Author: Brian E. Gray
Source: Hastings Law Journal
Citation: 45 Hastings L.J. 249 (1994).
Title: The Modern Era in California Water Law

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The Modern Era in California Water Law

by

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Introduction

California’s water resources system is poised at a turning point. For the first time since the great era of water project development concluded, water has been directed away from the major water supply projects and reallocated to enhance water quality and instream flows in the Sacramento-San Joaquin Delta and to restore anadromous fish populations in the principal rivers of the Central Valley system. This reallocation has, or soon will, come in three forms of action.

First, the California State Water Resources Control Board (the Board) promulgated its Water Quality Control Plan for Salinity for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary in May 1991. Although this plan did not alter existing water rights, it did establish water quality standards, and the Board stated that the achievement of these standards likely would require subsequent

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1. The California State Water Resources Control Board (the Board) is the principal regulatory agency with jurisdiction over California’s water resources. It directly regulates all appropriations of surface water commenced after December 19, 1914 through its power to grant permits and licenses for such uses. See CAL. WATER CODE §§ 1200-1851 (West 1971 & Supp. 1993). Although the Board does not have direct regulatory jurisdiction over riparian rights, pre-1914 appropriations, and groundwater, id. § 1202, it does have substantial supervisory authority over all uses of water pursuant to the laws addressed in this Article, including Article X, Section 2 of the California Constitution and the public trust doctrine. See infra Part II. The Board also is the primary state agency with jurisdiction over the implementation and enforcement of federal and state water quality laws. CAL. WATER CODE §§ 13000-14920 (West 1992 & Supp. 1993).

2. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, WATER RIGHT ORDER 91-15: WATER QUALITY CONTROL PLAN FOR SALINITY FOR THE SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY (May 1991) [hereinafter WATER QUALITY PLAN].
changes to the water rights of the Central Valley Project (CVP),\(^3\) the State Water Project (SWP),\(^4\) and other large appropriators of water in the Central Valley basin.\(^5\) The following year, the Board issued its draft water rights decision.\(^6\) In this decision, denominated Decision 1630, the Board proposed to direct the CVP and the SWP to alter the movement of water through, and their pumping of water from, the Delta in order to provide additional protection for anadromous fish.\(^7\) The Board estimated that these reoperational measures would reduce the Projects' water exports by approximately 800,000 acre-feet annually (afa)\(^8\) during average water supply conditions, and by as much as

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3. The Central Valley Project (CVP) is an integrated system of reservoirs, canals, and water distribution facilities operated by the United States Bureau of Reclamation. Its principal components are: Lake Shasta Reservoir, which impounds the waters of the upper Sacramento River and its tributaries; Claire Engle Reservoir, which impounds the waters of the Trinity River for trans-basin diversion into the Sacramento River; Folsom Reservoir on the American River; New Melones Reservoir on the Stanislaus River; the Tracy Pumping Plant, which diverts water from the Delta for export to the San Joaquin Valley; and Friant Dam, which impounds the waters of the San Joaquin River for export to the southern San Joaquin Valley and to the Tulare Basin. See William L. Kahrl, The California Water Atlas 46-50 (1979) [hereinafter Kahrl, Water Atlas]. The CVP has a water supply capacity of approximately 9.45 million acre-feet per year. Approximately 98 percent of this water goes to agricultural users. California Dept. of Water Resources, Bull. No. 160-87, California Water: Looking to the Future 25 (1987) [hereinafter Looking to the Future]. The Bureau of Reclamation, in its role as operator of the CVP, is the largest appropriator of surface water in California.

4. The State Water Project (SWP) is the second largest appropriator of surface water in California. As its name indicates, the SWP is owned by the state and is operated by the Department of Water Resources (DWR). Its principal components are: Lake Oroville Reservoir, which impounds the waters of the Feather River for storage and transport to the Delta; the North Bay Aqueduct and South Bay Aqueduct, which deliver water to municipal, industrial, and agricultural users in the San Francisco Bay Area; Clifton Court Forebay and the Harvey O. Banks Pumping Plant, which divert water from the Delta; and the Edmund G. Brown, Sr. California Aqueduct, which transports that water to agricultural users in the San Joaquin Valley and to municipal and industrial users in Southern California. See Kahrl, Water Atlas, supra note 3, at 50-56. The water supply capacity of the SWP is approximately 2.3 million acre-feet annually (afa). Looking to the Future, supra note 3, at 24.

5. Water Quality Plan, supra note 2, at 7-1, 7-20.


7. Anadromous fish are hatched in freshwater streams and lakes and migrate to the ocean, where they spend most of their mature lives. These fish then return to their stream or lake of origin to spawn. In California, the main species of anadromous fish are salmon, steelhead trout, striped bass, sturgeon, and American shad.

8. An acre-foot is the quantity of water that would cover one acre of land to a depth of one foot, and is equivalent to approximately 326,000 gallons. It is used to measure standing bodies of water. See Joseph L. Sax et al., Legal Control of Water Resources 36 (2d ed. 1991).
1.9 million afa during periods of drought. The Board also proposed to require the operators of all reservoirs with a capacity larger than 100,000 acre-feet within the Central Valley system to release "pulse flows" to support out-migration of anadromous fish. To ensure that the pulse flows would have served their intended purpose, the Board would have directed all users whose rates of diversion equaled or exceeded 100 cubic feet per second (cfs) to cease diversions for five days during the period when the released water would have flowed past their points of diversion.

Although Decision 1630 was not adopted, its recommendations have formed the basis for the United States Environmental Protection Agency's (EPA) draft rule establishing federal water quality standards for the Bay-Delta Estuary. EPA vetoed portions of the Board's May 1991 Water Quality Control Plan, and, following the Board's withdrawal of draft Decision 1630, EPA announced that it would set its own standards pursuant to Section 303(c) of the Clean Water Act. Preliminary analyses of the draft rule indicate that EPA's salinity, temperature, and flow standards could require California water users to devote between 680,000 afa and 3.1 million afa of additional water to instream uses in the Bay-Delta Estuary.

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9. Water Right Decision 1630, supra note 6, at 85.
10. Id. at 55-56.
11. Id. at 57. A cubic foot per second (cfs) is a measure of the amount of water flowing in a stream or river. It is defined as the number of cubic feet of water flowing past a given point in the river every second. One cubic foot of water is equivalent to 7.48 gallons. One cubic foot per second is equivalent to 646,317 gallons per day and to 1.98 acre-feet per day. Sax et al., supra note 8, at 36.
12. On April 1, 1993, Governor Pete Wilson ordered the Board to rescind draft Decision 1630 and to terminate the water rights proceedings that led to the proposed decision. Letter from Governor Pete Wilson to John Caffrey, Acting Chair of the California State Water Resources Control Board, reprinted in 3 Calif. Water L. & Pol'y Reptr. 152 (1993).
Second, on October 30, 1992, President Bush signed into law the Central Valley Project Improvement Act.\textsuperscript{17} This statute requires the Bureau of Reclamation immediately to “dedicate and manage annually eight hundred thousand acre-feet of Central Valley Project yield for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by [the legislation].”\textsuperscript{18} The Act also authorizes the Bureau to use this water

to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and
to help to meet such obligations as may be legally imposed upon the Central Valley Project under State or Federal law following the date of enactment of this title, including but not limited to additional obligations under the Federal Endangered Species Act.\textsuperscript{19}

Third, in February 1993, the National Marine Fisheries Service (NMFS) issued its Biological Opinion for the Operation of the CVP and the SWP.\textsuperscript{20} This opinion is designed to protect the Sacramento River Winter-Run Chinook Salmon, which NMFS designated as a “threatened species” under the federal Endangered Species Act in November 1990.\textsuperscript{21} The opinion recommends a variety of changes to the operation of the CVP and the SWP, including reduction in the pumping of water from the Delta during the months in which adult salmon are immigrating upriver to spawn and later when juvenile salmon are emigrating downriver to the ocean.\textsuperscript{22} Based on the recommendations of the biological opinion, the Bureau of Reclamation has announced that most CVP agricultural contractors located south of the Delta are likely to receive only fifty percent of their normal contract supplies during wet and above average water conditions and less during periods of drought.\textsuperscript{23} According to the Bureau, this supply reduction is necessary for it to operate the CVP in compliance with the Endangered Species Act and the CVP Improvement Act.\textsuperscript{24}

\begin{thebibliography}{9}
\bibitem{17} Pub. L. No. 102-575, §§ 3401-3412, 106 Stat. 4706, 4769 (1992) [hereinafter CVP Improvement Act].
\bibitem{18} Id. § 3406(b)(2).
\bibitem{19} Id.
\bibitem{20} \textit{National Marine Fisheries Service, Biological Opinion for the Operation of the Federal Central Valley Project and the California State Water Project} (Feb. 1993) [hereinafter Biological Opinion].
\bibitem{22} Biological Opinion, \textit{supra} note 20, at 51-62.
\bibitem{24} Id. CVP contractors in the San Joaquin Valley have challenged the 50% supply reduction and have been joined by the Kern County Water Agency (a SWP contractor) in
\end{thebibliography}
This Article will describe and evaluate the laws governing the reallocations of water that have been, or likely will be, engendered by these developments. To set the stage for the more technical legal analysis that follows, Part I reviews the events that led up to these reallocation decisions. Part II analyzes California’s powers under Article X, Section 2 of the state constitution to ensure that its water resources are allocated efficiently and its authority under the public trust doctrine to protect the natural environment. This law of “involuntary reallocation” is followed by a discussion in Part III of the state and federal laws that govern the voluntary transfer of water. Part IV concludes with a case study that explores the interplay between the two reallocational strategies and suggests the ways in which the law of reasonable use and the public trust doctrine may serve as an inducement to market-based transfers.

