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WATER POLLUTION AND THE PUBLIC TRUST DOCTRINE

By
RALPH W. JOHNSON*

Nonpoint pollution from irrigation return flows has become a serious national problem. Even the extraction of water for irrigation and other purposes causes pollution by reducing the assimilative capacity of the source stream or lake. Such pollution can be regulated either by the courts or the legislatures under the public trust doctrine, which antedates the prior appropriation system, and which protects fisheries and water quality. Alternatively, this pollution can be controlled under the state's police powers. The "takings" issue should not be troublesome because no one, not even prior appropriators, has or can acquire a legal right to pollute public waters.

I. INTRODUCTION

By some estimates, nonpoint¹ water pollution sources ac-

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1. Nonpoint sources of water pollution are all sources that are not point sources. See 2 W. RODGERS, JR., *ENVIRONMENTAL LAW* 146 (3d ed. 1986). A point source is defined in the Clean Water Act as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C.A. § 1362(14) (West Supp. 1988). Return flows from irrigated agriculture and agricultural storm water discharges are specifically excluded. *Id.* Irrigated agriculture, highways, subdivisions, and logging all cause nonpoint pollution. In other words, there is no specific end-of-the-pipe or other point source that

count for up to ninety-nine percent of suspended solids and between fifty to ninety percent of other conventional pollutants.² Up to fifty percent of toxic pollutants may be blamed on nonpoint sources.³ Nonpoint pollution is primarily responsible for the failure in most states to meet the Clean Water Act's water quality standards.⁴

Agriculture is a major source of nonpoint pollution in the form of sediments, pesticides, and pathogens.⁵ Fifty percent of the total sediments contaminating United States inland waterways began as cropland, and half of this, along with organic and inorganic contaminants, reaches the oceans.⁶ The drinking water of an estimated fifty million people in the United States comes from groundwater that is potentially contaminated with agricultural chemicals.⁷ Risks to human health from exposure to contaminated groundwater have been documented, and more are suspected.⁸

Several trends have increased the potential for groundwater contamination from agriculture. Four times more inorganic nitrogen fertilizers, a major source of nitrate-nitrogen groundwater contamination, were used in 1980 than were used in 1960, while the agricultural use of pesticides has nearly tripled since 1964.⁹ Meanwhile, up to ninety-seven percent of people in rural areas rely on groundwater for their drinking water.¹⁰

The prior appropriation system of the Western United States was not designed to control this type of nonpoint pollution. Not surprisingly, this failure has led to a search for other legal solu-

discharges waste. Instead, pollutants seep down through the soil into groundwater aquifers, or gravitate into rivers with return flows from irrigation or forestry practices.

2. 2 W. RODGERS, JR., *supra* note 1, at 124-25.

3. *Id.* at 125.

4. *Id.*

5. *Id.* at 139; *see also* 2 J. BATTLE, ENVIRONMENTAL LAW 213 (1986).

6. 2 W. RODGERS, JR., *supra* note 1, at 139.

7. E. NIELSEN & L. LEE, THE MAGNITUDE AND COSTS OF GROUNDWATER CONTAMINATION FROM AGRICULTURAL CHEMICALS vi (1987).

8. *Id.* at 1.

9. *Id.* at 2.

10. *Id.* at 1; FRESHWATER FOUNDATION, AGRICULTURAL CHEMICALS AND GROUNDWATER PROTECTION: SUGGESTED DIRECTIONS FOR CONSIDERATION AND ACTION 1 (1987).

tions, such as the Clean Water Act (which to date has also failed), and a rejuvenated and enhanced public trust doctrine.¹¹

The battle lines of debate have been sharply drawn in recent years concerning the application of the public trust doctrine to prior appropriators.¹² The protagonists in this debate have seldom considered the relevance of the doctrine to water quality

11. Over the past 15 years, in half the states, over 100 reported cases involving the public trust doctrine have had a major impact on natural resources protection. Only a few of these cases, however, deal directly with nonpoint pollution. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 643-44 (1986).

12. Sources generally supporting the public trust doctrine include H. Dunning, *Instream Flows, the Public Trust, and the Future of the West*, presented at *Instream Flow Protection in the Western United States: A Practical Symposium*, Natural Resources Law Center, University of Colorado (Mar. 31-Apr. 1, 1988) (conference proceedings available from the Natural Resources Law Center, University of Colorado) [hereinafter H. Dunning, *Instream Flows*]; Dunning, *The Public Trust Doctrine and Western Water Law: Discord or Harmony?*, 30 ROCKY MTN. MIN. L. INST. 17-1 (1984) [hereinafter Dunning, *Discord or Harmony?*]; Johnson, *The Emerging Recognition of a Public Interest in Water: Water Quality Control by the Public Trust Doctrine in WATER AND THE AMERICAN WEST* 127 (D. Getches ed. 1988); Johnson, *Public Trust Protection for Stream Flows and Lake Levels*, 14 U.C. DAVIS L. REV. 233 (1980) [hereinafter Johnson, *Public Trust Protection*]; Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970); Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269 (1980).

A recent study by the Western States Water Council expressed an opposing view: "[T]he majority view, indeed what many would call the settled law in the West, is that because vested water rights are constitutionally protected property interests they are not subject to modification unless expressly conditioned." WESTERN STATES WATER COUNCIL, *THE DOCTRINE OF PRIOR APPROPRIATION AND THE CHANGING WEST* 24 (1987).

Authors generally critical of the public trust doctrine, often on the ground that it thwarts legitimate investment-backed expectations, include: Ausness, *Water Rights, The Public Trust Doctrine, and the Protection of Instream Uses*, 1986 U. ILL. L. REV. 407; Huffman, *Trusting the Public Interest to Judges: A Comment on the Public Trust Writings of Professors Sax, Wilkinson, Dunning, and Johnson*, 63 DEN. U.L. REV. 565 (1986); Lazarus, *supra* note 11 (an especially comprehensive and well researched article); Walston, *The Public Trust Doctrine in the Water Rights Context: The Wrong Environmental Remedy*, 22 SANTA CLARA L. REV. 63 (1982). For an excellent transcribed oral discussion of the pros and cons of the issues, see comments by Adolph Moskovitz, Harrison Dunning, and Clifford Lee in PUBLIC POLICY PROGRAM, DEP'T OF HUMANITIES & SOCIAL SCIENCE, U.C.L.A. EXTENSION, MONO LAKE: BEYOND THE PUBLIC TRUST DOCTRINE 77-96 (March 30-31, 1984, conference proceedings).

control, which is the main focus of this Article.

From the beginning, the public trust doctrine has protected navigation, commerce, and fisheries. Protection of fisheries necessarily implies protection of water quality, but in recent years, courts have increasingly identified water quality as a separate or specific, rather than derivative, interest protected by the public trust doctrine.¹³ This doctrine now provides a principled common-law theory for protecting water quality, especially against nonpoint pollution.

Because states and their subdivisions can enact zoning laws regulating land use, so can they enact regulations for controlling water quality. The law has never recognized a vested property right to pollute.¹⁴ Legislatures can prohibit or regulate pollution with little fear of successful takings claims. At least to the extent that irrigated agriculture causes pollution, the water rights associated with that use are subject to regulation.

The prior appropriation system itself can be used to control nonpoint pollution. This system requires that water be used for a beneficial purpose. Irrigation that causes pollution presumably can be regulated under the theory that the term "beneficial use" means both beneficial to the appropriator and not harmful to the public. Unfortunately little has been made of this approach to water quality control.¹⁵ Similarly, the requirement that prior appropriation permits be issued only in the "public interest"¹⁶ has

13. See, e.g., *National Audubon Soc'y v. Superior Court (Mono Lake)*, 33 Cal. 3d 419, 658 P.2d 709, 189 Cal. Rptr. 346, cert. denied, 464 U.S. 977 (1983).

14. 1 W. RODGERS, JR., *supra* note 1, at 141-42. One water law authority asserts that "because water rights are usufructuary rights in a resource that belongs to the public, it can be argued that no Fifth Amendment taking is involved when the state decides to reassert its interest or to redefine the nature of private interests in the use of the resource." D. Getches, *Western Water: Flood of Conflicts; Drought of Solutions 10* (paper presented to Judicial Conference of the 10th Circuit, Jackson Lake Lodge, Wyoming, July 8, 1988).

