, and therefore, no liability will arise where the state takes action to fulfill its trust responsibilities. *See Public Property and the Democratization of Western Water Law*, *supra* note 1, at 584–87; Michael C. Blumm & Thea Schwartz, *Mono Lake and the Evolving Public Trust in Western Water*, 37 ARIZ. L. REV. 701, 709–10 (1995). Therefore, some may argue that the state does not recognize vested rights as against a subsequent exercise of the trust. *Public Property and the Democratization of Western Water Law*, *supra* note 1, at 584–85; s*ee also* LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 5:58 (noting that "[t]he major impact of the public trust doctrine is its potential to require retroactive reallocation," and discussing the takings question in relation to retroactive imposition of the public trust doctrine).

201. *A Fish Out of Water*, *supra* note 1, at 560; s*ee* discussion *infra* Part IV.G. For a discussion of the social and economic costs of using the public trust doctrine to avoid compensation of government takings, *see* Scott Andrew Shepard, *The Unbearable Cost of Skipping the Check: Property Rights, Takings Compensation & Ecological Protection in the Western Water Law Context*, 17 N.Y.U. ENVTL. L.J. 1063, 1111–34 (2009).

202. *See infra* notes 211–222 and accompanying text.

203. *See infra* Part IV.G.

Determining whether a government restriction of a water right amounts to an uncompensated taking is a difficult legal inquiry. As Professor Tarlock observes, "[t]he determination of when a government action is or is not a taking is one of the most intractable problems of modern jurisprudence and on which little consensus exists either at the philosophical or the doctrinal level."[204] These complexities are heightened in the water management context because there is little guiding precedent.[205] Additionally, takings law in the real property context is often incongruous to takings inquiries concerning water regulations.[206] For example, should courts evaluate a mandatory withdrawal reduction to a water right under either of the two *per se* taking tests, i.e., the *Loretto* physical takings test and the *Lucas* elimination of all economically beneficial or productive use test?[207] Or, should courts evaluate the mandatory reduction under the multifactor balancing test applied in *Penn Central*?[208] Also, how does this inquiry apply to a water right for which the entire advantage is the right to temporarily use a given quantity of water on a recurring basis?[209] If the *Lucas* test applies to water rights,[210] the analysis may also confront the "denominator problem," i.e., whether the reduction deprives the user of all economically beneficial use of a portion of the right or just diminishes the value of the right as a whole.[211] Where the water right is attendant to land ownership, as with riparian rights, should a court evaluate the takings claim with respect to only the water right, or should the water and land assets be evaluated together as a whole?

These questions remain largely unresolved. Takings liability in the water management context typically arises where the government is acting in a proprietary manner, either physically taking water for its own use or reallocating it to other proprietary users.[212] Such circumstances are distinguishable from state

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204. LAW OF WATER RIGHTS AND RESOURCES, *supra* note 22, § 3:92.

205. *See* Douglas L. Grant, *Western Water Rights and The Public Trust Doctrine: Some Realism About the Takings Issue*, 27 ARIZ. ST. L.J. 423, 429–30 (1995) (discussing the complexities of takings categorization in the water context).

206. *See id.* at 430–31; *Regulated Riparianism*, *supra* note 138, § 9.04(a).

207. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1015 (1992); Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435–36 (1982); s*ee also* Grant, *supra* note 205, at 429–31 (discussing whether courts should evaluate takings claims in the water rights context as real property, to which the Lucas test applies, or akin to personal property, to which it does not apply).

208. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978) (setting forth an ad hoc factual test that balances the economic impact of the regulatory restriction, the owner's distinct investment-backed expectations, and the character of the governmental action).

209. *See Loretto*, 458 U.S. at 428; *see also* Grant, *supra* note 205, at 428–34.

210. *See Lucas*, 505 U.S. at 1015.

211. *See* Grant, *supra* note 205, at 432–33. The *Lucas* court reasoned that the answer to the "denominator problem" "may lie in how the owner's reasonable expectations have been shaped by the State's law of property—*i.e.*, whether and to what degree the State's law has accorded legal recognition and protection to the particular interest in land with respect to which the takings claimant alleges a diminution in (or elimination of) value." *Lucas*, 505 U.S. at 1016 n.7.

212. *See, e.g.*, McNamara v. City of Rittman, 838 N.E.2d 640, 644–46 (Ohio 2005) (allowing a takings case to proceed against a city where the city's groundwater production allegedly interfered and diminished plaintiff landowner's ability to produce groundwater). Three older Supreme Court cases similarly found the federal government liable for takings where the govern-

regulations that effectively arbitrate between competing public and private interests in water.[213]

Federal courts have decided a few cases regarding takings claims in response to federal actions providing instream flows for endangered species, which reduced water supply for consumptive use.[214] Three of these cases held that the federal actions, which reduced the claimants' water supply, should be evaluated as physical takings.[215] However, because these cases concern federally-imposed restrictions, questions remain concerning takings law as applied to the state management of water allocations among competing water uses.[216]

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ment expropriated water from a private user for its own use or for a third party's proprietary use. *See* Dugan v. Rank, 372 U.S. 609 (1963) (holding that a physical taking occurred where the federal government expropriated a downstream riparian landowner's water rights by damming a river upstream, storing the water and diverting it for irrigation and utility projects); United States v. Gerlach Live Stock Co., 339 U.S. 725, 752–53 (1950) (holding that a physical taking occurred where the federal government expropriated downstream riparian land owners' water rights by capturing, storing and diverting water from two California rivers for sale to private energy and irrigation interests); Int'l Paper Co. v. United States, 282 U.S. 399, 408 (1931) (holding that a physical taking occurred where the federal government took a paper company's water rights and conferred them to a power company to use for wartime production of electrical power).