I. The Era of Reallocation

A little over a quarter century ago, the California Supreme Court ushered in the modern era of California water law. This era began quietly and inconspicuously with the court’s resolution of a small water rights dispute along a tiny coastal stream in Marin County. Indeed, because the modern era dawned well before the era that it replaced had ended, few observers recognized that a sea change in California water law had occurred.

The facts of the case were deceptively simple. The Joslins owned five acres of land along Nicasio Creek, just upstream from Tomales Bay. Since 1955, they had used their riparian rights to support a small rock and gravel business. The flowing water of the creek car-challenging the legality of the biological opinion. Westlands Water Dist. v. United States, No. CV-F-93-5327 OWW (E.D. Cal. filed July 28, 1993).

In addition, the United States Fish and Wildlife Service has designated the Delta Smelt as a “threatened species.” Endangered and Threatened Wildlife and Plants, 58 Fed. Reg. 12,854 (1993). It is likely that the final biological opinion for the smelt will require additional reallocations of water because the principal spawning ground for the species is Suisun Marsh and the smelt is threatened by the increasing salinity of the waters of the marsh. See Endangered and Threatened Wildlife and Plants: Delta Smelt, Sacramento Splittail, and Longfin Smelt, 59 Fed. Reg. 860 (1994). The Fish and Wildlife Service also has proposed to designate the Sacramento Splittail as a threatened species. Id. at 862. 25. Joslin v. Marin Mun. Water Dist., 429 P.2d 889 (Cal. 1967).
26. Id. at 891.
27. Riparian rights are based on the ownership of land that is adjacent to a river or lake. According to California law, water may be used pursuant to a riparian right only on riparian land that is within the watershed from which the water originates. See Anaheim Union Water Co. v. Fuller, 88 P. 978 (Cal. 1907). Appropriative rights are not subject to these place of use restrictions and may be acquired independently of ownership of land.
ried suspended sediment, some of which would wash up on the shores of the Joslins’ land. The Joslins would collect the rock, sand, gravel, and other debris and sell the material to their customers. This low-technology, low-impact use of the waters of Nicasio Creek continued for seven years until 1962, when the Marin Municipal Water District (MMWD) constructed a dam upstream of the Joslins’ land. The District would use the water impounded by the dam to supply the growing needs of its residential, commercial, and light industrial customers throughout Marin County. Unfortunately for the Joslins, the dam also destroyed their livelihood.

The years in which the Joslins operated their rock and gravel business coincided with the great era of water resources development in California. Several years before the Joslins acquired their land in 1955, the United States Bureau of Reclamation began to deliver water from the CVP to farms and cities in the Sacramento and San Joaquin Valleys and to portions of the San Francisco Bay Area. In 1960, the voters of California approved the construction of the SWP, which would eventually serve agricultural, urban, and industrial users in the San Francisco Bay Area, Southern California, and areas of the San Joaquin Valley that did not have access to the CVP. San Francisco’s Hetch Hetchy Project and the East Bay Municipal Utility District (EBMUD), which together supply the lion’s share of water to the Bay Area, constructed new dams in the Sierra Nevada in the late 1950s to pursuant to a permit issued by the State Water Resources Control Board. Cal. Water Code §§ 1250-1677 (West 1971 & Supp. 1993). The Court of Appeal has observed: The law of water rights involves a hierarchy of priorities: Riparian rights as a class have priority which must be satisfied before any appropriative rights are exercised. As among appropriators, “the first in time is the first in right.” In times of water shortage, the most junior rights-holder must reduce even to the point of discontinuance before the next senior appropriative rights-holder must cut back at all.

United States v. State Water Resources Control Bd., 227 Cal. Rptr. 161, 188 n.25 (Ct. App. 1986) [hereinafter Delta Water Cases]. As discussed in Part II, however, this hierarchy of rights is subject to modification in any given case based on other laws such as Article X, Section 2 of the California Constitution and the public trust doctrine.

29. Id.
30. See Norris Hundley, Jr., The Great Thirst: Californians and Water, 1770s-1990s, at 232-72 (1992); Kahrl, Water Atlas, supra note 3, at 47-50; Robert de Roos, The Thirsty Land: The Story of the Central Valley Project (1948). For a listing of the dates of completion of the various dams and aqueducts of the CVP, see Looking to the Future, supra note 3, at 123.
31. See Hundley, supra note 30, at 272-98; Kahrl, Water Atlas, supra note 3, at 50-57; Looking to the Future, supra note 3, at 123.
augment their existing impoundment facilities. During the 1960s, the City of Los Angeles added a second pipeline to its Owens Valley-Mono Basin project, increasing imports from the two areas by fifty percent. And, in the early 1970s, the Yuba County Water Agency and the Turlock and Modesto Irrigation Districts replaced their Bullard's Bar and Don Pedro dams with, respectively, the much larger New Bullard's Bar Reservoir and New Don Pedro Reservoir.

Few parts of the state escaped the consequences of this era of big dams and massive water exports. The Trinity River and North Coast region of California were brought into the CVP. Small communities in the western Sierra Nevada became irrevocably linked with the metropolitan regions that claimed the water of their local rivers. Much of the San Joaquin Valley now uses Sacramento River water, the waters of the San Joaquin River having been diverted south into the Tulare Basin. Mono and Inyo Counties became colonies of the City of Los Angeles, which claimed all of the surface water and much of the groundwater from the Owens Valley and virtually all of the surface water from the Mono Basin.

The strands of development reached as far as the edge of the state to remote western Marin, and the Joslins found themselves caught in its web. Located just across the Golden Gate from San Francisco, Marin County was one of the fastest growing parts of the Bay Area during the decades following World War II. To serve this growth, and in anticipation of projected intensive development in western Marin during the 1960s and 1970s, MMWD expanded its local water supply facilities in 1962 by building a dam across Nicasio Creek several miles upstream of the Joslins' land. As with all dams, Nicasio Dam captured the natural flow of the creek, including the sediment suspended in and carried by the flowing water. Consequently, although MMWD released water to supply water rights holders located downstream, the water no longer carried the rock and gravel on which the Joslins' business depended.

The Joslins did not challenge the construction and operation of the dam. Nor did they contest MMWD's application for a permit to

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32. See Looking to the Future, supra note 3, at 123.
34. Looking to the Future, supra note 3, at 123.
35. See Hundley, supra note 30, at 139-200.
37. Id.
38. Id.
appropriate the waters of Nicasio Creek for domestic use. Rather, the Joslins sued MMWD for inverse condemnation, claiming that the impoundment of the natural flow of the creek deprived them of property in violation of both the United States and California Constitutions. The Marin County Superior Court granted MMWD’s motion for summary judgment and concluded that the District had not violated any of the Joslins’ substantive rights. The Joslins appealed to the California Supreme Court.

Although the supreme court could have analyzed the case as a simple property rights dispute—involving the alleged taking of the Joslins’ sand and gravel—the court instead addressed the more important question of the nature of water rights under Article X, Section 2 of the California Constitution. After an extensive review of California water rights law, the court held that the construction and operation of Nicasio Dam had not interfered with the Joslins’ riparian rights because those rights are limited by the doctrine of reasonable use.

According to the court, to prevail on their takings claim, the Joslins must “first establish[] the legal existence of a compensable property interest.” Under Article X, Section 2, “[s]uch an interest

39. Id.
40. Id.
41. Article X, Section 2, which was added to the California Constitution in 1928, provides in salient part:
The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses. . . .

CAL. CONST. art. X, § 2.

Before the enactment of this amendment, the doctrine of reasonable use was applicable to both riparian rights and appropriative rights, but could not be asserted by an appropriator against a riparian. Curiously, even though both types of rights were created by the courts through their common-law powers, the California courts regarded only riparian rights as true property rights. Appropiimators could acquire rights vis-à-vis one another, but in a dispute between a riparian and an appropriator the nonriparian (i.e., appropriative) use was treated as a trespass. One purpose of the 1928 constitutional amendment was to elevate appropriative rights to the same legal status as riparian rights by making all water rights, in all cases, subject to the doctrine of reasonable use. See generally Brian E. Gray, “In Search of Bigfoot”: The Common Law Origins of Article X, Section 2 of the California Constitution, 17 HASTINGS CONST. L.Q. 225 (1989) [hereinafter Gray, In Search of Bigfoot].

42. Joslin, 429 P.2d at 898.
43. Id. at 897.
consists in their right to the *reasonable* use of the flow of water.*”44 Although the evaluation of “what is a reasonable use of water depends on the circumstances of each case,” the determination of whether a particular use is reasonable cannot be made “*in vacuo* isolated from statewide considerations of transcendent importance.”45 In the court’s view, a paramount factor was “the ever increasing need for the conservation of water in this state, an inescapable reality of life quite apart from its express recognition in [Article X, Section 2].”46

Although the Joslins’ use of the unimpaired flow of Nicasio Creek to deposit rock and gravel on their riparian lands may well have been reasonable when they began their business in 1955, that same use had become unreasonable in light of the new demands for the waters of Nicasio Creek by MMWD in 1962.47 “[S]ince there was and is no property right in an unreasonable use,” the court concluded, “there has been no taking or damaging of property by the deprivation of such use and, accordingly, the deprivation is not compensable.”48

While the opinion in *Joslin* is cryptic, the California Supreme Court’s conception of the reasonable use doctrine is relatively simple. Unlike real property rights, the property right in water is dependent on the user exercising his or her right in conformity with the contemporary needs of society. The evaluation of the reasonableness of a particular use cannot be made in isolation. Rather, the reasonableness of any one use depends on a comparative assessment of the reasonableness of other competing uses.49 Moreover, social conceptions of “reasonableness”—and hence the legal definition of reasonable use—may change over time. Thus, the use of one’s riparian rights to obtain rock and gravel carried by the natural flow of a creek may well be reasonable when the practice begins. But this does not mean that the same use will remain reasonable as conditions change—for example, when water is needed by a competing appropriator to supply water to a growing suburban population.50

With this vision of water rights as dependent on the highly flexible doctrine of reasonable use, the California Supreme Court began the modern era of California water law. While this era is marked with an array of defining characteristics—the end of big water develop-

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44. *Id.*
45. *Id.* at 894.
46. *Id.*
47. *Id.* at 898.
48. *Id.*
49. *Id.* at 894.
50. *Id.* at 897-98.
ment, the blossoming of the environmental movement, an influx of neoclassical economics—it may be best described as the era of reallocation.\textsuperscript{51} For the past two decades, the central issues of California water law and water policy have all focused on the reapportionment of already developed supplies from existing, and sometimes antiquated, uses to new demands by consumptive users and to the restoration of aquatic environments that were damaged during the era of development.