15. See C. MEYERS, A. TARLOCK, J. CORBRIDGE, JR. & D. GETCHES, *WATER RESOURCE MANAGEMENT* 319 (3d ed. 1988) [hereinafter C. MEYERS] (examples of "application of . . . the appropriation doctrine to protect water quality have been rare.").

16. Numerous western states provide for public interest review before issuance of new prior appropriation permits. See, e.g., ARIZ. REV. STAT. ANN. §§ 45-152, -153 (1987); CAL. WATER CODE §§ 1225, 2155 (West 1971 & Supp. 1989); NEB. REV. STAT. §§ 46-233, -234, -235 (1984); S.D. CODIFIED LAWS ANN. §§ 46-1-15, -2A-9, -5-10, -6-3 (1987); WASH. REV. CODE ANN. §§ 90.03.250, .03.290, .44.060 (1962 & Supp.

not been effective to protect public trust interests. The definition of public interest is too vague to alter the inertia of the administrative practice to issue appropriation permits to all who apply.

Historically, the prior appropriation system has allocated water in all of the seventeen arid Western States. The doctrine originated as a common-law doctrine in the mid-nineteenth century, and most state legislatures codified it around the turn of the century. Its declared policy is that "first in time is first in right." For example, A diverts and puts to beneficial use water from a stream before B, thus vesting A with a permanent, legal property right to continue the diversion forever, although A must make a beneficial use of the water and has no right to waste it. A need not share her water rights with B in time of drought. If the water level drops, B may be totally deprived of water, but A will get her full appropriation.

During the West's early economic development, the prior appropriation system served exceedingly well, encouraging farming, mining, and industrial activities. In fact, prior appropriation has been so important to western development and so dear to agricultural water users (whose land would often be worthless without water), that the doctrine has become cloaked in a powerful mystique; a mystique so strong that it deters analysis of the true scope, limits, and purpose of the doctrine.

Until the 1950s and 1960s there was little reason to study or write about the scope or limits of the prior appropriation doctrine. Competing uses were relatively few, and appropriators only occasionally used enough water to impair public trust interests. If a stream was overused, the public could go to other rivers or lakes for recreation or wildlife enhancement. The prevalent myth of the time was that the prior appropriation system was totally comprehensive,¹⁷ was fair to everyone, and took precedence over other claims to water use.¹⁸ The prior appropriation system, however,

1988).

17. Getches discusses this notion in a recent article where he says that "[t]he prior appropriation doctrine was considered sufficient to allocate and reallocate water resources with little guidance." Getches, *Water Planning in the West: Untapped Opportunity for the Western States*, 9 J. ENERGY L. & POL'Y 1, 25 (1988).

18. The respected Justice Mathew W. Hill of the Washington Supreme Court expressed this general view in *In re Clinton Water Dist.*, 36 Wash. 2d 284, 218 P.2d 309 (1950). He argued that the appropriation code made swimming, fishing,

was and is a special interest doctrine designed to establish rules for surface water allocation among prior appropriators. It was not designed to control other resources such as groundwater, or other uses such as the discharge of wastes, boating, swimming, or fishing. It was not designed to affect public trust interests such as navigation, fishing, recreation, environmental quality, water quality control, or other in-stream flow interests.

Why rely on the public trust doctrine for nonpoint pollution control when the nation has a comprehensive national water pollution control system in place? The answer is that the national system has been ineffective in controlling nonpoint pollution.¹⁹

In 1972, when Congress enacted the Federal Water Pollution Control Act²⁰ and took over from the states the nation's water quality control program, optimists thought the nation had the pollution problem under control. Point sources were specifically controlled. Nonpoint sources were to be investigated by the states under section 208 and presumably would be controlled soon. Implementation of section 208, however, fell flat.²¹ Nonpoint source

and boating secondary to the rights of appropriators. He did not contend that riparians had to apply for permits under the code to exercise such rights, but rather that the state became the owner of public waters by the appropriation code, that appropriators were given a priority status under the act, and that swimming, fishing, and boating were privileges allowed only by consent of the state and were subject to loss when in conflict with appropriative rights. *Id.* at 294-301, 218 P.2d at 315-19 (Hill, J., dissenting).

19. "Nonpoint source pollution is primarily responsible for the wholesale violation of water quality standards found in virtually all states. . . . It is an accurate supposition that nonpoint sources are exempted from the regulatory reach of the Clean Water Act." 2 W. RODGERS, JR., *supra* note 1, at 125. "[T]here has been no uniform regulatory control over nonpoint sources. . . . Many of the 208 plans that were prepared emphasized a period of further study. . . . [T]he reassessment time arrived without significant comprehensive state plans being put into effect and little progress having been made toward general abatement of nonpoint source pollution, particularly from agriculture. . . ." 3 R. BECK & C. GOPLERUD, *WATER AND WATER RIGHTS* 282-83 (3d ed. 1988).

20. 33 U.S.C. §§ 1251-1376 (West 1982 & Supp. 1988). In 1977, the Act was substantially amended and the name of the act was changed to the Clean Water Act. Pub. L. No. 95-217, 91 Stat. 1567 (1977).

21. "[L]ittle progress [has] been made [under the 1972 Act] toward general abatement of nonpoint source pollution, particularly from agriculture and forestry." R. BECK & C. GOPLERUD, *supra* note 19, at 283. The regulatory attention which has been given to point sources of pollution over the past near decade and a half—with a substantial degree of success—has not focused nearly so sharply on nonpoint sources. . . . [Agriculture, silviculture, and other nonpoint sources] have

pollution, especially that generated by agriculture, has grown apace, essentially uncontrolled.²² Now we have section 1329 of the 1987 Amendments²³ calling for still more study and conferences on nonpoint pollution, eventually aimed at providing some control. Meanwhile, agricultural and other nonpoint pollution problems worsen.²⁴ Not surprisingly, the courts are being asked to plug this gap in the nation's pollution control program, often with the public trust doctrine.

II. THE ORIGIN OF THE PUBLIC TRUST DOCTRINE

The public trust doctrine originated from the widespread practice, from time immemorial, of using navigable waters as public highways and fishing grounds.²⁵ The *Institutes of Justinian* proclaimed that the air, running water, the sea, and consequently the seashores, are common to all by natural law.²⁶ Professor Jo-

one thing in common: they are not amenable to the usual end-of-the-pipe control strategies. All too often, therefore, they have gone without adequate regulation." 2 J. BATTLE, *supra* note 5, at 213.

22. Only point sources are regulated by the Clean Water Act. The definition of point sources has been narrowed to exclude from regulation agricultural storm water discharges and return flows from irrigated agriculture. 33 U.S.C.A. § 1362(14) (West Supp. 1988); see C. MEYERS, *supra* note 15, at 320.

23. 33 U.S.C.A. § 1329 (West Supp. 1988).

24. See E. NIELSON & L. LEE, *supra* note 7, at 2. California farmers, the largest users of pesticides in the United States, apply 480 million pounds of insecticides, fungicides, and herbicides each year. Olsenius, *Soil Erosion, Agrichemicals and Water Quality: A Need for a New Conservation Ethic?* in WATER QUALITY CONTROL: INTEGRATING BENEFICIAL USE AND ENVIRONMENTAL PROTECTION 11 (June 1-3, 1988, conference proceedings) (available from the University of Colorado School of Law Natural Resources Law Center). Between 1966 and 1981, Iowa, Nebraska, and Minnesota increased herbicide use alone by 175 percent. *Id.* In the United States as a whole, agriculture uses about 1.1 billion pounds of pesticides yearly. *Id.* Agricultural nonpoint source pollution has been reported as a moderate to severe problem in 36 states. *Id.* at 10. "The most telling example of uncontrolled pollution is the so-called 'non-point source.' . . . Indeed, non-point sources are the most pervasive source of pollution nationwide." C. MEYERS, *supra* note 15, at 320.

25. On the history of the public trust doctrine, see Cohen, *The Constitution, the Public Trust Doctrine, and the Environment*, 1970 UTAH L. REV. 388; Dunning, *Discord or Harmony?*, *supra* note 12; Sax, *supra* note 12; Selvin, *The Public Trust Doctrine in American Law and Economic Policy, 1789-1920*, 1980 WIS. L. REV. 1403; Stevens, *The Public Trust: A Sovereign's Ancient Prerogative Becomes the People's Environmental Rights*, 14 U.C. DAVIS L. REV. 195 (1980).