213. *See, e.g.*, Crookston Cattle Co. v. Minn. Dep't of Natural Res., 300 N.W.2d 769, 774 (Minn. 1980). In Crookston, the court explained that "[l]ike zoning legislation, legislation which limits or regulates the right to use underlying water is permissible." *Id.* The court distinguished between regulation that operates for the sole benefit of a governmental enterprise and disproportionately burdens a few landowners for which compensation is due and regulation that arbitrates between competing public and private interests in water for which no compensation is due. *Id.*

214. Stockton E. Water Dist. v. United States, 583 F.3d 1344 (Fed. Cir. 2009) (allowing a takings claim to proceed against federal restrictions reducing federal contract water deliveries); Casitas Mun. Water Dist. v. United States, 543 F.3d 1276 (Fed. Cir. 2008) (holding that federal requirement upon a California water district to release water to which it was entitled from its diversion works for a fish ladder for endangered fish should be analyzed as a physical taking); Tulare Lake Basin Water Storage Dist. v. United States, 49 Fed. Cl. 313, 319 (2001) (holding that reductions in water deliveries pursuant to federal irrigation contracts to comply with instream flow requirements necessitated by the Endangered Species Act rendered plaintiffs' usufructuary right to that water valueless, and thus effected a physical taking); *but see* Klamath Irrigation Dist. v. United States, 67 Fed. Cl. 504, 538 (2005) (criticizing the reasoning in *Tulare Lake* and denying a takings claim where the federal government halted irrigation deliveries to contracting farmers for a year because low water levels threatened endangered fish species).

215. *Stockton*, 583 F.3d at 1369; *Casitas*, 543 F.3d at 1296; *Tulare*, 49 Fed. Cl. at 319 (reasoning that "[u]nlike other species of property where use restrictions may limit some, but not all of the incidents of ownership, the denial of a right to the use of water accomplishes a complete extinction of all value."). *Contra Klamath.*, 67 Fed. Cl. at 538 (criticizing the reasoning in *Tulare Lake*).

216. As a general matter, the federal government may not take water without regard for state water rights, but rather must perfect water rights for federal activities in the same manner as any other proprietary user. California v. United States, 438 U.S. 645, 674–75 (1978) (holding that federal government must comply with state laws regarding control, appropriation, and use of water). Moreover, it is unclear whether a physical taking can occur in cases involving irrigation contracts where the irrigator does not possess the water right, but only possesses a contractual right to receive water obtained from the irrigation project. *Compare Tulare*, 49 Fed. Cl. at 319 (holding that reductions necessitated by the Endangered Species Act impaired water deliveries pursuant to irrigation contracts and effected a physical taking of plaintiff's usufructuary right to that water), *with Klamath*, 67 Fed. Cl. at 540 (denying a takings claim where the federal government halted irrigation deliveries pursuant to an irrigation contract to protect endangered fish

In the state context, takings analysis should focus on reasonable public and private expectations and the distribution of regulatory burdens among competing water users.[217] Water rights, like all property, are inherently subject to reasonable regulatory constraints to avoid injury to other water rights holders and the broader public.[218] Accordingly, water rights holders must tailor their expectations pertaining to water rights to accommodate the inherent nature of water as a shared and variable resource.[219] Expectations must incorporate uncertainties arising from natural fluctuations in supply, the actions of other water users, and reasonably tailored state regulations to protect public interests.[220] A water rights priority, thus, does not guarantee an absolute quantity of water but rather constitutes a risk allocation priority among competing beneficial users of water.[221] A water right holder may reasonably expect legal protection of the priority his right affords. However, he should not expect that it will yield a perpetual, definite, and specific quantity of water.[222]

The relevance of reasonable expectations within takings jurisprudence correlates with the premise that takings liability does not arise unless the government action exceeds the relevant background principles of state law.[223] For example, regulations adopted to abate a public nuisance will not incur takings liability because property law does not protect activities that result in a public nuisance.[224] Likewise, Supreme Court precedent suggests that "'reasonable

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species), *and* Anderson, *supra* note 123, at 468–70, 489–90, 506 (arguing that the *Tulare* court erred in equating the beneficial use of water by federal contractors with usufructuary water rights and asserting that the right to make beneficial use of water in one's possession (e.g., as a result of water supply contract) is separate and distinct from a water right, which affords a nonpossessory right to withdraw water from a watercourse), *and* John Leshy, *supra* note 133 at 1985 n.2.

217. The United States Supreme Court's takings opinions have emphasized that a principal purpose of the takings doctrine is to compensate for the destruction of investment-backed expectations. *See, e.g.*, Ruckleshaus v. Monsanto Co., 467 U.S. 986, 1005 (1984); *Penn Central*, 438 U.S. 104, 124; s*ee also A Dozen Propositions*, *supra* note 14, at 267, 285–86 ("[T]he essence of traditional takings law is an effort to balance private rights and public rights as they coevolve over time."); Grant, *supra* note 205, at 437–42; TARLOCK, *supra* note 22, § 3:92.

218. *See supra* Part IV.C and cases cited *infra* note 222; *see also The Public Trust Doctrine and Private Property*, *supra* note 85, at 653.

219. *See* discussion *supra* Part III.A, IV.A, IV.F.

220. This point is not intended to suggest that all state actions directed at protection of a public interest in the water source are necessarily consistent with reasonable expectations and immune from takings liability. State actions that deviate from applicable state water management laws arguably exceed the scope of reasonable expectations and may be subject to takings liability. *See infra* Part IV.G.

221. *See* A. Dan Tarlock, *Prior Appropriation: Rule, Principle, or Rhetoric?*, 76 N.D. L. REV. 881, 886–87 (2000). We note that water rights within water systems that are comprehensively managed to balance water supplies and system-wide demands (e.g., adjudicated water supplies) typically afford greater legal certainty for water rights holders, with a greater likelihood of rendering a reliable quantity of supply.

222. *See* Leshy, *supra* note 133, at 1986–87, 1991.

223. Lucas v. S. Carolina Coastal Council, 505 U.S. 1003, 1030 (1992) (citing Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1239–41 (1967)); *see also* Palazzolo v. Rhode Island, 533 U.S. 606, 627 (2001); *A Dozen Propositions*, *supra* note 14, at 276–77.