Although reallocation by judicial fiat has been the exception, \textit{Joslins} nonetheless stands as the cornerstone of the modern era for several reasons. First, the decision sharply contrasted with the manner in which water supply issues had been resolved over the preceding half century. During what Norris Hundley, Jr. has called the era of “the hydraulic society,” water shortages usually were solved simply by developing greater supplies.\textsuperscript{52} If the construction of a new dam threatened senior water rights downriver, some of the yield of the project would simply be allocated to satisfy the water rights of the senior users.\textsuperscript{53} In contrast, \textit{Joslins} held that if a new use cannot be accommodated with an existing, outmoded use, the state has the power to declare the latter unreasonable and reallocate the available water to the new use. While the decision was not unprecedented,\textsuperscript{54} it marked the first time in more than sixty years that the reasonable use doctrine was employed to divest one party's water rights in favor of what the court perceived to be a socially more valuable, and hence more “reasonable,” use.\textsuperscript{55}


\textsuperscript{52} Hundley, supra note 30, at 232.

\textsuperscript{53} For an example of this supply augmentation procedure, see Sax, supra note 8, at 313-17.

\textsuperscript{54} There are a number of examples before Joslin in which the courts either had explicitly reallocated water from an existing user to a new use or refused to enforce a senior water right against a new appropriation. See, e.g., Peabody v. City of Vallejo, 40 P.2d 486 (Cal. 1935) (holding riparian not entitled to natural flow of the river in view of new appropriation for domestic use upriver); Town of Antioch v. Williams Irrigation Dist., 205 P. 688 (Cal. 1922) (holding senior user’s point of diversion unreasonable in light of demands of junior appropriators upriver). For other examples, see Gray, \textit{In Search of Bigfoot}, supra note 41, at 250-68.

\textsuperscript{55} Of course, none of this was obvious at the time of the decision, even to the most prescient observer. To this day, \textit{Joslins} is something of an enigma. It may simply have been a decision not to countenance a use of water that required an inordinate percentage of the flow of the stream. Interpreted narrowly, \textit{Joslins} might represent little more than a statement that egregiously wasteful uses of water violate Article X, Section 2. The case may also exemplify the balancing of competing interests required by the con-
Second, Joslin appeared just as the era of water development was beginning to atrophy. The causes of this decline are varied. By the late 1960s, the best reservoir sites had been developed. This meant that future dams, and hence the augmentation of the state’s water supplies, would become increasingly expensive. The inflation of the 1970s exacerbated this problem. In addition, by the 1980s, the rising federal deficit reduced the willingness of the United States to pay for major new reclamation projects. More than any other factor, however, was the environmental movement, which imposed both political opposition to and legal hurdles for new reclamation projects.

The earliest assault on the hydraulic society came in the form of new environmental laws. The National Environmental Policy Act of 1969 and the California Environmental Quality Act of 1970 required that the proponents of new water development projects conduct a review of the potential environmental consequences, alternatives, and mitigation measures before the project could be constructed and additional water resources developed. Congress’s enactment of the Federal Water Pollution Control Act Amendments of 1972, which comprise the modern Clean Water Act, spurred the State Water Resources Control Board to conduct its long-awaited evaluation of the effects of the operations of the CVP and the SWP on water quality in the Sacramento-San Joaquin River Delta and Suisun Marsh. That same year, the California Legislature passed the California Wild and Scenic Rivers Act, which effectively placed the state’s

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north coast rivers off-limits to new appropriations. Later in the decade, the United States Supreme Court upheld California's authority to impose conditions on the water rights permits for the CVP to protect instream flows and water quality.62

By the early 1980s, the era of development had reached its end game. President Reagan continued President Carter's policy of reducing federal funding of new water development projects.63 In addition, Congress enacted the Reclamation Reform Act of 1982,64 which limited the amount of land that would be eligible to receive subsidized water from the CVP.65 Finally, two events that continue to shape California water policy signaled the eclipse of the old era by the new. In June 1982, the state electorate decisively rejected Governor Jerry Brown's proposal to construct the Peripheral Canal to move water more efficiently from the Sacramento River to the CVP and SWP pumping plants in the south Delta.66 Several months later, the California Supreme Court issued its opinion in National Audubon Society v. Superior Court,67 which both incorporated the public trust doctrine into the California water rights system and confirmed the state's broad authority to reallocate water from existing, vested water rights holders to new uses—in this case, preservation of the unique environment of Mono Lake. Cases later in the decade upheld Congress's sovereign power to reform the federal reclamation system68 and California's sweeping authority under a variety of laws to protect water quality, fish and wildlife, stream flows, and other aspects of the natural environment.69

As California entered the 1990s, the most dramatic challenges to the existing allocational scheme appeared. As noted at the outset, these challenges include the promulgation of the Bay-Delta water quality standards, the enactment of the Central Valley Project Im-

61. 1972 Cal. Stat. 1259 (codified at CAL. PUB. RES. CODE §§ 5093.50-5093.69 (West 1984)).
66. HUNDLEY, supra note 30, at 321-30.
68. Peterson, 899 F.2d at 812.
provement Act of 1992, the designation of the Winter-Run Chinook Salmon and the Delta Smelt as “threatened species,” as well as the prospect of future decisions, such as the listing of additional species for protection under the Endangered Species Act and the Environmental Protection Agency’s establishment of its own water quality standards for the Bay-Delta Estuary. All of these challenges could require the reallocation of additional water from existing consumptive users to in situ uses.

Third, the doctrine of reasonable use set forth in *Joslin* spawned a new vision of how water could be reallocated from existing users to new and more valued uses. Following *Joslin*, the State Water Resources Control Board and the courts began to pay greater attention to the relative value of water and to the efficiency of water use. Initially, the reasonable use doctrine was applied in fairly straightforward ways: to require a senior appropriator to stop wasting water in order to make room for a new appropriation; to require riparians and appropriators to share in the costs of augmenting their collective supplies regardless of the relative seniority of the water rights involved; and to empower instream flow advocates to challenge a new appropriation based on its effects on fish, wildlife, and recreational uses of the river.

In the late 1970s and early 1980s, however, the California Legislature authorized a more creative use of the reasonable use doctrine. It provided that a water rights holder who is using water inefficiently (and therefore arguably unreasonably) may repair its wasteful practices and transfer the conserved water. Although a voluntary, market-based system of reallocation would appear to be antithetical to the “command and control” approach taken in *Joslin*, the two are integrally related. While an essential component of California’s water transfer policy is based on the doctrine of reasonable use as articulated in *Joslin*, it has been the policy of the state to prefer negotiated, rather than compulsory, reallocations from lesser to higher valued uses. At the same time, however, the State Water Resources Control Board and the courts have recognized that resort to the compulsory process may be required either to induce negotiated transfers or, in

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73. *Cal. Water Code §§ 1011(b), 1244 (West Supp. 1993); see infra Part III.*
extreme cases, to accomplish reallocation through the adjustment of water rights. This complementary application of the doctrine of reasonable use and the water transfer laws played a vital role in the execution of California’s most prominent reallocation of water supply: the long-term agreement to transfer conserved water from the Imperial Irrigation District to the Metropolitan Water District.\textsuperscript{74} Indeed, as the balance of this Article will demonstrate, it is through the interplay of \textit{Joslin} and the “voluntary” transfer procedures that California likely will respond to its most recent water supply challenges.

Finally, the conception of the property right in water set out in the \textit{Joslin} opinion will profoundly influence the courts’ resolution of the difficult constitutional issues that animate the field of California water law and policy. According to \textit{Joslin} and other cases, water rights differ from other property rights. Water rights are fragile—the right exists only insofar as the water user exercises the right in accordance with the doctrine of reasonable use, which in turn requires a comparative assessment of the value of competing demands for the water. Moreover, water rights are dynamic in that the definition of reasonable use may change over time. As the California Supreme Court observed in its first major reasonable use case following \textit{Joslin}, “reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes.”\textsuperscript{75}

This definition of the property right in water is important because it means that the state has far broader authority to alter water rights than it does to adjust rights in real or personal property. Because the property rights of a water user exist only in reasonable uses of that water, government-mandated reallocations of the user’s water based on a finding of unreasonable use do not implicate the Takings Clause of the Fifth Amendment to the United States Constitution or the Due Process Clause of the Fourteenth Amendment. Accordingly, the state may adjust water rights under the reasonable use doctrine without having to compensate the affected user.