26. J. INST. 2.1.1. The *Institutes of Justinian*, a general textbook of Roman

seph Sax, in his original article on the public trust doctrine, wrote,

First, certain interests, such as navigation and fishing, were sought to be preserved for the benefit of the public; accordingly, property used for those purposes was distinguished from general public property which the sovereign could routinely grant to private owners. Second, while it was understood that in certain common properties—such as seashores, highways, and running water—“perpetual use was dedicated to the public,” it has never been clear whether the public had an enforceable right to prevent infringement of these interests.²⁷

In the United States, three of the most frequently cited early cases are *Arnold v. Mundy*,²⁸ decided in 1821, *Martin v. Waddell*,²⁹ decided in 1842, and *Illinois Central Railroad v. Illinois*,³⁰ decided in 1892. In *Mundy*, the New Jersey Supreme Court announced an expansive doctrine, stating:

[B]y the law of nature . . . the civil law . . . the common law . . . the navigable rivers in which the tide ebbs and flows, the ports, the bays, the coasts of the sea, including both the water and the land under the water, for the purposes of passing and repassing, navigation, fishing, fowling, sustenance, and all other uses of the water and its products . . . are common to all the citizens.³¹

In *Martin v. Waddell*, the United States Supreme Court said that the “shores, and rivers, and bays, and arms of the sea, and the land under them [were held] as a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery, as well for shell-fish as floating fish.”³² In *Illinois Central*, the Court said that the title to beds of navigable water is “held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interfer-

law, was issued around 533 A.D. AN ENCYCLOPEDIA OF WORLD HISTORY 172 (W. Langer rev. ed. 1952).

27. Sax, *supra* note 12, at 475 (quoting W. HUNTER, INTRODUCTION TO ROMAN LAW, 311 (4th ed. 1903)).

28. 6 N.J.L. 1 (1821).

29. 41 U.S. (16 Pet.) 367 (1842).

30. 146 U.S. 387 (1892).

31. 6 N.J.L. at 76-77 (emphasis added).

32. 41 U.S. (16 Pet.) at 413.

ence of private parties."³³

III. THE WATERS AND LANDS COVERED BY THE PUBLIC TRUST DOCTRINE

In England, the public trust doctrine covered only waters where the tide ebbed and flowed. The United States, in contrast, has large navigable rivers like the Mississippi and the Columbia flowing inland for hundreds of miles. Not surprisingly, United States courts extended the doctrine to cover navigable fresh waters; the doctrine covers all waters that are "navigable in fact," whether fresh or salt.³⁴ Several western states have recognized public rights of navigation on waters that are not commercially navigable but are navigable for pleasure craft only.³⁵

In *National Audubon Society v. Superior Court* (the *Mono Lake* case), the California Supreme Court held that the doctrine applied to nonnavigable tributaries, citing the potentially adverse impacts of extractions on navigable Mono Lake.³⁶ While various

33. 146 U.S. at 452. In 1869, the Illinois Legislature conveyed the bed of Lake Michigan in the Chicago harbor to the Illinois Central Railroad. Four years later the legislature repealed the grant. The Supreme Court held the legislative repeal valid under the public trust doctrine.

34. *The Daniel Ball*, 77 U.S. (10 Wall.) 557, 563 (1870).

35. See *People ex rel. Younger v. County of El Dorado*, 96 Cal. App. 3d 403, 157 Cal. Rptr. 815 (1979); *Hitchings v. Del Rio Woods Recreation & Park Dist.*, 55 Cal. App. 3d 560, 127 Cal. Rptr. 830 (1976); *People v. Mack*, 19 Cal. App. 3d 1040, 97 Cal. Rptr. 448 (1971); *Montana Coalition for Stream Access v. Hildreth*, 684 P.2d 1088 (Mont. 1984); *Montana Coalition for Stream Access v. Curran*, 682 P.2d 163 (Mont. 1984); *Day v. Armstrong*, 362 P.2d 137 (Wyo. 1961). For an earlier case, see *Diana Shooting Club v. Husting*, 156 Wis. 257, 145 N.W. 816 (1914). For a case that required comprehensive planning before new appropriation permits were issued, even on nonnavigable-for-title waters, see *United Plainsmen Ass'n v. North Dakota State Water Conservation Comm'n*, 247 N.W.2d 457 (N.D. 1976). In 1987, the Oregon Legislature enacted two statutes that apply the public trust doctrine to all waters of the state. OR. REV. STAT. §§ 537.336, .460 (1987). See also Johnson, *Public Trust Protection*, *supra* note 12, where the author argues that if the public trust doctrine is viewed in a functional sense, the doctrine supports decisions protecting riparian rights to lake and stream levels against extractors, navigational servitude cases, and cases upholding the public right to use the surface of nonnavigable-for-title water bodies.

36. 33 Cal. 3d 419, 436, 658 P.2d 709, 720, 189 Cal. Rptr. 346, 357, *cert. denied*, 464 U.S. 977 (1983). Under the equal footing doctrine, each new state entering the Union automatically acquired title to the beds of waters that were then navigable under the federal test. The title to the beds of waters that were non-

cases have held that the public has an easement to use the surface of small, nonnavigable waters where the bed is privately owned, no case has yet held that the public trust doctrine limits withdrawals from nonnavigable-for-title streams where the only impact is upon the nonnavigable body of water.³⁷ Courts, however, have stopped appropriations from nonnavigable-for-title lakes or have awarded damages where the extractions harmed riparians.³⁸ The Idaho Supreme Court has said that the doctrine applies to all waters of the state.³⁹ Recent Oregon legislation⁴⁰ as well as cases in Hawaii,⁴¹ Montana,⁴² and New Jersey,⁴³ appear to

navigable remained in federal ownership under this doctrine and ordinarily passed later to homesteaders.

37. In *Golden Feather Community Ass'n v. Thermalito Irrigation Dist.*, 199 Cal. App. 3d 402, 405, 244 Cal. Rptr. 830, 833 (1988), the California Court of Appeals held that the public trust doctrine in California applied only to navigable waters and their tributaries, and did not apply to a reservoir.

38. See, e.g., *City of Los Angeles v. Aitken*, 10 Cal. App. 2d 460, 52 P.2d 585 (1935); *In re Martha Lake Water Co.*, 152 Wash. 53, 277 P. 382 (1929).

39. *Shokal v. Dunn*, 109 Idaho 330, 707 P.2d 441 (1985). The court said, "The state holds all waters in trust for the benefit of the public, and 'does not have the power to abdicate its role as trustee in favor of private parties.'" *Id.* at 336 n.2, 707 P.2d at 447 n.2 (quoting *Kootenai Envtl. Alliance v. Panhandle Yacht Club*, 105 Idaho 622, 625, 671 P.2d 1085, 1088 (1983)). The public trust, the court said, protects the public interest in "property values, 'navigation, fish and wildlife habitat, aquatic life, recreation, aesthetic beauty and water quality.'" *Id.* at 337 n.2, 707 P.2d at 448 n.2 (quoting *Kootenai*, 105 Idaho at 632, 671 P.2d at 1095). This holding has been codified at IDAHO CODE § 36-1601 (1977).

Clyde Martz says, of the Colorado Constitution,

The state should assume and exercise the trust responsibility placed on it under article XVI, section 5 of the [Colorado] constitution to administer the allocations of available water among those entitled to it with maximum efficiency, maximum protection of vested rights and minimum costs imposed on the public. No clearer public trust language can be found than that in section 5 of the Colorado constitution, dedicating the water of every natural stream to the use of the people of the state.

C. Martz, *The Groundwater Resource*, in *WATER AND THE AMERICAN WEST* 95 (D. Getches ed. 1988). Nevertheless, in *In re Application for Water Rights of the City of Aurora*, No. 86-CW-37, slip op. at 2 (Colo. Dist. Ct., Water Div. 4, May 5, 1988), Judge Robert A. Brown denied that "public trust" interests, or "public interests" (which he concluded were the same) could be considered by a Colorado court when the court is evaluating the respective applications for conditional water rights. Judge Brown mistakenly believed that the public trust doctrine applies only in states recognizing the riparian rights doctrine. *Id.*

40. OR. REV. STAT. §§ 537.332, .455 (1987).

41. *Robinson v. Ariyoshi*, 65 Haw. 641, 673-77, 658 P.2d 287, 310-12 (1982).