224. Rith Energy, Inc. v. United States, 44 Fed. Cl. 108, 113 (1999), *aff'd*, 247 F.3d 1355 (Fed. Cir. 2001). The nuisance exception accommodates the same principle articulated by the

investment-backed expectations' cannot exist in activities that the government may declare contrary to environmental protection and resource conservation goals."[225] Applied to the water management context, one may view reasonable state regulations adopted to protect the public's interest in water resources (e.g., adjusting baseline flows for environmental and other instream purposes) as a legitimate exercise of the state's police power consistent with the state's background property laws concerning water use.[226] Takings liability, therefore, should not arise even if existing water rights are retroactively impaired as a result of reasonable regulations, provided that prior and paramount rights are given due regard in the allocation of supplies available for consumptive use.[227] A number of cases have applied such reasoning to uphold water permitting or other water management laws that restrict the use of water rights against takings challenges.[228]

G. THE PUBLIC TRUST DOCTRINE WILL NOT SHIELD THE STATE FROM TAKINGS LIABILITY WHERE LIABILITY SHOULD OTHERWISE ARISE

Although reasonable water use regulations are likely to withstand takings challenges for the reasons discussed above, the government may incur takings liability where restrictions on water rights violate reasonable private expecta-

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Supreme Court in *Lucas* that the government is not liable for regulation to abate a nuisance or nuisance-like activity because such "uses" of property do not inhere in a property owner's title. *See Lucas*, 505 U.S. at 1029–30; s*ee also* Mugler v. Kansas*,* 123 U.S. 623, 665 (1887) ("[A]ll property in this country is held under the implied obligation that the owner's use of it shall not be injurious to the community."); *A Dozen Propositions*, *supra* note 14, at 275–76.

225. Lazarus, *supra* note 12, at 673 (citing and discussing Ruckelshaus v. Monsanto Co.*,* 467 U.S. 986, 1008–09 (1984)).

226. The Hawaii Supreme Court adopted this logic, citing the *Lucas* takings exception for pre-existing regulatory limitations on title*. In re* Water Use Permit Applications, 9 P.3d 409, 490 (Haw. 2000). The court upheld the denial of an application for a groundwater withdrawal permit on the grounds that the withdrawal was inconsistent with a comprehensive regulatory system governing withdrawals in designated groundwater management areas. *See id.* at 490–91. The court reasoned that "the reserved sovereign prerogatives over the waters of the state precludes the assertion of vested rights contrary to public trust purposes," and is therefore a pre-existing limitation on title under *Lucas. Id.* at 494. However, for the reasons discussed, there is no need to rely on the public trust doctrine to conclude that water rights are subject to a pre-existing limitation on title – i.e., potential state modification to protect public interests. *See* discussion *supra* Part IV.F.

227. This is certainly true where the water withdrawal permit expressly conditions the right on the prospect of future state modification. Arguably, the same result arises even without express permit language where the action is supported by background water management principles. *See Lucas*, 505 U.S. at 1027 ("It seems to us that the property owner necessarily expects the uses of his property to be restricted, from time to time, by various measures newly enacted by the State in legitimate exercise of its police powers . . . .") (internal quotations and citation omitted).

228. *See, e.g.*, Town of Chino Valley v. City of Prescott, 638 P.2d 1324, 1328–29 (Ariz. 1981); *In re* Water Use Permit Applications, 9 P.3d at 492–95; F. Arthur Stone & Sons v. Gibson, 630 P.2d 1164, 1172–74 (Kan. 1981); Williams v. City of Wichita, 374 P.2d 578, 595–96 (Kan. 1962); Crookston Cattle v. Minn. Dep't of Natural Res., 300 N.W.2d 769, 774 (Minn. 1980); McDonald v. State, 722 P.2d 598 (Mont. 1986); Baeth v. Hoisveen, 157 N.W.2d 728, 733 (N.D. 1968); Kline v. State *ex rel.* Okla. Water Res. Bd., 759 P.2d 210, 212–13 (Okla. 1988).

tions. The takings analysis, therefore, will often properly turn not on *whether* the state may reallocate water for protection of public values, but on *how* the state distributes the burdens of reallocation among public and private interests.[229] As discussed above, it is not reasonable for a water right holder to expect that a water right will be immune from state regulations that seek to protect legitimate public interests.[230] On the other hand, a water right holder can reasonably expect that the state will adhere to applicable water rights principles when regulating water uses. A water right holder may also reasonably expect that the state will apply water regulations without arbitrary discrimination and consistent with due process and other constitutional limitations.

Where the burdens of water regulations are not fairly distributed consistent with applicable state water rights principles, a court may find the government liable for a takings claim, notwithstanding a defense based in the public trust.[231] For example, a takings claim may succeed in a prior appropriation state if the state were to limit water available to a senior water right holder for instream flow purposes but not demand the same of junior water rights holders.[232] Consistent with this reasoning, a California appellate court ruled that the state water board could not condition the transfer and assignment of a senior priority appropriation permit by requiring the recipient water district to curtail its withdrawals to facilitate the attainment of downstream water quality standards when the water board did not impose similar conditions on junior water rights holders.[233] Although the court recognized the state's authority to impose appropriate conditions on state water rights to achieve water quality standards, it refused to condone the disparate treatment that burdened only the senior water right holder and not the junior priority rights holders.[234] To so allow, the court explained, would eliminate the entire advantage of possessing a senior right, effectively defeating the reasonable expectations of the water district receiving the senior priority right.[235] Although the district brought this case as an administrative mandamus action, the same reasoning could support an inverse condemnation claim where the state applies state regulations in an arbitrary and disparate manner, inconsistent with state water management principles.

Takings liability might also arise if the state were to expropriate water from a senior water right holder for consumptive use by the state or to make additional water available for another user.[236] Such expropriation by the state would

229. *See* Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 542 (2005); Agins v. City of Tiburon, 447 U.S. 255, 260-61 (1980), *abrogated on other grounds* by *Lingle*, 544 U.S. at 542.

230. *See* discussion *supra* Part III.C; *supra* text accompanying notes 218–22.

231. *See* notes 228–231 and accompanying text.

232. *See, e.g.*, *id.* at 494–96.

233. *Id.* The California Supreme Court has also reaffirmed the importance of adherence to the state's priority principles in the context of an adjudication of groundwater rights, rejecting the view that the state should allocate groundwater pursuant to a principle of equitable apportionment that ignored legal priority, even in an overappropriated groundwater basin. City of Barstow v. Mojave Water Agency, 5 P.3d 853, 858 (Cal. 2000).