\textbf{II. The Law of Involuntary Reallocation: The Public Trust and the Doctrine of Reasonable Use}

Following \textit{Joslin}, the California courts applied the doctrine of reasonable use in a variety of different contexts. Although each of these cases emphasized the paramount interest of the state in supervising

\textsuperscript{74} See infra Part IV.
\textsuperscript{75} \textit{Environmental Defense Fund}, 605 P.2d at 6.
the manner in which California’s water resources are managed and used, none fully tested the implications of the interpretation of Article X, Section 2 of the California Constitution set forth in the Joslin opinion.76 Then, in the 1980s, the courts decided three landmark cases that both established reasonable use as a cornerstone of California water law and recognized Article X, Section 2 as an instrument for the reallocation of the state’s water resources.

A. National Audubon

The first of these decisions was the famous public trust case, National Audubon Society v. Superior Court.77 At issue were the water rights of the City of Los Angeles in Mono Basin, located to the east of Yosemite National Park. The Los Angeles Department of Water and Power (DWP) began appropriating water in 1940 from four of the five streams that fed Mono Lake. DWP increased its diversions in 1970 to almost 100,000 afa, virtually the entire flow of these streams.78 In 1979, the water exported from Mono Basin represented approximately twenty percent of the total supplies available to the City of Los Angeles.79

The plaintiffs—a consortium of environmental organizations led by the National Audubon Society and the Committee to Save Mono Lake—challenged DWP’s appropriative rights on the ground that the diversions imperiled the public trust in Mono Lake. A long-recognized doctrine of California natural resources law,80 the public trust grants the public certain rights in the navigable waters of the state.

76. For example, the courts held that Article X, Section 2 authorized the State Water Resources Control Board: (1) to enjoin riparians along the Napa River from diverting water to spray on (and thereby to protect) wine grapes during periods of frost and to require the riparians to construct water storage facilities from which they could withdraw water during such periods, Forni, 126 Cal. Rptr. at 851; (2) to relegate unexercised riparian rights to a priority below that of all existing water rights holders in a statutory adjudication of an entire stream system, despite the traditional superiority of the riparian right, In re Waters of Long Valley Creek Stream Sys., 599 P.2d 656, 668 (Cal. 1979); (3) to direct an appropriator to move its point of diversion for the purpose of protecting instream uses of the river below the existing point of diversion, Environmental Defense Fund v. East Bay Mun. Util. Dist., 605 P.2d 1 (Cal. 1980); and (4) to require a prescriptive user to obtain a permit to appropriate water, People v. Shirokow, 605 P.2d 859, 862 (Cal. 1980).
77. 658 P.2d 709 (Cal. 1983).
78. Id. at 711, 713-15.
79. See KAHRL, WATER AND POWER, supra note 33, at 433.
These rights include navigation, commerce, fishing, boating, and other forms of water recreation.\textsuperscript{81} More importantly, the doctrine confers on the public the right to preserve the navigable waters and adjacent lands embraced within the public trust “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.”\textsuperscript{82}

The plaintiffs alleged that DWP’s appropriations threatened the public trust in Mono Lake in several ways. First, the diversions from the feeder streams had lowered the level of the lake by forty-three feet and had reduced its surface area by twenty-five square miles.\textsuperscript{83} Second, as the supply of fresh water to Mono Lake diminished, the salinity level increased, threatening the food chain of the lake as well as its availability as a source of potable water for migratory birds.\textsuperscript{84} Third, as the level of Mono Lake fell, land bridges formed between the islands in the lake and the shoreline. This allowed predators to come onto the islands and destroy the habitat of nesting birds.\textsuperscript{85} Fourth, “as the lake recedes, it has exposed 18,000 acres of lake bed composed of very fine silt which, once dry, easily becomes airborne in winds. This silt contains a high concentration of alkali and other minerals that irritate the mucous membranes and respiratory systems of humans and other animals.”\textsuperscript{86}

As the California Supreme Court surveyed the dispute, it observed:

This case brings together for the first time two systems of legal thought: the appropriative water rights system which since the days of the gold rush has dominated California water law, and the public trust doctrine.\ldots Ever since we first recognized that the public trust protects environmental and recreational values, the two systems of legal thought have been on a collision course. They meet in a unique and dramatic setting which highlights the clash of values.\textsuperscript{87}

The court was highly cognizant of the interests at stake. It declared Mono Lake “a scenic and ecological treasure of national significance, imperiled by continued diversions of water.”\textsuperscript{88} Yet it also acknowl-
edged that "the need of Los Angeles for water is apparent, its reliance on [its water] rights . . . evident, the cost of curtailing diversions substantial."^89

The California Supreme Court did not determine the controversy between Audubon and Los Angeles.\textsuperscript{90} It did decide, however, that the state may modify the city's appropriative rights as necessary to accommodate the public and private rights in the waters of Mono Lake. The court held that "[t]he state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible."\textsuperscript{91} It recognized that "[t]he population and economy of this state depend upon the appropriation of vast quantities of water for uses unrelated to in-stream trust values."\textsuperscript{92} Accordingly, the court acknowledged that

the state may have to approve appropriations despite foreseeable harm to public trust uses. In so doing, however, the state must bear in mind its duty as trustee to consider the effect of the taking on the public trust and to preserve, so far as consistent with the public interest, the uses protected by the trust.\textsuperscript{93}

This obligation to weigh the public trust against the need for consumptive uses of the resource does not end once the state grants a water right. Rather, "[o]nce the state has approved an appropriation, the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water."\textsuperscript{94} The court concluded that, "[i]n exercising its sovereign power to allocate water resources in the public interest, the state is not confined by past allocation decisions

\textsuperscript{89} Id.

\textsuperscript{90} After the court's decision in 1983, the Audubon litigation initially languished in a procedural quagmire. See National Audubon Soc'y v. Department of Water, 858 F.2d 1409 (9th Cir. 1988). In 1989, the El Dorado Superior Court enjoined Los Angeles from diverting water from Mono Basin whenever the level of the lake is below 6,377 feet. See Hearings on Mono Basin Water Reallocation Begin, 4 CAL. WATER L. & POL'Y Rptr. 39 (1993). The superior court referred the case to the State Water Resources Control Board for hearings on the establishment of a permanent minimum lake level and permanent flow standards for the tributary streams. Id.

In a separate case based on Sections 5937 and 5946 of the California Fish and Game Code, the advocates of protection for Mono Lake also have been able to enjoin Los Angeles from diverting water from the creeks that supply the lake to the extent that such water is needed to maintain the trout fisheries in the streams. See California Trout, Inc. v. State Water Resources Control Bd., 253 Cal. Rptr. 184 (Ct. App. 1989); California Trout, Inc. v. Superior Ct., 266 Cal. Rptr. 788 (Ct. App. 1990).

\textsuperscript{91} Audubon, 658 P.2d at 728 (footnote omitted).

\textsuperscript{92} Id. at 727 (footnote omitted).

\textsuperscript{93} Id. at 728 (citation omitted).

\textsuperscript{94} Id.
which may be incorrect in light of current knowledge or inconsistent with current needs.”

Audubon confirms the broad reading of Joslin discussed above. It unambiguously holds that the state, acting either through the courts or the State Water Resources Control Board, may modify existing water rights to ensure that the uses of water authorized by the state keep pace with contemporary economic needs and public values. Although the court did not base its holding on the doctrine of reasonable use, the case is nonetheless a landmark in the developing jurisprudence of Article X, Section 2. The court declared that the 1928 amendment “establishes state water policy” and emphasized that “[a]ll uses of water, including public trust uses, must now conform to the standard of reasonable use.” In essence, then, Audubon holds that the state may modify its determination that a particular consumptive use of water is reasonable under Article X, Section 2 whenever public values change from a utilitarian interest to a preservationist interest in the water resource. Under Article X, Section 2, the state also may amend private consumptive rights as necessary to ensure that the more highly valued public trust purposes are “reasonably” protected.

95. Id.
96. See supra text accompanying notes 41-50; note 55.
97. The court noted the argument advanced by the California Attorney General that the State Water Resources Control Board could reconsider Los Angeles’s water rights “under the doctrine of unreasonable use under article X, section 2.” Audubon, 658 P.2d at 728 n.28. In response, Los Angeles argued that, because it used the water exported from Mono Basin for domestic purposes, its water rights were “prima facie reasonable.” Id.; see CAL. WATER CODE § 106 (West 1971) (declaring that “the use of water for domestic purposes is the highest use of water” recognized by state law). Citing Joslin, 429 P.2d at 893-95, the court stated that the dispute “centers on the test of unreasonable use—does it refer only to inordinate and wasteful use of water . . . or to any use less than the optimum allocation of water?” Audubon, 658 P.2d at 728 n.28. In view of its reliance on the public trust doctrine, the court concluded that it was unnecessary to decide that question. Id.
98. Audubon, 658 P.2d at 725. The court also noted that “[a]fter the effective date of the 1928 amendment, no one [could] acquire a vested right to the unreasonable use of water.” Id. at 725 n.23 (citing Joslin, 429 P.2d at 898).
99. This interpretation of Audubon was confirmed by the final decision in the Lower American River adjudication. Environmental Defense Fund v. East Bay Mun. Util. Dist., No. 425955 (Alameda County Super. Ct. Jan. 2, 1990) (statement of decision). Judge Hodge stated that the public trust “occupies an exalted position in any judicial or administrative determination of water resource allocation.” Id. at 27. He held, however, that in determining whether EBMUD’s use of water diverted at the Folsom Reservoir violated the public trust in the American River below the dam, the competing consumptive and instream uses must be balanced or evaluated to determine whether the fullest beneficial use of water has been achieved under Article X, section 2. Evaluation, or balancing, is
B. *Delta Water Cases*

The second key decision of the modern era is the equally famous opinion of the court of appeal in *United States v. State Water Resources Control Board*, commonly referred to as the *Delta Water Cases*. As a panoramic dissertation on California water resources law, the opinion is a doctrinal landmark. Moreover, because it potentially affects the public and private rights to most of the water used in the Central Valley, the Bay Area, and Southern California, it may well be the single most important water resources decision in the history of California.