42. *Galt v. Montana Dep't of Fish, Wildlife & Parks*, 731 P.2d 912, 915

take the same position.

Several states have applied the public trust doctrine to upland areas. In New Jersey the doctrine covers dry sand above high tide.⁴⁴ Montana includes portages over private lands to get around obstacles or dangerous rapids in streams.⁴⁵ In Massachusetts the doctrine covers wetlands and state parks.⁴⁶ Professor Charles Wilkinson, in his seminal article on the public trust doctrine in public land law, concludes that the doctrine has gone beyond its original water based scope and now applies to public lands with special importance for the health, welfare, and safety of the public.⁴⁷

IV. THE INTERESTS PROTECTED BY THE PUBLIC TRUST DOCTRINE

The classic list of protected interests includes commerce, navigation, and fisheries.⁴⁸ Thus, not only are the underlying beds protected,⁴⁹ but the waters⁵⁰ and fisheries are also protected.⁵¹ This in itself is quite broad because protection of fisheries necessarily includes protection of water quality. Even from early days, however, the interests protected have been stated more broadly.

(Mont. 1987).

43. Mayor & Mun. Council of Clifton v. Passaic Valley Water Comm'n, 224 N.J. Super. 53, 539 A.2d 760 (1987). The court held that the public trust doctrine applied to the control of drinking water because "adequate supplies of wholesome water are essential to the health, welfare, commerce and prosperity of the people of the state." *Id.* at 64, 539 A.2d at 765 (quoting N.J. STAT. ANN. § 58:22-2(a) (West 1982)).

44. Neptune City v. Avon-by-the-Sea, 61 N.J. 296, 309, 294 A.2d 47, 54 (1972).

45. Montana Coalition for Stream Access v. Hildreth, 684 P.2d 1088 (Mont. 1984); Montana Coalition for Stream Access v. Curran, 682 P.2d 163 (Mont. 1984).

46. Robbins v. Department of Public Works, 355 Mass. 328, 244 N.E.2d 577 (1969).

47. Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269 (1980).

48. Illinois Cent. R.R. v. Illinois, 146 U.S. 387 (1892).

49. Arizona v. California, 373 U.S. 546, 597 (1963); Pollard's Lessee v. Hagan, 44 U.S. (3 How.) 212 (1845).

50. 1 WATERS AND WATER RIGHTS 207 & n.25 (R. Clark ed. 1967) (citing, among 17 United States Supreme Court cases, *Shively v. Bowlby*, 152 U.S. 1 (1894); *Illinois Central*, 146 U.S. 387; *Barney v. Keokuk*, 94 U.S. 324 (1876)).

51. *Illinois Central*, 146 U.S. 387; *Manchester v. Massachusetts*, 139 U.S. 240 (1891); *Martin v. Waddell*, 41 U.S. (16 Pet.) 367 (1842).

In *Arnold v. Mundy*,⁵² the New Jersey Supreme Court included "fishing, fowling, sustenance and all other uses of the water and its products."⁵³ Recent cases have explicitly stated that other interests are protected. In *Marks v. Whitney*,⁵⁴ the California Supreme Court gave extensive treatment to this issue, stating:

Public trust easements are traditionally defined in terms of navigation, commerce and fisheries. They have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes . . . and to use the bottom of the navigable waters for anchoring, standing, or other purposes. . . .

The public uses to which tidelands are subject are sufficiently flexible to encompass changing public needs. In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another. There is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area. It is not necessary to here define precisely all the public uses which encumber tidelands.⁵⁵

A critical question is whether water quality is one of the interests protected by the public trust doctrine. While *Marks v. Whitney* does not list water quality control as a protected interest in so many words, it clearly is included within the terms "fisheries" and "food and habitat for marine life." Other recent cases, such as the 1987 Washington Supreme Court decision, *Caminiti v. Boyle*,⁵⁶ refer to the public rights of fishing, boating, swimming, water skiing, and other related recreational purposes generally regarded as corollary to the right of navigation and the use of public waters.⁵⁷ In *Kootenai Environmental Alliance v. Panhandle*

52. 6 N.J.L. 1 (1821).

53. *Id.* at 12.

54. 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971).

55. *Id.* at 259-60, 491 P.2d at 380, 98 Cal. Rptr. at 796 (citations omitted) quoted in *National Audubon Soc'y v. Superior Court (Mono Lake)*, 33 Cal. 3d 419, 434, 658 P.2d 709, 719, 189 Cal. Rptr. 346, 356, cert. denied, 464 U.S. 977 (1983).

56. 107 Wash. 2d 662, 732 P.2d 989 (1987), cert. denied, 108 S. Ct. 703 (1988).

57. This language originally appeared in *Wilbour v. Gallagher*, 77 Wash. 2d 306, 316, 462 P.2d 232 (1969), cert. denied, 400 U.S. 878 (1970). In *Orion Corp. v.*

Yacht Club,⁵⁸ the Idaho Supreme Court said that the doctrine protected property values, "navigation, fish and wildlife habitat, aquatic life, recreation aesthetic beauty and water quality."⁵⁹ The 1987 Oregon Legislature enacted two statutes indicating that the public trust doctrine covers water quality.⁶⁰ One of these statutes provides that the public trust covers recreation, protection and enhancement of fish life, wildlife, fish and wildlife habitat, and any other ecological values, pollution abatement, navigation, scenic attraction, and other similar or related uses protected by the public trust.⁶¹

In *Mono Lake*, the California Supreme Court, in addition to approving the *Marks v. Whitney* array of protected interests, stated that one reason for restraining the Los Angeles diversion was to keep Mono Lake's salinity from increasing. This would cause the algae to die, which in turn would reduce the numbers of brine shrimp and brine flies that feed on the algae. The end result would be damage to the brine shrimp industry, and a reduction in the gull population, which is dependent upon the brine shrimp.⁶² The court effectively ruled that water quality is one of the interests protected by the public trust doctrine.⁶³

In *United States v. State Water Resources Control Board*,⁶⁴ the California Court of Appeal held that under *Mono Lake*, the California Water Board could modify existing appropriation permits under the public trust doctrine, "in order to protect fish and

Washington, 109 Wash. 2d 621, 747 P.2d 1062 (1987), *cert. denied*, 108 S. Ct. 1996 (1988), the Washington Supreme Court noted that another court had held that the "public trust protects ecological values and [the] right to preserve tidelands in [their] natural state." *Id.* at 641 n.10, 747 P.2d at 1073 n.10 (citing *Marks v. Whitney*, 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971)). The court pointed out that this extension of the public trust doctrine allowed a state to "claim damages for killing of waterfowl by oil spill." *Id.* at 641 n.10, 747 P.2d at 1073 n.10 (citing *In re Steuart Transp. Co.*, 495 F. Supp. 38 (E.D. Va. 1980)). An oil spill, of course, is a form of pollution. The *Orion* court added that "[r]esolution of this case does not require us to decide the total scope of the doctrine." *Id.*

58. 105 Idaho 622, 671 P.2d 1085 (1983).

59. *Id.* at 632, 671 P.2d at 1095; *see also* *Shokal v. Dunn*, 109 Idaho 330, 707 P.2d 441 (1985) (considering the statutory public interest factors).

60. OR. REV. STAT. §§ 537.336, .460 (1987).

61. *Id.* § 537.460.

62. 33 Cal. 3d 419, 430, 658 P.2d. 709, 715, 189 Cal. Rptr. 346, 352, *cert. denied*, 464 U.S. 977 (1983).

63. 33 Cal. 3d at 435, 658 P.2d at 719, 189 Cal. Rptr. at 356.

64. 182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986).

wildlife" from pollution and excessive saltwater intrusion from the sea.⁶⁵

While the public trust doctrine has seldom been used explicitly to protect water quality, if it is to protect fish, wildlife, recreational, and environmental values, it must encompass water quality. As the California court stated in *State Water Resources Control Board*, although Congress in 1972 enacted what is now called the Clean Water Act, that law does not purport to control salt water intrusion, nor is it yet effective in controlling nonpoint pollution generated by irrigation return flow.⁶⁶

V. STATE POWERS TO CONVEY AWAY PUBLIC TRUST RESOURCES, OR TO DESTROY PUBLIC TRUST INTERESTS

Ever since the 1892 *Illinois Central* case, courts have generally held that legislatures have the power to destroy public trust interests by legislative action.⁶⁷ For legislation to accomplish this, the legislative intent must be either express or sufficiently clear.⁶⁸

65. *Id.* at 150, 227 Cal. Rptr. at 201.