234. *El Dorado Irrigation Dist.,* 48 Cal. Rptr. at 494.

235. *Id.* at 494–95.

236. *See, e.g.*, McNamara v. City of Rittman, 838 N.E.2d 640, 646 (Ohio 2005) (holding that landowners have a property interest in the groundwater underlying their land, and governmental

be effectively equivalent to federal expropriations historically held to be a physical taking, unless it were undertaken pursuant to some preexisting state water management principle.[237]

In riparian states, a state's general adherence to reasonable and even-handed standards when distributing the burden of water use regulations among affected water users will likely immunize the state from takings liability.[238] On the other hand, a state-imposed reduction or modification to a riparian water right that starkly deviates from expectations of fair treatment may incur takings liability. Examples might include disparate treatment of individual water users without a rational basis or state expropriation of water for proprietary purposes.[239]

Where water regulations materially compromise a water right holder's reasonable expectations for fair treatment, the public trust doctrine is unlikely to provide a defense against a takings claim.[240] Modern opinions of the Supreme Court have made clear that "claims of sovereign ownership are but legal fictions that offer no special immunity to challenges of transgressing constitutional limits."[241] In consistent fashion, the Federal Court of Claims explained that it

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interference with that right by virtue of drilling nearby wells that impede the groundwater supply to landowner's wells can constitute an unconstitutional taking); State Hwy. Comm. v. Ponten, 463 P.2d 150, 155 (Wash. 1969) (holding that "there is a property right (correlative though it may be) in percolating waters," and the state was liable for its taking of landowners' groundwater through interference with groundwater supply caused by highway construction); *see also* Schick v. Fla. Dep't of Agric., 504 So. 2d 1318, 1320–21 (Fla. Dist. Ct. App. 1987); Dermody v. City of Reno, 931 P.2d 1354 (Nev. 1997); Volkmann v. City of Crosby, 120 N.W.2d 18, 23–24 (N.D. 1963).

237. As noted above, when the state or any of its subdivisions desires to obtain water for proprietary purposes (as opposed to state regulation for the common public benefit), the state must adhere to state water management laws in the same manner as other proprietary water users. *See supra* text accompanying notes 117–18. Thus, if instead of conforming to the state water management regime, the state sought to expropriate water for proprietary purposes, the state would likely be found liable for a physical taking. *See McNamara*, 838 N.E.2d at 644–46.

238. *See, e.g.*, RESTATEMENT (SECOND) OF TORTS § 858 (1979).

239. *See, e.g.*, *Schick*, 504 So. 2d at 1320–21; *Volkmann*, 120 N.W.2d at 23–24; *McNamara*, 838 N.E.2d at 646; State Hwy. Comm. v. Ponten, 463 P.2d 150, 155–56 (Wash. 1969).

240. *See* Lazarus, *supra* note 12, at 675.

241. *See id.* at 713. Lazarus cites to several Supreme Court opinions in the context of dormant commerce, supremacy, and takings clause challenges, including *Sporhase v. Neb. ex rel. Douglas*, 458 U.S. 941, 951 (1982) (holding that sovereign ownership of water does not excuse disparate treatment of out-of-state water users from the negative implications of the commerce clause), *Hughes v. Oklahoma*, 441 U.S. 322, 334–35 (1979) (holding similarly in relation to claims of sovereign ownership of fish by the state), and *Kaiser Aetna v. United States*, 444 U.S. 164, 172 (1979) (rejecting the government's takings defense based in the federal navigable servitude – a historical companion of the public trust doctrine – explaining that the doctrine simply expresses the government's important public interest in the flow of navigable interstate waters). Lazarus also notes a characterization of the *Illinois Central* decision by Justice Brennan as standing merely for the basic proposition that "all private rights of property, even if acquired through contract with the State, are subordinated to reasonable exercises of the States' lawmaking powers in the areas of . . . environmental protection." Lazarus, *supra* note 12, at 713 (citing U.S. Trust Co. v. New Jersey, 431 U.S. 1, 50 (1977) (Brennan, J., dissenting)). Certain courts have invoked the public trust doctrine to justify decisions denying takings claims in relation to state prohibitions of private activities in navigable waters (e.g., filling. dredging, or development), explaining that under the *Lucas* takings exceptions for state actions consistent with

does "not read *National Audubon* as standing for the proposition that water rights in California are beyond the protection of the Fifth Amendment."[242]

In summary, takings analysis in the water context should reflect a common sense approach. The state needs adequate flexibility to modify water allocations over time as necessary to promote the public welfare without risk of takings liability. However, the state must respect applicable water management laws and water rights priorities. The public trust doctrine does not change the necessary analysis of the relative regulatory burdens of a particular water management action, nor provide guidance on how to prudently balance public and private interests within the state's water management regime.[243] Instead, the state must address these difficult legal issues directly and transparently without the cloud of an antiquated legal fiction.[244]

V. THE PUBLIC TRUST DOCTRINE THREATENS TO IMPEDE BALANCED WATER MANAGEMENT

Not only is the public trust doctrine not needed for the state to effectively manage water resources, reliance upon the doctrine—particularly legislative efforts to declare state water resources subject to the public trust—is ill-advised. This is so for at least four reasons discussed below.

A. USE OF THE PUBLIC TRUST DOCTRINE FOR WATER RESOURCE MANAGEMENT WOULD BE A SUPERFICIAL "SOLUTION"

Public welfare suffers if policymakers embrace the public trust doctrine in lieu of developing detailed standards and procedures that acknowledge competing policy goals. Balanced water management follows from a mature dialogue about the reasonableness of public and private expectations and the proper role of government, markets, and other institutional forums. Reliance on the public trust doctrine would stifle this necessary dialogue. In lieu of can-

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relevant background principles of state law, such private actions were inconsistent with the public trust doctrine and thus state law. *See* Thompson, *supra* note 85, at 54 (discussing cases reaching such holdings). A relevant inquiry, though beyond the scope of this article, would be the nature of comparative public and private expectations regarding the private activity prohibited in these cases. For our purposes, state actions that deviate from applicable water right principles, and thus compromise reasonable private expectations, are likely to lead to takings liability consistent with the Supreme Court precedent discussed above.