The *Delta Water Cases* reviewed the authority of the State Water Resources Control Board to establish water quality standards for the Sacramento and San Joaquin River Delta Estuary and to adjust the permits of the two largest appropriators in the basin—the CVP and the SWP—as necessary to implement those standards. According to the court of appeal, the Board had established the water quality standards based on its assessment of the amount of water to which senior water rights holders in the Delta were entitled and on its determination of the water quality that would have existed in the Delta without the operations of the CVP and the SWP. In the water rights decision, commonly referred to as *Decision 1485*, the Board then modified the CVP and SWP permits to require the two projects to release water into the Delta system and to curtail their exports from the Delta as necessary to maintain these “without project” water quality standards.

The court overturned the water quality standards adopted by the Board, holding that the standards should be based on the “reasonable protection of beneficial uses” in the Delta and Suisun Marsh, rather than implicit in the determination of “fullest beneficial use of water.” The point of *Audubon* is that the court does not stop with that determination. Having determined the “fullest beneficial use of water,” the court must still be cautious to avoid needless harm to public trust values. And if the harm to those values becomes significant, then the fullest beneficial use of water may be precluded as a violation of public trust.

*Id.* at 30.

100. 227 Cal. Rptr. 161 (Ct. App. 1986).

101. Another common title for the case is “Racanelli,” after its author, Justice John T. Racanelli.

102. *See Water Quality Control Plan, supra* note 60 (establishing water quality standards); *Water Right Decision 1485, supra* note 60 (adjusting water rights of CVP and SWP).


104. *Id.* at 177.
than the water quality that would exist in the absence of the projects. As did the supreme court in Audubon, the court of appeal emphasized that its decision did not require the Board to prefer in-stream or in-Delta uses over consumptive or export uses of the water. Rather, the court held that the statutory charge grants the Board broad discretion to establish reasonable standards consistent with overall statewide interest. The Board's obligation is to attain the highest reasonable water quality "considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." 

Although the Delta Water Cases involved an array of legal questions, three aspects of the court's opinion are pertinent to the doctrinal development of Article X, Section 2. First, the court ruled that the Board's authority to ensure compliance with the water quality laws is based in part on its powers under the reasonable use doctrine. In reaching this judgment, the court adopted the expansive interpretation of Joslin. The court began by observing that in Decision 1485, "the Board determined that changed circumstances revealed in new information about the adverse effects of the projects upon the Delta necessitated revised water quality standards." It held that the Board could "modify the projects' permits to curtail their use of water on the ground that the projects' use and diversion of the water had become unreasonable." Consistent with the dynamic view of Article X, Section 2, the court stated that "[d]etermination of reasonable use depends upon the totality of the circumstances presented .... "What constitutes reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes." It held that "the Board's power to prevent unreasonable methods of use should be broadly interpreted to enable the Board to strike the proper balance between the interests in water quality and project activities." Emphasizing that "some accommodation must be reached concerning the major public interests at stake: the quality

105. Id. at 180-81. The requirement that the Board establish water quality standards adequate to "ensure the reasonable protection of beneficial uses" is set forth in the California Water Quality Control Act. See Cal. Water Code § 13241 (West Supp. 1993).
108. Id. (emphasis added).
109. Id. (quoting Environmental Defense Fund v. East Bay Mun. Util. Dist., 605 P.2d 1, 6 (Cal. 1980)).
110. Id. at 188.
of valuable water resources and transport of adequate supplies for needs southward," the court concluded that the Board’s decision is "essentially a policy judgment requiring a balancing of the competing public interests."111

Second, the court held that the Board's statutory and constitutional authority to protect water quality in the Delta is augmented by the public trust doctrine. According to the court, Audubon "firmly establishes that the state . . . has continuing jurisdiction over appropriation permits and is free to reexamine a previous allocation decision."112

Third, the court ruled that the Board erred in establishing "only such water quality objectives as could be enforced against the [CVP and SWP]."113 If it is necessary to look beyond the two projects to attain the water quality standards, the court held that the Board has the power under both Article X, Section 2 and the public trust doctrine to require other water users to release water or to curtail their diversions.114

C. Imperial Irrigation District

The third decision that applied Article X, Section 2 was Imperial Irrigation District v. State Water Resources Control Board.115 The case illustrates the possibilities of employing the reasonable use doctrine to create incentives for the private reallocation of water.116 This case arose with a petition filed by John Elmore, a farmer whose lands adjoin the Salton Sea, asking the Department of Water Resources (DWR) to investigate alleged waste and unreasonable use of water within the Imperial Irrigation District (IID).117 Elmore claimed that

111. Id.
112. Id. at 201 (citing Audubon, 658 P.2d at 728).
113. Id. at 179.
114. Id. at 179. Based on this authorization, the Board had proposed to require the operators of all reservoirs larger than 100,000 acre-feet in capacity to release “pulse flows” to support out-migration of anadromous fish and to direct users whose rates of diversion equal or exceed 100 cfs to cease diversions for five days during the period when the released water will be flowing past their points of diversion. These orders would have applied to permittees, licensees, pre-1914 appropriators, and riparians. WATER RIGHT DECISION 1630, supra note 6, at 55-57. As noted above, however, Governor Wilson ordered the Board to rescind the draft orders. See supra note 12.
115. 231 Cal. Rptr. 283 (Ct. App. 1986).
116. This theme will be explored further in Part III, infra.
117. Imperial Irrigation, 231 Cal. Rptr. at 284. The Department of Water Resources, which operates the SWP, see supra note 4, also has regulatory authority to prevent unreasonable use of the state’s water resources. CAL. WATER CODE § 275 (West Supp. 1993); see infra note 233.
IID's failure to regulate reservoirs and excessive deliveries of water to other farmers produced unreasonable amounts of return flow, or "tailwater," which ran off the other farmers' land into the Salton Sea, flooding Elmore's land. DWR concluded that IID's practices were unreasonable and referred the matter to the Board. The Board conducted hearings pursuant to Section 275 of the Water Code. In its Water Rights Decision 1600, the Board ruled that IID's failure to implement "practical measures available to reduce the present losses of water within the District . . . is unreasonable and constitutes a misuse of water under Article X, Section 2 of the California Constitution." 

IID challenged Decision 1600 on the ground that the Board does not have statutory authority, following its own administrative adjudication, to declare an existing use of water unreasonable. Rather, IID argued, the Board must file a lawsuit to enforce the mandate of Article X, Section 2, in which IID would have the right to a trial de novo. The court of appeal rejected this contention and held that the Board has "all-encompassing adjudicatory authority," under both Section 275 and the California Constitution, to enforce the reasonable use doctrine. In its subsequent review of the case, the court also held that the Board's powers to enforce the mandates of Article X, 

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118. Imperial Irrigation, 231 Cal. Rptr. at 284.
119. Id.
120. This section empowers DWR and the Board to “take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state.” CAL. WATER CODE § 275.
121. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DECISION 1600: IMPERIAL IRRIGATION DISTRICT ALLEGED WASTE AND UNREASONABLE USE OF WATER 66 (1984) [hereinafter Decision 1600]. The Board directed IID to monitor the tailwater discharge of all fields receiving water deliveries, to repair defective tailwater structures, to submit a “detailed and comprehensive water conservation plan,” and to develop a plan for construction of regulatory reservoirs by February 1, 1985. Id. at 67-69. It did not, however, order the District to conserve a specific amount of water. As described in detail in Part IV, the Board issued a follow-up order in September 1988, which directed IID to conserve 20,000 afa by January 1, 1991 and 100,000 afa by January 1, 1994. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, WATER RIGHT ORDER 88-20: ORDER TO SUBMIT PLAN AND IMPLEMENTATION SCHEDULE FOR WATER CONSERVATION MEASURES 44-45 (1988) [hereinafter WR ORDER 88-20].
122. Imperial Irrigation, 231 Cal. Rptr. at 283-84.
123. Id. at 289.
124. The court of appeal had remanded to the superior court for a determination of whether the Board's Decision 1600 was supported by substantial evidence. On remand, the superior court affirmed the Board's findings and conclusions in all respects. Imperial Irrigation Dist. v. State Water Resources Control Bd., No. 58706 (San Diego County Super. Ct. Apr. 13, 1988).
Section 2 extend to all users of water, including IID and its members who receive water from the federal reclamation program based on their pre-1914 appropriative rights. "Put simply," the court concluded, "IID does not have the vested rights which it alleges. It has only vested rights to the 'reasonable' use of water. It has no right to waste or misuse of water." The court thus confirmed that water rights are limited by the doctrine of reasonable use and upheld the power of the Board to apply that doctrine to water rights that are not within its direct regulatory jurisdiction. In this respect, Imperial stands as a specific application of the California Supreme Court's declaration in Audubon that "[a]ll uses of water . . . must now conform to the standard of reasonable use."

D. Conclusion

Read in conjunction, Joslin, Audubon, Delta Water Cases, and Imperial are emblematic of the modern era in California water resources law. According to the opinions, Article X, Section 2 confers broad authority on the state to modify existing water rights to ensure that the current apportionment of California's water resources serves contemporary economic, social, and environmental goals in a reasonably efficient manner. This dynamic and utilitarian conception of California water rights means that such rights are fragile. In California, a property right in the state's water resources is good only so long as the water is used relatively efficiently in light of the competing demands and the holder of the right exercises it in a manner that comports with present societal values.