66. *Id.* at 173, 227 Cal. Rptr. at 108; see 33 U.S.C. §§ 1311, 1342, 1362(19) (West 1982 & Supp. 1988).

67. In *Illinois Central*, the Supreme Court stated that grants of land burdened by the public trust would be justified if occupation did "not substantially impair the public interests in the lands and waters remaining," or if the public interest in navigation and commerce is improved. *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 453 (1892).

68. In *City of Berkeley v. Superior Court*, 26 Cal. 3d 515, 606 P.2d 362, 162 Cal. Rptr. 327, *cert. denied*, 449 U.S. 840 (1980) and *Robbins v. Department of Public Works*, 355 Mass. 328, 244 N.E.2d 577 (1969), California and Massachusetts courts said that public trust interests could be destroyed, but only by express legislative action—action by the legislature that indicated that it realized exactly what it was doing with these resources. In *Mono Lake*, the California Supreme Court referred to *Berkeley* and stated, "[W]e held that the grantees' title was subject to the trust, both because the Legislature had not made clear its intention to authorize a conveyance free of the trust and because the 1870 act and the conveyances under it were not intended to further trust purposes." 33 Cal. 3d at 439, 658 P.2d at 723, 189 Cal. Rptr. at 360. The *Berkeley* court also stated that "[s]tatutes purporting to abandon the public trust are to be strictly construed; the intent to abandon must be clearly expressed or necessarily implied; and if any interpretation of the statute is reasonably possible which would retain the public's interest in tidelands, the court must give the statute such an interpretation." 26 Cal. 3d at 528, 606 P.2d at 369, 162 Cal. Rptr. at 334; see also *Amigos de Bolsa Chica v. Signal Properties*, 190 Cal. Rptr. 798, 808 (1983).

One respected author points out that in California, because extinction of pub-

Significantly, in *Mono Lake*, the California Supreme Court held that the 1913 Water Commission Act⁶⁹ (California's basic appropriation code), and appropriation permits issued in 1940 under that code to the Los Angeles Department of Water and Power (DWP) to extract water from tributaries to Mono Lake for domestic use in Los Angeles, did not terminate the public trust interests in Mono Lake.⁷⁰ The California Water Board, in issuing the 1940 permits, explicitly stated that it had "no choice" but to grant the applications, despite the harm that would occur to the lake. The Board said:

It is indeed unfortunate that the City's proposed development will result in decreasing the aesthetic advantages of Mono Basin but there is apparently nothing this office can do to prevent it. The use to which the City proposes to put the water under its Applications [domestic use] . . . is defined by the Water Commission Act as the highest to which the water may be applied This office therefore has no alternative but to dismiss all protests based upon the possible lowering of the water level in Mono Lake and the effect that the diversion of water from these streams may have upon the aesthetic and recreational value of the Basin.⁷¹

In 1982, when reviewing the Water Board's 1940 decision, the California Supreme Court said:

The water rights enjoyed by DWP were granted, the diversion was commenced, and has continued to the present without any

lic trust interests cannot occur even by way of explicit legislative mandate unless certain conditions are met, the doctrine takes on the dimensions of an implied constitutional limitation upon legislative power. H. Dunning, *Instream Flows*, *supra* note 12. Dunning relies on language from *Mono Lake* to the effect that the state may surrender public trust protection "only in rare cases when the abandonment of that right is consistent with the purposes of the trust." 33 Cal. 3d at 441, 658 P.2d at 724, 189 Cal. Rptr. at 361. Dunning also cites *People ex rel. Scott v. Chicago Park Dist.*, 66 Ill. 2d 65, 360 N.E.2d 773 (1976); *see also Amigos de Bolsa Chica*, 190 Cal. Rptr. at 808; *Priewe v. Wisconsin State Land & Improvement Co.*, 93 Wis. 534, 67 N.W. 918 (1896), *aff'd*, 103 Wis. 537, 79 N.W. 780 (1899).

Professor Harrison C. Dunning continues to write well-reasoned, carefully documented updates on the public trust doctrine in California. Dunning, *Discord or Harmony?*, *supra* note 12; H. Dunning, *Instream Flows*, *supra* note 12; Dunning, *The Mono Lake Decision: Protecting a Common Heritage Resource from Death by Diversion*, 13 *Envtl. L. Rep.* (Envtl. L. Inst.) 10,144 (1983).

69. Water Commission Act of 1913, 1913 Cal. Stat. ch. 592.

70. 33 Cal. 3d at 447-48, 658 P.2d at 729, 189 Cal. Rptr. at 365-66.

71. *Id.* at 428, 658 P.2d at 714, 189 Cal. Rptr. at 351.

consideration of the impact upon the public trust. An objective study and reconsideration of the water rights in the Mono Basin is long overdue. The water law of California—which we conceive to be an integration including both the public trust doctrine and the Board-administered appropriative rights system—permits such a reconsideration; the values underlying that integration require it.⁷²

The court later added:

Once the state has approved an appropriation, the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water. In 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.⁷³

The California court did not believe that the 1913 Code and the permits issued under it were sufficiently clear to destroy the public trust interest in Mono Lake.⁷⁴

The California court could have reached the result it reached in *Mono Lake* by relying on the antiwaste and reasonableness requirements of article 14, section 3 of the California Constitution or by the beneficial use element of the prior appropriation system,⁷⁵ but the court chose to rely on the public trust doctrine

72. *Id.* at 426, 658 P.2d at 712, 189 Cal. Rptr. at 349. The *Mono Lake* court went even further in dicta. "The state accordingly has the power to reconsider allocation decisions even though those decisions were made after due consideration of their effect on the public trust." *Id.* at 447, 658 P.2d at 728, 189 Cal. Rptr. at 365. See also *Golden Feather Community Ass'n v. Thermalito Irrigation Dist.*, 199 Cal. 3d 402, 244 Cal. Rptr. 830 (1988).

73. 33 Cal. 3d at 447, 658 P.2d at 728, 189 Cal. Rptr. at 365. Alaska and Idaho courts recently cited the *Mono Lake* decision with approval. See *CWC Fisheries, Inc. v. Bunker*, 755 P.2d 1115 (Alaska 1988); *Kootenai Envtl. Alliance v. Panhandle Yacht Club*, 105 Idaho 622, 671 P.2d 1085 (1983).

74. The California Supreme Court sent *Mono Lake* back to the trial court for allocation of the waters of the tributaries to Mono Lake, consistent with the court's opinion.

In 1984, the United States Supreme Court held that the California public trust doctrine did not apply to property that originally came from Mexican land grants where the owner's title had been confirmed in federal patent proceedings without any mention of the public trust doctrine, and where, by federal statute, the validity of the titles was to be decided according to Mexican law. *Summa Corp. v. California ex rel. State Lands Comm'n*, 466 U.S. 198 (1984).

75. The definition of beneficial use has generally been left to the courts. As a common-law concept, it is subject to redefinition as society's needs change.

instead.

The *Mono Lake* court apparently did not believe it was expanding the scope of the public trust doctrine. The court stated that "[i]f the public trust doctrine applies to constrain fills which destroy navigation and other public trust uses in navigable waters, it should equally apply to constrain the extraction of water that destroys navigation and other public interests. Both actions result in the same damage to the public interest."⁷⁶

Equally persuasive is the argument that extractions by appropriators that degrade water quality and thus harm fish, wildlife, recreational opportunities, or environmental values, should also be constrained by the public trust doctrine. Again, the impact of water quality degradation on these public trust values is no different from the impact of a fill that damages these same values.