242. Casitas Mun. Water Dist. v. United States, 102 Fed. Cl. 443, 457 (2011), *aff'd*, 708 F.3d 1340 (Fed. Cir. 2013).

243. *See* Lazarus, *supra* note 12, at 674–679, 702–10; *Government Ownership, supra* note 18, at 654.

244. *See* Lazarus, *supra* note 12, at 674–79, 702–710; *Government Ownership, supra* note 18, at 654. For a candid acknowledgement of the limitations of state constitutional provisions declaring public ownership of natural resources, see Klass, *supra* note 12, at 719 (explaining that such state constitutional provisions "by necessity contain broad, aspirational language usually devoid of the specific standards necessary to implement concrete measures to protect the environment in a complex world," and acknowledging that "the critics are correct that the type of clarity and detail needed to implement environmental policy is better suited to legislative and administrative pronouncements (or even common law) and is not at home in constitutional documents.").

did analysis, the doctrine presents ambiguous standards emanating from antiquated notions of public ownership of water resources. The doctrine provides no specific procedural or substantive standards to guide decision-makers and lacks transparency as a basis for decision-making. Simply put, it cannot provide a policy "shortcut" to the sophisticated and detailed analysis that is necessary to foster balanced water management.

Although substantive law is fully able to protect public interests with respect to water management, some may nonetheless continue to promote the public trust doctrine for its aspirational or visionary connotation.[245] This premise should be abandoned. The law should instead embrace balanced water management for the sake of increased public welfare; not because of an obsolete characterization of water as "public property."

B. APPLICATION OF THE PUBLIC TRUST DOCTRINE IN THE WATER RESOURCE MANAGEMENT CONTEXT WOULD BE AMBIGUOUS

The public trust doctrine is further problematic because the ambiguous scope of its application would create uncertainty and conflict. The proposed Michigan legislation cited at the beginning of this article is a good example. If the Michigan legislature enacted the legislation, the law would have declared that the waters of Michigan are to be "held in trust."[246] Such bare embrace of the public trust doctrine as a basis for water management would not inform how or under what conditions the state should apportion available water, nor how the state should distribute regulatory burdens among competing water users. Those left to interpret the statute would have to determine which public interests are covered by the trust, and whether the legislature intended a procedural review of the "feasibility" of protecting those interests, or instead intended specific substantive results for future water management decisions.[247]

As another example, Vermont has adopted a statute that declares groundwater subject to the public trust, but also declares that various consumptive uses of groundwater are deemed to comply with the public trust requirements.[248] These uses include: withdrawals for which the state has issued a permit, domestic and residential uses, withdrawals for public water systems, withdrawals for permitted potable water supplies, farming conducted consistent with statutory terms, and licensed dairy processors or milk handlers.[249] Like-

245. Jack Tuholske, *Trusting the Public Trust: Application of the Public Trust Doctrine to Groundwater Resources*, 9 VT. J. ENVTL. L. 189, 236 (2008) (arguing that application of the public trust doctrine to the protection of water resources "provides an important statement that can shift public views in favor of protecting public resources. The public trust 'crosses over from the law to a pure statement of social vision.'") (citations omitted); *A Comparative Guide to the Western States' Public Trust Doctrine*, *supra* note 35, at 83 ("[T]he legal recognition of a 'public trust' provides both a rhetorically resonant articulation of the larger public interests in intact and functional ecosystems and a means of imposing broad duties on governments to act for the long-term preservation of ecosystems and other environmental values . . .").

246. *See supra* note 2 and accompanying text.

247. *See* discussion *supra* Part II.D.

248. VT. STAT. ANN. tit. 10, § 1390 (2008); § 1418(b) (2010).

249. *Id.* § 1418(b).

wise, legislation proposed in Hawaii (but not adopted) would have designated certain agricultural uses as a public trust value.[250] The intent of such declarations is unclear. Is the intent to designate certain uses, such as domestic and agricultural uses, as more deserving of water than other uses?[251] If the legislature can assign the public trust crown to certain consumptive uses deemed worthy of that prestige, is there any rational limit to such coronation? Could a state, for instance, designate water used for production of semiconductors—a high water-demand industry—a public trust value to reflect its importance to high wage employment and tax revenue?

These examples highlight the significant confusion that can stem from statutory adoption of the public trust doctrine. Such ambiguity invites unnecessary conflict because solutions and consensus are more likely to emerge where stakeholders can readily ascertain the likely implications of a defined management structure rather than circumstances in which fear of uncertainties thwarts compromise.[252] Such potential confusion and resulting conflict is unnecessary in light of the ample alternatives to protect the public interest in water management discussed above.[253]

C. APPLICATION OF THE PUBLIC TRUST DOCTRINE IN THE WATER RESOURCE MANAGEMENT CONTEXT WOULD FOSTER EXTREMISM

Another risk the public trust doctrine presents in the water management context is the potential misuse of the doctrine in support of extreme positions that are incongruous with overall social welfare. Some argue that the public trust doctrine mandates protection of trust values over other interests (e.g., consumptive use withdrawals), or even flatly prohibits particular uses of water, presumptively even if the broader public welfare suffers as a result.[254] Those

250. The legislation proposed designating public trust purposes to include "resource protection, domestic uses, upholding the exercise of native Hawaiian traditional and customary rights, and the conservation and protection of agricultural activity on lands identified and designated as important agricultural lands . . . ." S.B. 1296, 25th Leg. 1st Reg. Sess. (Haw. 2009). We note that the Hawaii Supreme Court has explained that a Hawaiian statute that articulates a policy preference to preserve water supplies for, among other purposes, municipal uses, public recreation, public water supply, agriculture, and navigation "generally mirrors the public trust principles." *In re* Water Use Permit Applications, 9 P.3d 409, 457–58 (Haw. 2000) (citing HAW. REV. STAT. § 174C–2 (1999)).