Historically, the reasonable use requirement was used to limit existing water rights in order to facilitate the transformation of the state's economy from gold mining to farming to commerce to heavy industry to aerospace to high technology. More recently, as the state's economic needs threaten to overwhelm the capacity of our natural resources to support them, and as a growing urban population seeks recreation and quietude in the remaining undeveloped parts of our

126. Id.
127. IID receives water from the Bureau of Reclamation's Boulder Canyon Project, and the Supreme Court has held that the Bureau has the authority to enter into contracts for the sale of that water without regard to California law. Arizona v. California, 373 U.S. 546, 547 (1963). Pre-1914 rights are categorically exempt from the Board's permit and license jurisdiction. CAL. WATER CODE § 1202 (West 1971); see supra note 1.
landscape, environmental interests also claim a share of California water resources. Thus, it should not be surprising that advocates of fish and wildlife, recreation, and preservation have looked to Article X, Section 2, as well as to the public trust doctrine, for authority to reconsider the social utility of existing, predominantly consumptive uses of water in light of current public values.

III. The Law of Voluntary Reallocation: Water Transfers Under State and Federal Law

Although the state has broad power under the public trust and reasonable use doctrines to order the reallocation of water, it has exercised this power sparingly. One reason for this forbearance is that the involuntary alteration or divestment of a water right may have unattractive adverse economic consequences for the water users affected by the decision. Moreover, in many cases, the time and administrative costs of investigating and adjudicating claims of unreasonable use may be excessive in comparison with the amount of water at stake. Yet, in today's dynamic economic and political environment, there must be some mechanism to provide for the reallocation of water resources from the existing endowment to higher value uses. This is particularly true in California, where the apportionment of water rights reflects the legacy of history more than it does contemporary economic demands and social values.

In response to this concern, the California Legislature began in the late 1970s to modernize California water transfer law through the incorporation of what might be termed "limited free-market principles." Following California's lead, and in recognition of the fact that a large percentage of California's developed surface water resources were inappropriately restricted to the CVP system, Congress enacted

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129. Indeed, other than the cases cited and discussed in Part II, the Board has exercised its authority under the reasonable use laws on only one occasion—to prevent the filling of an artificial lake during the 1976-77 drought. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DECISION 1463 (1977). In addition, the Board is presently investigating whether the Anderson-Cottonwood Irrigation District and the Yuba County Water Agency are engaged in unreasonable use. In the case of Anderson-Cottonwood, the investigation is focused on the district's diversion of water from the Sacramento River through an unlined canal. In the case of Yuba County, the Board is considering whether the agency has permit rights to appropriate more water than it needs to meet current and predicted demands within its service area. Telephone Interview with Andrew H. Sawyer, Assistant Chief Counsel, State Water Resources Control Board (Sept. 13, 1993).

130. That is, the users who control the lion's share of the developed water are those whose predecessors either acquired riparian land or obtained the early (and, hence, more senior) appropriative rights.
similar water transfer legislation in the Central Valley Project Improvement Act of 1992. This Part begins with an overview of California’s water transfer laws and concludes with a detailed look at the laws and policies that govern the transfer of water supplied by the state’s two largest appropriators—the SWP and the CVP.

A. California Water Transfer Law

Early in its development of the state’s water law, the California Supreme Court held that appropriative rights are transferable. The court declared, “The ownership of water, as a substantive and valuable property, distinct, sometimes, from the land through which it flows . . . may be transferred like other property.” Consistent with the practice in the other western states, however, the court also held that the transfer of water or water rights “must not be to the prejudice of the rights of others.” According to this principle, an appropriator may not move its point of diversion or return flow, or alter the place or purpose of use, if the change would deprive other junior or senior water rights holders of water to which they are legally entitled. As part of California common law, this “no injury” rule stands as the principal limitation on the transferability of pre-1914 rights and forms the basis of the statutory law that governs the transfer of water appropriated under permits and licenses issued by the State Water Resources Control Board.

The Water Commission Act of 1913, which created the first permit system for appropriative rights, also established a mechanism for changing those rights. Although this Act does not refer specifically

133. An example of this principle may be found in Scott v. Fruit Growers Supply Co., 258 P. 1095, 1098 (Cal. 1927), in which the court enjoined an appropriator from changing its place of use because the change would reduce the return flow available to downstream users.
134. In the 1943 amendments to the Water Code, the Legislature codified the common-law rule. Section 1706 provides that persons “entitled to the use of water by virtue of an appropriation other than under the Water Commission Act or this code [i.e., pre-1914 appropriators] may change the point of diversion, place of use, or purpose of use if others are not injured by such change, and may extend the ditch, flume, pipe, or aqueduct by which the diversion is made to places beyond that where the first use was made.” CAL. WATER CODE § 1706 (West 1971).
136. 1913 Cal. Stat. 586. The current derivation of this provision can be found in Water Code § 1700, which declares that “water appropriated under the Water Commission Act
to water transfers, it is applicable whenever a transfer of water or water rights requires a change in the point of diversion or return flow or a modification of the place or purpose of use.\textsuperscript{137}

Frustrated that few water rights holders were using these laws to transfer water or water rights, the California Legislature has enacted during the past decade a series of statutes that are designed to facilitate and encourage the voluntary transfer of water from existing appropriators to new uses. The Water Code now authorizes both temporary and long-term transfers of water.\textsuperscript{138} Under these laws, the State Water Resources Control Board has jurisdiction to review transfer proposals only if the transfer would change the point of diversion,

or this code for one specific purpose shall not be deemed to be appropriated for any other or different purpose, but the purpose of the use of such water may be changed as provided in this code.” \textit{Cal. Water Code} § 1700 (West 1971). The code commission note that accompanies § 1700 makes clear that it does not apply to pre-1914 rights. According to the Commission, an appropriator “claiming by virtue of an appropriation prior to the act is neither required nor permitted to proceed under the act to obtain permission to change the purpose of use.” \textit{Id.} § 1700 code commission note (West 1971). Rather, a pre-1914 appropriator may change its use “without such permission and also without whatever protection such permission might afford him.” \textit{Id.}

\textsuperscript{137} The “change in water right” provisions are currently set forth in sections 1700 through 1706 of the Water Code. Section 1701 provides that, subject to approval of the Board, “an applicant, permittee, or licensee may change the point of diversion, place of use, or purpose of use from that specified in the application, permit, or license.” \textit{Cal. Water Code} § 1701 (West 1971). Although not required in all cases, the Board may direct the applicant to provide notice of the petition based on the Board’s preliminary assessment of “the importance of the proposed change and whether legal users of the water are likely to be injured.” \textit{Cal. Code Regs. tit. 23, § 795} (1992). If a protest is filed, the Board must convene a public hearing. \textit{Cal. Water Code} § 1704 (West 1971). The Board may grant the petition only if it finds that the requested change in the appropriative right “will neither in effect initiate a new right nor injure any other appropriate or lawful user of water.” \textit{Cal. Code Regs. tit. 23, § 791} (1992); \textit{see also Cal. Water Code} § 1702 (West 1971).

\textsuperscript{138} Temporary changes are governed by sections 1725 through 1729 of the Water Code. \textit{Cal. Water Code} §§ 1725-1729 (West Supp. 1993). For an analysis of short-term transfers and other aspects of California’s water transfer laws, see Brian E. Gray, \textit{A Primer on California Water Transfer Law,} 31 \textit{Ariz. L. Rev.} 745 (1989). Long-term transfers are governed by sections 1735 through 1738 of the Water Code. Section 1735 defines a long-term transfer as one “for any period in excess of one year.” \textit{Cal. Water Code} § 1735 (West Supp. 1993). Section 1736 authorizes the Board, “after providing notice and opportunity for a hearing . . . [to] approve such a petition for long-term transfer where the change would not result in substantial injury to any legal user of water and would not unreasonably affect fish, wildlife, or other instream beneficial uses.” \textit{Cal. Water Code} § 1736 (West Supp. 1993). This directive embodies the principal limitations on transfers under California law. No restrictions are placed on the duration of a long-term transfer. Section 1737 protects the water rights of those who engage in transfers by providing that “[f]ollowing the expiration of the long-term transfer period, all rights shall automatically revert to the original holders of the right without any action by the board.” \textit{See Cal. Water Code} § 1737 (West Supp. 1993).
place of use, or purpose of use set forth in a permit or license issued by the Board. This means that transfers of riparian rights, pre-1914 appropriative rights, and groundwater rights may occur without review by the Board. Moreover, because the permits for the SWP and the CVP are for multiple purposes and cover areas of use that extend over large portions of the state, transfers of water within the two projects usually can be accomplished without invoking the Board's water transfer jurisdiction.

Two of the most important features of California's water transfer laws are the authorization of transfers of conserved and surplus water and the protection of the water rights of transferors. For example, an appropriator may sell water that is surplus to its needs (or, in the case of a local water agency, the needs of its members). Alternatively, a transferor may make water available for sale through voluntary conservation, crop substitution, or land fallowing. Moreover, to encourage sales of water to the Emergency Drought Water Bank, the Legislature amended the Water Code in 1992 to authorize water suppliers to transfer water made available by their members through conservation, crop substitution, land fallowing, or use of alternate water supplies "whether or not the water proposed to be transferred is surplus to the needs within the service area of the water supplier."