Prior to *Mono Lake*, no court had applied the public trust doctrine to the allocation of water between the public and an appropriator or riparian. In a 1976 decision, *United Plainsmen Association v. North Dakota State Water Conservation Commission*,⁷⁷ the North Dakota Supreme Court recognized the relationship between the two doctrines. The court enjoined issuance of an appropriation permit for a large water project until the state water agency completed a comprehensive plan that took account of the impact of such projects on the public trust interests of commerce, navigation, and fisheries. The court stated that the public trust doctrine applied to the allocation of water under the appropriation system.⁷⁸

VI. THE LIMITED SCOPE AND PURPOSE OF THE PRIOR APPROPRIATION SYSTEM

One of the salient features of the appropriation system is that, in its formative period, it took little account of water quality degradation. Pollution was not a problem during the development of the doctrine, so little attention was paid to it. Individual appropriators seldom contributed significantly to pollution.

76. 33 Cal. 3d at 436-37, 658 P.2d at 720, 189 Cal. Rptr. at 357 (emphasis in original) (quoting Johnson, *Public Trust Protection*, *supra* note 12, at 256-57).

77. 247 N.W.2d 457 (N.D. 1976).

78. *Id.* at 463.

Today, the prior appropriation system is recognized as a special interest legal doctrine, and as a major cause of pollution in the West. The system was designed as a means of allocating water among appropriators, and was not intended to allocate water vis-à-vis other uses. It was not designed to include public trust interests such as water quality. One reason the water quality problem has become so serious is because water was made available without cost to appropriators. This encouraged, and continues to encourage, profligate use of this valuable resource, which in turn causes pollution to worsen.

Most western states codified the common-law appropriation doctrine in the late 1800s or early 1900s.⁷⁹ An examination of a typical western appropriation code, Washington's 1917 Water Code, illustrates their limited nature. The Washington Code starts with a statement that appears to be totally comprehensive: "[A]ll water within the state belongs to the public, and any right thereto, or to the use thereof, shall be hereafter acquired only by appropriation for a beneficial use and in the manner provided [herein] and not otherwise. . . ."⁸⁰ One would assume from this exceptionally broad language that the Code covered the allocation of underground water, the use of water for waste disposal, and the use of water for swimming, fishing, boating, or anything else, but that is not the case.

In 1945, the Washington Legislature, deeming that the Code was intended to cover only surface waters and not groundwater, enacted a groundwater code to fill this gap and provide a statutory groundwater allocation method.⁸¹ It also became apparent in the 1940s that the Water Code did not cover waste discharges into public waters (certainly a *use* of these waters), so in 1945 the legislature enacted a water pollution control code.⁸² In addition, the Washington Supreme Court held early on that the 1917 Water Code did not cover uses for swimming, boating, or fishing.⁸³ In fact, in case of conflict, these common-law riparian uses

79. See 3 W. HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES (1977).

80. WASH. REV. CODE ANN. § 90.03.010 (1962) (emphasis added).

81. Act approved Mar. 19, 1945, ch. 263, 1945 Wash. Laws 826 (codified as amended at WASH. REV. CODE ANN. § 90.44.010-.900 (1962 & Supp. 1988)).

82. Act approved Mar. 16, 1945, ch. 216, 1945 Wash. Laws 608 (codified as amended at WASH. REV. CODE ANN. § 90.48.010-.910 (1962 & Supp. 1988)).

83. See *In re Clinton Water Dist.*, 36 Wash. 2d 284, 218 P.2d 309 (1950);

prevailed over appropriative claims, at least as to lake levels. The court held that if an appropriation interfered with certain riparian rights, specifically the right to lake levels, the riparian landowner prevailed.⁸⁴

Examination of appropriation codes in other states reveals provisions similar to those in the Washington Code, especially regarding pollution control,⁸⁵ groundwater,⁸⁶ and swimming, boating, and fishing.⁸⁷ This experience teaches that the prior appropriation codes and doctrine, although customarily cast in all-encompassing terms, were in fact vehicles to allocate water *between and among appropriators*. The codes were not designed to cover groundwater, waste discharges, fishing, rights to surface use, *nor public trust interests*.

Nothing in the appropriation doctrine either explicitly or implicitly purports to cover public trust values. While recent amendments to some water codes consider these values,⁸⁸ this legislation is contemporary and does not alter the historical fact that neither the common-law prior appropriation doctrine nor the legislation codifying that doctrine took account of public trust interests. Public trust interests are still alive and well, and can properly be recognized and implemented by courts and legislatures.

Martha Lake Water Co. v. Nelson, 152 Wash. 53, 277 P. 382 (1929).

84. *Martha Lake Water Co.*, 152 Wash. 53, 277 P. 382; *see also In re Clinton Water Dist.*, 36 Wash. 2d 284, 218 P.2d 309; *Litka v. Anacortes*, 167 Wash. 259, 9 P.2d 88 (1932).

85. Several pollution control codes were enacted in the post-war era. *See, e.g.*, Act of Mar. 16, 1967, ch. 106, 1967 Ariz. Sess. Laws 534; Dickey Water Pollution Control Act, ch. 1549, 1949 Cal. Stat. 2782; Colorado Water Pollution Control Act of 1966, ch. 44, 1966 Colo. Sess. Laws 199; Act of Feb. 28, 1967, ch. 197, §§ 121-139, 1967 Mont. Laws 466, 500-07; Water Quality Act, ch. 190, 1967, N.M. Laws 1109; Act of Dec. 1, 1938, ch. 3, 1939 Or. Laws 9.

86. *See generally* 3 W. HUTCHINS, *supra* note 79.

87. *See Johnson & Austin, Recreational Rights and Titles to Beds on Western Lakes and Streams*, 7 NAT. RESOURCES J. 1 (1967).

88. *See, e.g.*, CAL. WATER CODE, § 1243 (West 1971 & Supp. 1989) (enacted 1959); WASH. REV. CODE ANN. §§ 90.22, .54 (Supp. 1988) (enacted 1969 and 1971). *See generally* Tarlock, *Appropriation for Instream Flow Maintenance: A Progress Report on the 'New' Public Western Water Rights*, 1978 UTAH L. REV. 211.

VII. THE CONFLICT BETWEEN PRIOR APPROPRIATORS AND THE PUBLIC OVER THE RIGHT TO CONTROL WATER QUALITY

Until recently the prior appropriation doctrine and the public trust doctrine operated entirely independent of each other. They are now being brought into contact, and conflict. The prior appropriation system is based on the assumption that an appropriator obtains a vested, legal property right to public waters by extracting and using these waters for beneficial purposes. Taking this right away or unduly regulating it entitles the owner to compensation.

The public trust doctrine, on the other hand, is based on the proposition that polluters do not acquire vested property rights by their past history of water use for waste disposal, and state laws prohibiting or regulating pollution seldom give rise to constitutional takings challenges.⁸⁹ Cases have, for example, upheld the constitutionality of the Clean Water Act, which had as its 1985 goal elimination of *all* waste discharges into public waters and return of these waters to their natural state.⁹⁰

One would assume that industries that had historically deposited wastes into public rivers and streams would often have claimed a vested property right to continue doing so, and that they were entitled to compensation if that right was taken away, but there is a dearth of such cases. Environmental pollution law casebooks have neither sections nor cases on such constitutional questions, because the rule is clear that no issue is raised. No one has a constitutionally protected right to deposit wastes into or otherwise pollute public waters.

What happens when these two streams of jurisprudence are connected? In a case where the state takes a water right from prior appropriator A and gives it to B, then a potential takings question arises. Similarly, a takings argument might be raised if the state takes a water right from A and puts it back into the common pool, although such action is arguably within the state's power as trustee of a public resource. The test of taking in these cases is whether the state regulation "goes too far," or meets

89. See 2 W. RODGERS, JR., *supra* note 1, at 620-23; R. BECK & C. GOPLERUD, *supra* note 19.

90. See, e.g., *United States v. Ashland Oil & Transp. Co.*, 504 F.2d 1317, 1325-29 (6th Cir. 1974).

other constitutional takings standards. If the state regulates or even bans A's irrigation to protect water quality under the public trust doctrine, however, no takings claim is justified. One can arrive at the same result using only the state police power. No one can acquire a vested property right to pollute public waters. Thus, police power regulation or prohibition of pollution does not raise takings issues.

Thus, the problem can be approached two ways. First, the public trust doctrine protects water quality. The public trust doctrine antedates the prior appropriation system. Under the easement imposed by this doctrine, no one can acquire a pollution right that violates trust interests. Second, no one can acquire a constitutionally protected, vested property right to pollute that can stand against the state police power. Thus, polluters can be regulated, or banned, at the will of the legislature.