251. State legislatures can, and often do, articulate preference among water uses, but these pronouncements are specifically articulated as the will of the public's representatives. *See, e.g.*, ARIZ. REV. STAT. ANN. § 45-157(B) (1994); CAL. WATER CODE § 106 (West 1943); IOWA CODE §§ 455B.266(2)(a)-(i) (2013); MD. CODE ANN., ENVIR. § 5-502(d) (West 2010); MINN STAT. §§ 103G.261(a)(1)–(6) (2012); N.D. CENT. CODE §61-04-06.1 (West 1977); VA. CODE ANN. § 62.1-242l (West 1989).

252. *See Creation of New Risk Sharing Water Entitlement Regimes*, *supra* note 101, at 686–88 (describing the Truckee-Carson Settlement as a basin-wide settlement in which compromise was fostered by an understanding of, and commitment to, an equitable and transparent physical solution).

253. *See* discussion *supra* Parts IV.A–F.

254. *See e.g.*, James M. Olson, *Navigating the Great Lakes Compact: Water, Public Trust, and International Trade Agreements*, 2006 MICH. ST. L. REV. 1103, 1130–32 (2006) (arguing that the public trust doctrine prohibits the alienation or transfer of water for private commercial

espousing this view essentially seek to replicate the strict substantive restrictions traditional public trust cases employ to limit the state's discretion to manage water.[255] Dissatisfied with prior political, administrative, and judicial results, some promote the public trust doctrine as a means to vindicate their insular views.[256] For example, one author urges reliance on the public trust doctrine to effectively overturn the Michigan Court of Appeal's adoption of a "reasonable use balancing test"[257] because such a test could allow private water users to take and use water off-parcel.[258] These advocates seek to remove the discretion of administrative and judicial decisionmakers and instead prohibit certain uses made by private enterprise.[259] Such a view is antithetical to balanced water management. If the public trust doctrine is applied to favor public trust values—however they may be defined[260]—over other public interests, the

purposes unless there is explicit legislative authority and the purpose is primarily a public one, and that regardless of the purpose, the use, transfer, or withdrawal of water cannot significantly impair the public trust); Melissa Kwaterski Scanlan, *Protecting the Public Trust and Human Rights in the Great Lakes*, 2006 MICH. ST. L. REV. 1333, 1343–45 (2006) (arguing that "[p]rivatization, whether it is by taking over municipal services or by selling water in bottles, can be at odds with protecting the public trust in water."); Koehler, *supra* note 88, at 543 (arguing that "the doctrine places a substantive burden on the state to protect trust resources affected by water rights and to allow harm to these assets only when it is infeasible to do otherwise."); *see also* State Water Resources Control Board Cases, 39 Cal. Rptr. 3d 189, 272 (2006) (explaining and dismissing argument by plaintiffs that in resolving conflicts between public trust values and competing water uses, the state must favor public trust protection whenever possible); Noah D. Hall, *Protecting Freshwater Resources in the Era of Global Water Markets: Lessons Learned From Bottled Water*, 13 U. DENV. WATER L. REV. 1, 46–51 (2009) (discussing arguments and efforts by opponents of bottled water to use the public trust doctrine to support their claim that water cannot be sold for profit, but dismissing such theories as likely untenable and noting that no court has ever applied the doctrine to bar the sale of water for profit). Advocates for an application of the public trust doctrine that would effectively prohibit private uses of water often correlate with interest groups that denounce "commodification" or "privatization" of water. For an assessment of the arguments for and against private rights, private enterprise, and market forces respecting the acquisition and distribution of water, and an overview of the attendant global controversy, see Montgomery F. Simus & James G. Workman, *The Water Ethic: The Inexorable Birth of a Certain Alienable Right*, 23 TUL. ENVTL. L.J. 439, 441–42 (2010).

255. *See* Olson, *supra* note 254, at 1130–31; s*ee also* discussion *supra* Part II.B (discussing the traditional public trust doctrine).

256. *See* Olson, *supra* note 254, at 1118–19; *see also* Hall, *supra* note 254, at 46–51 (discussing the embrace of the public trust doctrine by bottled water opponents to seek substantive restrictions on water bottling not otherwise available from existing regulatory and judicial venues); *Democracy, Distrust, and the Public Trust, supra* note 35, at 407–33 (evaluating and ultimately dismissing comparisons and analogies between the public trust doctrine and the process-based doctrine of equal protection that demands enhanced judicial scrutiny of political decisions concerning discrete and insular minorities or suspect classes).

257. Mich. Citizens for Water Conservation v. Nestle Waters N. Am. Inc., 709 N.W.2d 174, 194 (Mich. Ct. App. 2005).

258. *See* Olson, *supra* note 254, at 1118–19.

259. It appears that some modern advocates believe that the public trust doctrine inherently prohibits or disfavors uses of water for private business ventures. *See discussion supra* note 254. Such positions are counter to the central goal of water management to maximize public welfare, which requires that water management laws facilitate inclusion of all public interests. *See* discussion, *supra* Parts III, IV.A.

260. Presumably, public trust values in the water management context would be limited to instream interests. *See* National Audubon Soc'y v. Superior Court, 658 P.2d 709, 723 (Cal.

doctrine simply becomes a tool to benefit special interests to the detriment of the broader public welfare, despite the societal consequences.[261] Most legal authority has rejected claims that the doctrine removes management discretion or compels substantive (as opposed to procedural) results.[262] Still, the potential for misuse of the doctrine is another reason to favor specific water management laws over the public trust doctrine and its inherent ambiguities.

D. THE PUBLIC TRUST DOCTRINE WOULD BE AN INADEQUATE BASIS TO MANAGE MODERN WATER PROBLEMS

Application of the public trust doctrine in the water management context not only lacks clarity but its historic, geographic, and substantive limitations would also restrain its effectiveness, albeit appropriately.[263] Although the doctrine's reach has expanded in some instances, courts will likely be reluctant to expand the doctrine beyond its traditional moorings of navigable waters and historically protected interests out of respect for judicial precedent, separation of powers, and constitutional limitations.[264] Direct water management laws, by

1983) (dismissing an assertion by the California Attorney General that "trust uses" encompass all public uses, so that in practical effect the doctrine would impose no restrictions on the state's ability to allocate trust property, and noting that "[m]ost decisions and commentators assume that 'trust uses' relate to uses and activities in the vicinity of the lake, stream, or tidal reach at issue."). However, the definition of public trust values is not entirely settled. *See* Lazarus, *supra* note 12, at 649–52 (discussing an expansive array of applications of the public trust doctrine to resources other than navigable water).