To protect the water rights of those who choose to engage in voluntary water transfers, the Legislature has declared that the conservation and transfer of water shall be deemed beneficial uses and that the transferor's reduction in its own water use (for the purpose of making water available to the transferee) shall not result in the forfeiture or

139. CAL. WATER CODE §§ 1725 & 1735.
140. The permits for the SWP authorize DWR to divert water from the Feather River and from the Delta for distribution to users in the Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. United States v. State Water Resources Control Bd. (Delta Water Cases), 227 Cal. Rptr. 161, 167 (Ct. App. 1986). Similarly, the permits for the CVP empower the Bureau to divert water from the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers, and from the Delta. Id. at 166-67. They define the place of use for this water as the entire service area of the CVP, which includes virtually the entire Central Valley as well as portions of the Bay Area. Id. The permits for both projects allow the water to be used for a multiplicity of purposes, including irrigation, municipal and industrial supply, hydroelectric power generation, flood control, recreation, and support of instream uses. See, e.g., CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, DECISION 935, at 62-68 (1959) (CVP permit); DECISION 990, at 11 (1961) (same); DECISION 1020, at 3 (1961) (same); DECISION 1275, at 10-11 (1967) (SWP permit).
142. Id. § 1011.
143. Id. § 1745.06.
diminution of the transferor's water rights. Several of these laws are of particular importance.

Section 1011(a) of the Water Code declares:

When any person entitled to the use of water under any appropriative right fails to use all or any part of the water because of water conservation efforts, any cessation or reduction in the use of such appropriated water shall be deemed equivalent to a reasonable beneficial use of the water to the extent of such cessation or reduction in use.\textsuperscript{144}

Section 1011(b) permits the transfer of water or water rights "the use of which has ceased or been reduced as a result of water conservation efforts."\textsuperscript{145}

Although these provisions expressly authorize the transfer of reclaimed and conserved water, standing alone they would not alleviate the risk that the offer of such water for sale or lease could be used as evidence that the transferor does not need—and therefore has no rights to—the proffered water. Sections 1010(b) and 1011(b) must be read, however, in conjunction with Sections 1244 and 1745.07 of the Water Code. Section 1244 addresses the risk of forfeiture by declaring that "[t]he sale, lease, exchange, or transfer of water or water rights, in itself, shall not constitute evidence of waste or unreasonable use."\textsuperscript{146} Section 1745.07 states more categorically that "[n]o transfer of water . . . shall cause a forfeiture, diminution, or impairment of any water rights" and that any transfer authorized by the Water Code shall be "deemed to be a beneficial use by the transferor."\textsuperscript{147}

These sections state the Legislature’s policy to allow for the voluntary conservation and transfer of water that arguably does not belong to the transferor because it is in excess of the transferor's reasonable needs. They represent a legislative decision that it is better to encourage the reallocation of water by voluntary arrangement than to rely exclusively on the powers of the Board, DWR, and the courts to monitor existing uses for compliance with the state constitutional requirement of reasonable use.\textsuperscript{148} Despite their clear statement of

\textsuperscript{144} Id. § 1011(a).
\textsuperscript{145} Id. § 1011(b).
\textsuperscript{146} Id. § 1244.
\textsuperscript{147} Id. § 1745.07.
\textsuperscript{148} Section 275 of the Water Code provides that "the department and board shall take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state." Id. § 275. The courts have concurrent authority to enforce the reasonable use requirement of Article X, Section 2. Environmental Defense Fund v. East Bay Mun. Util. Dist., 605 P.2d 1, 10 (Cal. 1980).
purpose, however, Sections 1010, 1011, 1244, and 1745.07 do not completely eradicate the risk that an offer of water for sale could result in a determination of waste or unreasonable use. For example, a water user who is engaged in waste and unreasonable use could bring unwanted scrutiny on itself by offering to conserve and transfer its "wasted" water. Under these circumstances, the Board could investigate the user's pre-transfer water use practices and divest the user of a portion of its water rights if the Board concludes that the practices were unreasonable. These sections do afford potential transferors a reasonable assurance, however, that by offering water for sale, entering into negotiations, or conducting studies of potential conservation yields within their service areas, they will not lose their water rights. Neither the transfer nor the negotiations leading up to the transfer may be used as evidence that the transferor's water rights or contract entitlements exceed its actual reasonable needs. Moreover, according to Section 1745.07, once a transfer is approved by the Board, the transfer itself shall be deemed to be a reasonable and beneficial use of the water for the duration of the transfer agreement. This would prevent subsequent challenges to the transferor's water rights, with respect to the transferred water, under Article X, Section 2 and related laws.

These laws were enacted for a variety of reasons. First, economists have long urged that California's water resources would be more efficiently allocated if market forces played a greater role. As Charles Meyers and Richard Posner stated in an influential report to the National Water Commission in 1971:

When criteria of allocation other than willingness to pay are used, it is very difficult to decide which uses (or users) of a resource would be most productive. To answer administratively such questions as whether a piece of land would be more valuable as a site of an apartment building or of a shopping center is extraordinarily expensive and time-consuming. In contrast, the price system produces an unambiguous and usually quite satisfactory answer. The party in whose hands the property will be most productive is the party who values it most highly and is accordingly willing to pay the most for it.149

Second, the opportunity to engage in water transfers increases the efficiency of individual water use because each user is confronted

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149. CHARLES J. MEYERS & RICHARD A. POSNER, MARKET TRANSFERS OF WATER RIGHTS: TOWARD AN IMPROVED MARKET IN WATER RESOURCES 5 (1971) [hereinafter MARKET TRANSFERS OF WATER RIGHTS].
with the opportunity cost of its own existing water management practices. ¹⁵⁰

Third, many of the state's urban water agencies have come to support water transfers as a means of acquiring additional long-term supplies to meet growing demands for domestic and industrial needs (or of obtaining reliable short-term supplies during times of drought) at a lesser cost (economically and politically) than through alternative strategies such as construction of new projects or requests to encroach further upon water quality and other environmental standards. ¹⁵¹

Fourth, a number of environmental organizations have viewed water transfers as a means of protecting and enhancing California's instream water resources. The reallocation of existing developed supplies through market transactions should reduce the pressure to build new water projects. Moreover, by creating incentives to conserve and transfer, a market-based system could have the incidental benefits of making additional water available for instream flows and of reducing pollution from excessive irrigation return flows. ¹⁵²

Finally, the enactment of the modern water transfer statutes reflects the acknowledgment that the agencies such as the State Water Resources Control Board and the DWR alone cannot adequately supervise the administration of California's water rights system to ensure that the state's water resources are used in accordance with the reasonable and beneficial use requirements of Article X, Section 2 of the California Constitution. The transfer laws ease the state's regulatory burden by creating market incentives to use water efficiently (i.e., reasonably) without the threat of reallocation by government fiat. ¹⁵³ Indeed, in the words of Meyers and Posner, "One need not be an extreme exponent of nineteenth century laissez-faire liberalism to prefer institutional arrangements that minimize the importance of government in people's lives. One of the principal attractions of the market is that it involves a minimum of governmental participation." ¹⁵⁴


¹⁵³ See Using Water Better, supra note 150, at 7.

¹⁵⁴ Market Transfers of Water Rights, supra note 149, at 5.
All of these justifications share the common belief that the market will produce greater efficiency in water use, as well as create incentives to conserve, by allowing water users to realize the full value of their existing allocations. This occurs only when each user can decide which use would produce the greatest net revenue and is thereby confronted with the opportunity costs of continuing its present water management and consumption practices. It is the market that “sort[s] out the competing uses for water and deliver[s] the water to those who put the highest value on it” and market prices that “signal to all potential water users the value placed on water.”

Most of the surface water used in California is appropriated by a water supply agency and distributed to individual members, who use the water to irrigate crops or for some other purpose. In many cases, the water rights are held by the local agency. The Turlock Irrigation District, which has pre-1914 appropriative rights to the Tuolumne River, is an example. In others, the water rights are held by a statewide agency, such as the Bureau of Reclamation for the CVP or the Department of Water Resources for the SWP, which delivers water by contract to member agencies. The local agencies then distribute the project water to their respective members. And, in a few cases, water is delivered from the water rights holder, to a county water agency, then to member water districts, and finally distributed to individual farmers. The Kern County Water Agency (KCWA), which receives water from the SWP and distributes project water to member districts within the County, is an example of this type of arrangement.

California law presently authorizes members of local water supply agencies to transfer their individual allotments, but only with the

156. For analyses of the role of local agencies in California’s water system, see Barton H. Thompson, Jr., Institutional Perspectives on Water Policy and Markets, 81 CAL. L. REV. 671 (1993); Henry J. Vaux, Jr., Water Scarcity and Gains from Trade in Kern County, California, in Scarce Water and Institutional Change 67 (Kenneth D. Frederick ed., 1986); Merrill R. Goodall, Property and Water Institutions in California (unpublished manuscript, on file with author).
157. The SWP and CVP rarely contract directly with individual water users. The only exceptions are the Sacramento River Water Rights Settlement Contractors, many of whom are individuals or corporations, rather than local water agencies. These contractors held water rights to the waters of the Sacramento River before the CVP was constructed. Their contracts with the Bureau of Reclamation recognize their pre-project rights. For a more detailed analysis of the CVP Sacramento River Settlement Contracts, see Brian E. Gray, The Role of Laws and Institutions in California’s 1991 Water Bank, in Sharing Scarcity: Gainers and Losers in California Water Marketing ch. 6 (Ann Foley Scheuring et al. eds., forthcoming 1994) [hereinafter Gray, Laws and Institutions].
consent of the agency. For example, farmers in the Turlock Irrigation District may sell their individual shares of the water allocated by the District to another water user (such as the neighboring Modesto Irrigation District or the City and County of San Francisco, which also appropriates water from the Tuolumne River), but only with the consent of the Turlock Irrigation District's Board of Directors. Indeed, in a well-publicized case from the mid-1980s, a group of farmers in the Berrenda-Mesa Irrigation District received authorization from the District to transfer their water allocations, but the transfer was vetoed by KCWA, which supplies the water to Berrenda-Mesa. KCWA took the position that if there was "surplus" water available, it reverted (without compensation) to the Agency for use within Kern County.