What is fascinating, even a bit mysterious, is that these three lines of jurisprudence, the public trust doctrine, the police power, and the prior appropriation system, have existed for many years and have seldom intersected. Now, because of intense competition for increasingly limited water resources, they are meeting, and sometimes conflicting.

When these doctrines come into conflict, as they did in *Mono Lake*, the public trust doctrine should prevail. The states, in granting property rights to prior appropriators, never considered the eventual impact of this system on water quality, and never intended, explicitly or otherwise, to convey away governmental power to control water pollution through the public trust doctrine or police power regulation.⁹¹

Prior appropriators might claim that their appropriation permits implicitly include a right to cause incidental pollution. Such an argument might be persuasive against other appropriators, but not the public. The public always has the right to control pollution. All waste dischargers into public waters are subject to control. A polluter may, under various state or federal pollution control systems, acquire a license to discharge wastes into public water for a time, but that license is revocable. It is not the vested

91. The defect in the vested rights view is that it looks at only one side of a two-sided coin; it looks strictly at water quantity and neglects the water quality side.

property right claimed by appropriators.

Today, almost all extractions of water contribute to water quality degradation by reducing the quantity of water in streams, causing temperature changes and reducing the assimilative capacity. Extractions also result in return flows containing natural salts, selenium, and other chemicals leached from the soil, which cumulatively affect water quality and carry pesticides, herbicides, fertilizers, and other polluting agents.⁹² Individual extractions, although not necessarily significant in themselves, cumulatively degrade water quality. Individual actions that cumulatively cause pollution are clearly proper subjects of regulation or prohibition.

The San Francisco Bay delta problem demonstrates the pollution caused by the cumulative impact of many water withdrawals.⁹³ Extractions of water reduce freshwater pressure and allow salt water from the bay to intrude into the delta, causing harm to fish, wildlife, and other water uses.

The Kesterson Wildlife Refuge in central California dramatically illustrates the effects of accumulated pollutants in return flows.⁹⁴ Irrigation leaches natural selenium from the soils on several large farms served by a federal reclamation project. The chemical then concentrates in irrigation return flows collected in drainage canals that flow into the wildlife refuge where the contaminated water kills wildlife. Refuge employees attempt to scare away birds so they will not land and be poisoned.

The Colorado River is burdened with a serious salinity problem.⁹⁵ The many irrigation projects along the river, especially the Wellton-Mohawk project, all contribute to this problem. Exces-

92. Even if one argues that appropriators have a right to extract water that is not subject to police power regulation, they would still have no right to cause return flows that create pollution.

93. For a description of this problem, see *United States v. State Water Resources Control Bd.*, 182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986).

94. See Norton, *The Spiral of Life*, WILDERNESS, Spring 1987, at 17, 32-33; Refalt, *Wetlands in Extremis*, WILDERNESS, Winter 1985, at 28-29; Comment, *Tragedy at Kesterson Reservoir: Death of a Wildlife Refuge Illustrates Failings of Water Law*, 15 *Envtl. L. Rep.* (Envtl. L. Inst.) 10,386 (1985).

95. Friedkin, *The International Problem With Mexico Over the Salinity of the Lower Colorado River*, in *WATER AND THE AMERICAN WEST* 31 (D. Getches ed. 1988) Holburt, *International Problems of the Colorado River*, 15 *NAT. RESOURCES J.* 11 (1975); Johnson, *Our Salty Rivers: Legal and Institutional Approaches to Salinity Management*, 13 *LAND & WATER L. REV.* 441 (1978).

sive salinity in the river has caused conflicts with Mexico over the quality of water passing over the border, and created problems for downstream users in the United States. Hundreds of other rivers and streams in the west are polluted by chemicals brought in by return flows, or by extractions that often totally dry up these water bodies during the late summer months.

As problems like the San Francisco Bay delta, the Kesterson Wildlife Refuge, and the Colorado River multiply, legislatures and courts will be pressured to restrict and regulate water extractions under either the public trust doctrine or state police powers. Examples of controls that might be imposed either by the courts or legislatures on water extractors under the public trust doctrine include requiring increased efficiency and greater conservation; controlling times of day, week, or month for irrigation or other water uses; regulating the type, composition, and time of application of pesticides, herbicides, and other chemicals; and restricting the quantity of water extracted and used by appropriators or riparians. Both *Mono Lake* and *State Water Resources Control Board* essentially adopted this last position. In *Mono Lake*, the court was concerned about the increased salinity in Mono Lake that would result from additional extractions, and the effect that this would have on the brine shrimp and ultimately on the bird population.

VIII. IMPLEMENTATION OF THE PUBLIC TRUST DOCTRINE IN WATER QUALITY CONTROL

Application of the public trust doctrine can create problems. For example, what standards should apply in allocating water among conflicting users, and which of the existing water users are to provide the water needed to protect public trust values?

These questions are often raised as virtually insurmountable obstacles to the equitable application of the public trust doctrine. A solution is available, however, based on the Clean Water Act's approach to point sources. Standards could be set, such as "best practicable technology" or "best management practice."⁹⁶ These would apply to all irrigators or other appropriators similarly situated. Such standards could require lined instead of dirt ditches, or sprinkler systems instead of gravity flow irrigation. They might

96. See S. REP. NO. 282, 98th Cong., 1st Sess. 7 (1983).

require irrigation at night, or even the use of less water. These determinations would ordinarily be made by the state agency administering water rights.

IX. POLICE POWER REGULATION

Police power regulation might be used to constrain existing water extraction rights of either appropriators or riparians. State regulations designed to protect water quality, recreation, fish and wildlife, or navigation values, should be upheld against a takings claim because these activities are already subject to the public trust. Alternatively, they are subject to the doctrine that there is no right to pollute. Under this doctrine, legislatures can modify or ban waste discharge into public waters.

On the other hand, if regulations are not designed to control pollution, but are designed to increase irrigation efficiency and make more water available to new users, or for some other purpose not related to pollution control, then the regulations should receive the same type of analysis as zoning regulations.⁹⁷ A substantial body of jurisprudence exists regarding the constitutionality of zoning regulations. This jurisprudence provides guideposts on the standards to apply to regulations about appropriators. The traditional analysis of such regulations is discussed below.

The constitutionality of police power regulations has often been an issue in zoning and other land use regulation cases. Both federal and state constitutions are involved in most cases. Because of the general nature of this Article, primary reference will be to federal constitutional jurisprudence, although a few widely cited state cases will be included.⁹⁸

97. For a more detailed analysis of this issue, and a somewhat different perspective, see Laitos, *Constitutional Limits on Police Power Regulations Affecting the Exercise of Water Rights*, 16 *COLO. LAW.* 1626 (1987).

98. See *Nollan v. California Coastal Comm'n*, 483 U.S. 825 (1987); *Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470 (1987); *Penn Central Transp. Co. v. New York City*, 438 U.S. 104 (1978); *Goldblatt v. Town of Hempstead*, 369 U.S. 590 (1962); *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922); *Hadacheck v. Sebastian*, 239 U.S. 394 (1915); *Mugler v. Kansas*, 123 U.S. 623 (1887).

Some of the leading articles on the subject are: Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law*, 80 *HARV. L. REV.* 1165 (1967); Sax, *Takings and the Police Power*, 74 *YALE L. J.* 36 (1964); Stoebuck, *Police Power, Takings and Due Process*, 37 *WASH. & LEE*

The seminal test of the constitutionality of land use regulations was enunciated in *Pennsylvania Coal Co. v. Mahon*,⁹⁹ where Justice Holmes said the test is whether the regulation "goes too far."¹⁰⁰ Fortunately, subsequent cases have supplemented this imprecise test. For example, in the recent case of *Keystone Bituminous Coal Association v. DeBenedictis*,¹⁰¹ the Court said that a land use regulation will only be struck down if it "does not substantially advance legitimate state interests, . . . or denies an owner economically viable use of his land."¹⁰² The Supreme Court has also said that "[a] statute regulating the uses that can be made of property effects a taking if it 'denies an owner economically viable use of his land,'"¹⁰³ or if it denies the owners "reasonable 'investment-backed expectations.'"¹⁰⁴

The Court has made it clear that mere diminution in value of the zoned property is not, alone, a sufficient reason to strike down a zoning ordinance. A 1978 study showed that ordinances diminishing property values from \$1,500,000 to \$275,000, from \$450,000 to \$50,000, and from \$65,000 to \$5000 were not sufficient to cause the laws to be held unconstitutional.¹⁰⁵

The Supreme Court applies a balancing test to determine whether a regulatory taking has occurred, as evidenced in *Keystone*. This balancing test is reflected in the widely cited Massachusetts Supreme Court case, *Turnpike Realty Co. v. Town of Dedham*.¹⁰⁶ In *United States v. State Water Resources Control*

L. REV. 1057 (1980); Van Alstyne, *Taking or Damaging by Police Power: The Search for Inverse Condemnation Criteria*, 44 S. CAL. L. REV. 1 (1970); see also F. BOSSELMAN, D. CALLIES & J. BANTA, *THE TAKING ISSUE* (1973).