261. In this respect, we should be mindful of the vast context in which water supports social welfare. Consumptive uses of water, typically by private interests, support critical elements of social welfare, including food, shelter, energy, products, and jobs. Likewise, environmental and other instream water uses have definite value despite certain difficulties in calculating that value. *See* GIBBONS, *supra* note 23, at 65–71 (1986). Whether any particular use advances or impairs the public interest is case-specific, and often subject to dispute. Thus, the scope of affected public interest in relation to the allocation of water should be broadly perceived, and narrow characterizations of the public interest that ignore, or arbitrarily discount, the vast scope of applicable costs and benefits should be resisted.

262. *See, e.g.*, State Water Resources Control Board Cases, 39 Cal. Rptr. 3d 189, 272 (Cal. Ct. App. 2006) ("[I]n determining whether it is 'feasible' to protect public trust values like fish and wildlife in a particular instance, the Board must determine whether protection of those values, or what level of protection, is 'consistent with the public interest.'"); Parks v. Cooper, 676 N.W.2d 823, 838 (S.D. 2004) (explaining that South Dakota's Water Resources Act evinces a legislative intent both to allocate and regulate water resources that, in effect, codifies public trust principles); United Plainsmen Ass'n v. N.D. State Water Conservation Comm'n, 247 N.W.2d 457, 461, 463 (N.D. 1976) (holding that the public trust doctrine requires the state engineer to undertake water planning to determine the effect of a proposed allocation on the present water supply and future needs of the state); *see also* Thompson, *supra* note 85, at 65 (explaining that no public trust case has ever directly overturned a legislative decision and that most have either upheld legislative or executive actions or preserved opportunities for the democratic branches of government to exercise authority over trust resources); Hall, *supra* note 254, at 5 (noting that no court has ever applied the public trust doctrine to bar the sale of water for profit or to prohibit commercial bottled water operations); *Public Property and the Democratization of Western Water Law*, *supra* note 1, at 590 ("The result [of recent ecological public trust cases] has been a judicial emphasis on process fairness and 'reasoned decision-making' from administrators, rather than particular substantive results.").

263. *See* Lazarus, *supra* note 12, at 710–15.

264. *See id.*

contrast, are not so constrained, and instead will stand or fail, as they should, on a candid comparison of reasonable public and private expectations and the constitutional propriety of the government's allocation of water among competing interests.[265] If, on the other hand, "rogue" judges were to rely on the public trust doctrine as a basis to exceed the limits of existing laws and constitutional norms, the result would be contrary to the rule of law, democratic government, and the traditional interpretive role of the judiciary.[266]

VI. FUNDAMENTAL STRATEGIES FOR BALANCED WATER MANAGEMENT

In this final section, we briefly review how specific water management laws may be tailored to address modern water supply issues without reliance on the public trust doctrine's shortcomings. In contemplating how states may improve their water management laws, we should observe that problems concerning the allocation of water generally arise either from *overuse* that threatens the sustainability of the resource or from *inefficient use*; meaning, either excessive use in relation to a specific demand or inefficient allocation in relation to other competing uses for the water (i.e., the "opportunity cost").[267] In general terms, states may address such problems through the following seven management strategies:

1. Effective water management requires accurate technical understanding. Thus, the collection of data and the development of state, regional, and local water management plans are often appropriate initial efforts.

2. Grounded in sound science and technical data, states should establish maximum system yields. States should also monitor total (combined) water use and restrict the system-wide use as is necessary to ensure long-term sustaina-

265. *See* discussion *supra* Parts IV.E–G.

266. *See Speaking of Inconvenient Truths*, *supra* note 1, at 98–101, 103 (arguing that if the *jus publicum*—i.e., the public right that traditionally affords public access to navigable water and related submerged lands—is conflated with the much broader public interest, "a special interest can be converted to a public right by the stroke of a sympathetic judge's pen" to the jeopardy of the rule of law and the democratic process).

267. Economic theory describes these problems as results of the tragedy of the commons and the tragedy of the anticommons. The commonly referenced tragedy of the commons results in the overuse of the resource where multiple users possess open access to use the resource without a cost-effective means to monitor and constrain each other's use. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244–45, 1248 (1968); *see also Special Challenges*, *supra* note 173, at 311–13 (discussing the tragedy of the commons in relation to the use of water). In other words, where water belongs to everyone, it is in no one's particular interest to preserve it. The less frequently discussed tragedy of the anticommons results in an underutilization of a resource where multiple parties hold rights to exclude use by others. The tragedy of the anticommons may explain underutilization of voluntary market transactions to efficiently reallocate water from lower to higher-valued uses. Stephen N. Bretsen & Peter J. Hill, *Water Markets as a Tragedy of the Anticommons*, 33 WM. & MARY ENVTL. L. & POL'Y REV. 723, 725–27 (2009). One may view both problems in the context of the Coase Theorem, whereby otherwise efficient voluntary transactions do not occur where transaction costs exceed the gains of trade. R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 5–6, 15–16, 40, 43 (1960).

bility of the resource and appropriate protection of environmental and other public interests.

3. States should apportion system-wide yields into well-defined individual water rights that quantify and limit the amount that can be withdrawn, particularly with respect to significant users that are likely to impose a material impact on the water supply source.[268]

4. To avoid unnecessary conflict and constitutional infirmities, states must afford all relevant interests, including environmental and other diffuse public interests, due process when establishing system-wide yields and individual water withdrawal allotments.

5. States should base restrictions on withdrawals on technical findings and apply water use limitations consistent with the state's water rights laws. Likewise, states should avoid arbitrary discrimination against particular water users based on the location or purpose of use without regard to resource impacts. Such restrictions may result in inefficient allocations and may also transgress constitutional norms such as due process, takings, and dormant commerce clause limitations.

6. States should establish oversight institutions, if not already in effect, to monitor and manage the water system, modify the management system when appropriate, and resolve any conflicts that may arise among stakeholders. State or local agencies, the courts, and various hybrid strategies may be viable so long as the oversight is responsive to future management needs and the state affords due process to affected interests.