99. 260 U.S. 393 (1922).

100. *Id.* at 415.

101. 480 U.S. 470 (1987).

102. *Id.* at 485 (quoting *Agins v. City of Tiburon*, 447 U.S. 255, 260 (1980)); see also *Penn Cent. Transp.*, 438 U.S. at 124.

103. 480 U.S. at 485 (citations omitted) (quoting *Hodel v. Virginia Surface Mining & Reclamation Ass'n*, 452 U.S. 264, 295-96 (1981)); see also *Agins v. City of Tiburon*, 447 U.S. at 260; *Penn Cent. Transp.*, 438 U.S. 104.

104. 480 U.S. at 499.

105. See *Developments in the Law—Zoning*, 91 HARV. L. REV. 1427, 1480 (1978).

106. 362 Mass. 221, 284 N.E.2d 891 (1972), cert. denied, 409 U.S. 1108 (1973); see also *United States v. State Water Resources Control Bd.*, 182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986); Comment, *Balancing Private Loss Against Public Gain to Test for a Violation of Due Process or a Taking Without Just Compensation*, 54 WASH. L. REV. 315 (1979).

Board, the California Supreme Court said:

[A] state regulation that merely restricts a party to the gains reasonably expected from [a] contract does not constitute a substantial impairment [and is not unconstitutional].

Nor is every impairment constitutionally proscribed. Contract rights, like other property rights, may be altered by the exercise of the state's inherent police power to safeguard the public welfare . . . "The key inquiry is whether the importance of the state interest justifies the impairment."¹⁰⁷

Police power regulation is not necessarily the only or even the best action in many circumstances. The Chesapeake Bay experience, for example, suggests that an array of controls, including both economic incentives and regulations, may be the best approach to solving pervasive, nonpoint source pollution problems. Chesapeake Bay has been polluted by multiple sources, including industrial and municipal pollution, farm runoff and irrigation return flows carrying pesticides, herbicides, and bacterial pollution. The massive multistate and state-federal cleanup program recently implemented depends primarily on education and economic incentives, but also includes regulation of land use and pollution sources. In 1984, the State of Maryland enacted the Critical Area Act,¹⁰⁸ establishing a permanent commission authorized to adopt regulations and establishing criteria and guidelines to assist local governments in regulating growth and development within a 1000-foot "critical area" zone surrounding the bay and its tributaries.¹⁰⁹

If regulatory controls are adopted they might require greater efficiency in water use; require more conservation, such as lining ditches; regulate types of crops to be grown; regulate methods or times of irrigation; regulate the amount of water to be used, or the times of day, week, or month for irrigation; or regulate the

107. 182 Cal. App. 3d 82, 146-47, 227 Cal. Rptr. 161, 199 (1986) (quoting *Mobil Oil Corp. v. Rossi*, 138 Cal. App. 3d 256, 263, 187 Cal. Rptr. 845, 849 (1982)).

108. MD. NAT. RES. CODE ANN. §§ 8-1801 to -1816 (Supp. 1988).

109. In 1985 and 1986, the Maryland Environmental Trust negotiated conservation easements on 2470 acres (eight miles of shoreline) and reduced the permissive population density on these easements from one dwelling unit per five acres to one unit per 55 acres. Plans were drawn up to preserve forest land in the critical area. CHESAPEAKE EXECUTIVE COUNCIL, SECOND ANNUAL PROGRESS REPORT UNDER THE CHESAPEAKE BAY AGREEMENT 25 (1987).

types of insecticides, herbicides, and other chemicals that can be used, and how they are used.

X. RELATIVE ADVANTAGES AND DISADVANTAGES OF THE PUBLIC TRUST DOCTRINE AND POLICE POWER REGULATION

The major advantage to use of the public trust doctrine is that it can be the basis of judicial as well as legislative action. If applied by the courts, the doctrine can sometimes give greater recognition to public interests at times when legislatures are under excessive pressure by special interest lobbyists. Nevertheless, the doctrine does not have a long and instructive history of use for water quality control that can assist in predicting its future scope and impact. Also, a court may bind only the litigants before it, rather than an entire industry or activity such as irrigated agriculture.

The principal advantage of the police power approach is that it emanates from a legislative process and therefore can apply broadly to an entire agricultural activity or industry. Also, such regulations have a long history of use by legislative bodies and are thus more familiar to those bodies, as well as to litigants, courts, and the public. One disadvantage of the police power is that legislative bodies are often subject to excessive pressure by special interest groups, and as a result, provide less-than-adequate protection to the more diffuse public interests.¹¹⁰ At such times court decisions often lead the way toward legitimate changes, encouraging legislative bodies to follow with broadly conceived police power regulations.¹¹¹

110. For more extensive treatment of this issue, see Sax, *supra* note 12.

111. An excellent example of this can be seen in the State of Washington. Bills were introduced in several legislative sessions in Washington to zone and control development on tidewater and freshwater shorelines in the state. None passed because of strong opposition by developers and local governments. As Geoffrey Crooks notes, the ultimate impetus for passage of the Shoreline Management Act can be traced to the Washington Supreme Court's decision, *Wilbour v. Gallagher*, 77 Wash. 2d 306, 462 P.2d 232 (1969). Crooks, *The Washington Shoreline Management Act of 1971*, 49 WASH. L. REV. 423, 423-25 (1974). That decision cast doubt on the right of developers to do much of anything on tidewater and freshwater shorelines without specific authority from a local or state government. *Id.* No such permission was possible without enactment of a shoreline management act. Suddenly, both developers and the public wanted a shoreline management act, albeit not the same one. *Id.* Such an act was passed shortly thereafter.

XI. CONCLUSION

The prior appropriation system has served well in the West and the Nation for 125 years, providing a legal regime that permits and encourages enormous economic growth of agriculture, industry, and municipalities. This system, however, both in its inception and current application, fails to address or protect public interests in fisheries, recreation, environmental quality, and clean water. As a result, serious nonpoint water pollution problems are occurring throughout the West.

The 1987 amendments to the Federal Clean Water Act provide for study of the problem and state adoption of plans to resolve it. To date, this process has had little impact on water quality. Three approaches are being considered by states to solve these water pollution problems. Some states are applying the public trust doctrine. Some (but only a few) states are adopting police power regulations to control nonpoint pollution. Others are approaching the problem through the prior appropriation system itself, taking the position that beneficial use means use that does not harm the public through pollution.

The public trust doctrine is not a panacea that will instantly solve all the conflicts that now surround the prior appropriation system. It should be considered, however, as a basis for setting standards such as best practicable technology or best management practice.

Control of agricultural nonpoint pollution might be achieved by education, and possibly by economic incentives, rather than through the public trust doctrine or police power regulation. In the final analysis, however, education and economic incentives may be effective largely because of the existence and potential threat of the public trust doctrine and police power regulations.

No one—including irrigators, industries, or cities with appropriative rights—has a vested, constitutionally protected property right to degrade the quality of public waters. Thus, pollution control can be accomplished either under the police power or the public trust doctrine without becoming derailed by the takings issue.

The prior appropriation system was born in the 1800s out of the West's mining and farming needs, and responsive judicial activism. It has served the West's needs well over the past century,

but it was and still is fundamentally a special interest doctrine designed to allocate water among and between appropriators. It was never intended to allocate water for in-stream uses or to control water quality. Both of these interests should now be given recognition and protection within a more inclusive legal system. The public trust doctrine provides the vehicle for such integration.