7. States should establish well-defined rules and procedures to facilitate voluntary transfers of water rights, which stimulate conservation and efficient reallocations.[269] States must regulate transfers to afford appropriate protection of

268. Efforts to provide greater definition and legal certainty for water rights often correlate with scarcity. *See* Arizona v. California, 460 U.S. 605, 620 (1983) ("The doctrine of prior appropriation, the prevailing law in the Western States, is itself largely a product of the compelling need for certainty in the holding and use of water rights."); *A Dozen Propositions*, *supra* note 14, at 269, 273 (discussing the common correlation between the evolution of property rights and scarcity). This correlation is revealed by the difference between the historically loosely-defined riparian rights in the water-endowed eastern states and the better-defined appropriative rights in the water-scarce western states. *See* POSNER, *supra* note 23, at 45 (noting that property rights are correlated with scarcity, and comparing riparian and prior appropriation states as an example). The legal elements of riparianism and prior appropriation are discussed *supra* at Part IV.B. As water supplies become more scarce in relation to demand, law and policy typically respond by better defining the entitlements and limitations that embody a water right. This shift is evident in the transition in eastern states from common law riparianism to regulated riparianism that imposes permitting regimes with quantified withdrawal allowances. *See Special Challenges*, *supra* note 173, at 315, 317, 327–29. In addition to permitting requirements, eastern states have also begun to develop comprehensive planning initiatives to manage their water resources in the face of emerging scarcity conditions. *See, e.g.*, GA. CODE ANN. §§ 12-5-520 to -525 (2013);FLA. STAT. §§ 373.012-.200 (2013); VA. CODE ANN. § 62.1-44.38:1 (2013).

269. Voluntary transfers among users also affords the potential to: (1) incentivize conservation by those that may achieve gains by transferring saved water, (2) reallocate water allocations to higher-valued uses, and (3) foster accurate water pricing, which thereby correlates water use to

> affected third-party water rights holders, the environment, and other public interests. However, excessive regulatory burdens, or opportunities for third-party impediments, may raise the transaction costs of consummating transfers and thereby preclude efficient reallocations when the transaction costs exceed the gains of trade.[270] States should scrutinize and tailor transfer rules to balance protections for other water users and instream interests with the social benefits realized by voluntary exchanges.

Even-handed water management strategies, such as those outlined above, may accommodate competing public and private interests and balance countervailing policy goals. For example, the system can promote legal certainty while facilitating flexible and adaptive management.[271] Although the state may adjust consumptive uses from the common source as necessary, users can employ voluntary exchanges to hedge against the uncertainty that results from the prospect of system-wide adjustments. Individual users that have a need of higher degrees of certainty (e.g., municipal and industrial users) may acquire higher priority rights while those who are willing to bear the risk of shortage may rely on lower priority water rights.[272] Although there is no absolute certainty in relation to the collective quantity of available supply from any particular source, the state can promote legal certainty by developing and adhering to transparent allocation rules on which water users can plan, undertake voluntary transfers, and structure investments. In this respect, a well-defined water rights system is essential to efficient water management.[273]

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the marginal utility of the use. Andrew P. Morriss et al., *Principles for Water,* 15 TUL. ENVTL. L.J. 335, 336, 354, 358 (2002); *see also* POSNER, *supra* note 23, at 41 (noting that "creation of individual (as distinct from collective) ownership rights is a necessary, rather than sufficient, condition for the efficient use of resources" because "[e]fficiency requires a mechanism by which the [property owner] can be induced to transfer the property to . . . someone else."). Although voluntary transfers provide significant opportunities for improved efficiency in the use of water, water markets are unique because of the shared and transient nature of the resource. As a result, water markets often face significant challenges that can prevent efficient transfers from occurring. Bretsen & Hill, *supra* note 267, at 742, 782.

270. Bretsen & Hill, *supra* note 267, at 726, 728. *But see Special Challenges*, *supra* note 173, at 310 (arguing that "[w]ater is a commodity for which transaction costs are too high to allow large-scale markets, and its importance to human life precludes denying access to those who cannot pay for it.").

271. Well-defined property rights that establish the opportunities and limitations inherent in the right are essential to the effective management of the resource consistent with public and private expectations relating to the resource, particularly as population and scarcity of the resource increase. *See* POSNER, *supra* note 23, at 43–45.

272. A variety of transfer arrangements may be appropriate, including absolute water right sales, leases, dry-year fallowing options, and transfers based on groundwater substitution.

273. *See* POSNER, *supra* note 23, at 97 (noting that water right markets are often impeded by difficulties in determining who owns which rights and in what scope or quantity, and further stating that the institution of a title system for water rights analogous to the systems used to record land title would promote efficiency of water markets).

VII. CONCLUSION

Although the notion of a public trust in water resources has powerful rhetorical appeal as a "legal shorthand" to express public rights in a transient resource, the doctrine is insufficient and counterproductive to the development of a mature water policy.[274] It offers a legal "crutch" that avoids a direct dialogue about how the state should properly balance competing interests and, consequently, fosters confusion regarding applicable legal standards. It may also harm the public interest if special interests are successful in misusing the doctrine to preclude balanced water management by casting an insular viewpoint as mandated by the public trust.[275] The law cannot turn on such talismanic charms. As Professor Frank Trelease observed several decades ago:

> It must always be remembered that when we say "alakazam," or "state ownership," or the "state holds in trust," no genie out of a bottle brings us a beautiful maiden draped in pearls, and no magical solution is provided for difficult problems of adjusting the relations of an individual to the state . . . in the complex field of development of water resources.[276]

The public trust doctrine simply does not offer an appropriate shortcut to the development and application of specific water management standards and procedures whereby complex and diverse public interests are candidly debated and evaluated on a case-specific basis. For this reason, policymakers should resist calls to legislate or adopt the public trust doctrine as the basis for water resource management, and instead apply their attention to developing a coherent and comprehensive body of detailed water management laws designed to maximize public welfare.

274. *See* discussion *supra* Part V.
275. *See* discussion *supra* Part V.C.
276. *Government Ownership*, *supra* note 18, at 654.