Thus, although the law recognizes that water users who do not themselves hold water rights nonetheless have individual, transferable entitlements to the water they receive from their respective water supply agencies, the law renders these "user-initiated" transfers impossible without the approval of the agency that holds the underlying water rights (or contract rights in the case of CVP and SWP contractors). This presents a fundamental contradiction. On the one hand, the transfer statutes are premised on the theory that the price incentives offered by potential buyers will motivate existing water users to engage in more efficient use and to transfer water in situations when the net revenues from conservation and transfer are likely to exceed those generated by the users' current practices. On the other hand, the law vests the ultimate power to decide whether to enter into transfers in the boards of directors of the local agencies that deliver water to the users, rather than in the users themselves. The current law is flawed because it separates the financial incentives that are intended to induce water users to conserve and transfer from the authority to decide whether the transfers may in fact occur.

There have been several efforts to amend California law to limit the authority of local agencies to veto transfers proposed by their members. The most recent bill, sponsored by Assemblymember Richard Katz, would expressly empower individual water users to engage in long-term transfers of their water supplies, subject only to the jurisd-

158. See CAL. WATER CODE § 383(c) (West Supp. 1993).
159. For a more detailed description, see Brian E. Gray et al., The Transferability of Water Provided By the State Water Project and the Central Valley Project: A Report to the San Joaquin Valley Drainage Program, in NATURAL HERITAGE INSTITUTE, LEGAL AND INSTITUTIONAL STRUCTURES FOR MANAGING AGRICULTURAL DRAINAGE IN THE SAN JOAQUIN VALLEY: DESIGNING A FUTURE XI-53 to XI-58 (1990) [hereinafter Transferability Report].
dition *vel non* of the State Water Resources Control Board.\textsuperscript{160} Moreover, as described in Subpart III.C, Congress has preempted the application of the agency veto law to some transfers of CVP water and has substantially modified it with respect to others.

The concept of user-initiated transfers has been criticized on the ground that such transfers would undermine existing water rights.\textsuperscript{161} This concern is unfounded. In many cases, the recognition of user-initiated transfers would have no effect on the underlying water right. As discussed above, agencies that receive water under contract from the CVP or the SWP do not hold the rights to that water. In both cases, the water rights holder—the Bureau of Reclamation and the Department of Water Resources, respectively—is now legally required to operate its project to facilitate transfers of project water.\textsuperscript{162} Moreover, it has been the policy of both the Bureau and DWR to approve transfers of project water proposed by their contractors, so long as the transfers would have no adverse fiscal or water supply effects.\textsuperscript{163} Consequently, a change in the law to permit individual members of CVP and SWP contracting agencies to transfer project water would not undermine the authority of the water rights holder in any respect.

In those cases in which the local water agency does hold the water right, the legislative authorization of transfers initiated by the members of the agency *would* reduce the control of the agency over its water right. After all, the current law vests *absolute* power in the local agency to veto transfers proposed by its members. Thus, any change in the law that enhances the power of users within an agency to transfer their individual water allotments would diminish to some extent the water rights authority of the agency. Properly drafted, however, an amendment to authorize user-initiated water transfers would not significantly impair the agency’s water rights.

User-initiated transfers are not an “all-or-nothing” proposition. That is, the Water Code could be amended to permit such transfers

\textsuperscript{160.} A.B. 52, art. 3, 1993-94 Reg. Sess. For short-term transfers, the bill would maintain the agency’s authority, but would limit the agency’s discretion to deny a transfer request by requiring the agency to identify its interests and to justify its decision. If the agency and the transferor cannot agree on the terms and conditions of the short-term transfer, the parties may submit the matter to binding arbitration. *Id.* art. 2.

\textsuperscript{161.} See Letter from Robert S. Hedrick to John Roberts, Executive Director, California Rice Industry Ass’n, Sept. 13, 1993 (on file with author).


\textsuperscript{163.} See Transferability Report, supra note 159, at XI-44 to XI-48, XI-60 to XI-67.
without removing all of the control presently exercised by the local agency. For example, a user-initiated transfer law could grant members of local agencies the power to enter into transfer agreements independently of the agency and without the agency’s approval. The agency would retain, however, the authority to review the proposal to ensure that the transfer would not jeopardize the fiscal integrity of the agency or the rights of other users within the agency. Thus, the agency could continue to charge the member for the water supplied by the agency and transferred by the member to the transferee. Moreover, if the transfer required the use of the agency’s conveyance facilities, the agency could charge the member for any additional costs associated with the transfer. Similarly, the agency could place conditions on the transfer to ensure that the removal of water from the agency would not reduce the return flow available to other members of the agency. For example, if other members of the agency have relied on percolation or surface runoff produced by the transferor’s irrigation, and if the transfer would reduce or eliminate this return flow, the agency could limit the amount of water available for transfer to protect the rights of those other members. The agency also could impose conditions to ensure that the transfer would not cause unreasonable, unmitigable environmental harm or impair the long-term sustainability of the groundwater supply in the area. Disputes between the agency and the transferor could be resolved by judicial review or through arbitration.

In this way, the rights of the agency—both as water rights holder and as water purveyor—may be accommodated with the rights of the members for whom the water is appropriated. A user-initiated transfer law such as the one just described would permit the beneficiaries of the water supply to use their individual allotments in the manner that they deem to be most valuable. At the same time, the legitimate interests of the agency would be protected by preserving its authority to review, and to place conditions on, transfers negotiated by its members that implicate the financial responsibilities of the agency or its fiduciary obligation to other members that might be adversely affected by the transfer. The agency would continue to have broad authority to manage its water rights for the benefit of the members who do not participate in the transfer. The agency’s authority would not extend, however, beyond such collective interests into the affairs of an individual member who chooses to use his or her allotment in a manner that best serves the member’s own economic interests and has no
unmitigable financial, environmental, or water supply consequences for the agency.

Indeed, viewed in this light, the concerns of local water agency water rights holders would appear to be overstated. There is nothing inherent in a water right that gives the holder absolute control over the use of water it appropriates. As described above, the two largest water rights holders in California—the Bureau of Reclamation and the Department of Water Resources—do not have a categorical veto over transfers proposed by their member agencies. Rather, their control over transfers is limited to the types of factors described in the preceding paragraphs. Moreover, a number of local water agencies have already lost the absolute power to veto transfers proposed by their members. In the Central Valley Project Improvement Act of 1992, Congress declared that up to twenty percent of the water delivered to CVP contractors may be transferred by the individual members of the contracting agency, subject only to the approval of the Secretary of the Interior. The contracting agencies retain the authority to veto transfers of water in excess of the twenty percent threshold, but only based on criteria set forth in the statute. These criteria include the prevention of “unreasonable impacts on the water supply, operations, or financial conditions of the transferor’s contracting district” and the imposition of “significant long-term adverse impact[s] on groundwater conditions in the transferor’s service area.” A user-initiated transfer statute would simply apply similar criteria to transfers proposed by members of all California water agencies, whether the agency is itself a water rights holder or a recipient of water supplied under contract rights.

B. Transfers of Water Supplied by the State Water Project

Along with the general transfer laws, the legislature has granted the Department of Water Resources, as manager of the SWP, explicit statutory authority to permit transfers by SWP contractors. All transfers of SWP water, as well as transfers that involve the use of SWP facilities, are subject to DWR’s approval. It has been the Department’s policy to evaluate each transfer proposal on a case-by-case basis. “The evaluation process includes analyzing in detail the poten-

164. See CVP Improvement Act § 3405(a)(1); CAL. WATER CODE §§ 1810, 1812 (West Supp. 1993).
165. CVP Improvement Act § 3405(a)(1).
166. Id. § 3405(a)(1)(J), (K); see infra text accompanying notes 185-194.
tial impacts on the SWP, studying potential third party effects, brief-
ing the California Water Commission, and extensively discussing the
proposed transfer with SWP contractors affected by the proposed
transfer.”

There exist few barriers to the transfer of SWP water. DWR has
recognized that its contractors have transferable interests in the water
allocated to them under the SWP contracts. Furthermore, the broad
place of use and purpose of use restrictions on SWP water allow its
transfer to a wide market throughout the state.

DWR’s general policy is to allow its contractors only to transfer
water that the transferor has put to a beneficial use. In other
words, a contractor may not transfer a bare entitlement that the con-
tactor has not yet used. The purpose of this policy is to prevent a
transfer from creating a net increase in demand for project water.

A related criterion is DWR’s policy of ensuring that transfers of
SWP water do not adversely affect deliveries to other contractors, di-
minish the carry-over storage in the project, or increase the cost of
service to other contractors. This policy has been described as the
“Golden Rule” of SWP operations.

The final criterion applicable to proposals to transfer SWP water
is the presence of sufficient capacity in the California Aqueduct to
transport the water to potential transferees located “downstream” on
the aqueduct. State law requires DWR to make the SWP conveyance
facilities available to parties engaged in transfers of water if there is
“unused capacity” in the aqueduct. This depends not only on the
amount of water involved, but also on the type of water year, the sea-
son during which the transfer would take place, and the reaches of the
aqueduct in which the transferred water would be added to the sys-

168. CALIFORNIA DEPARTMENT OF WATER RESOURCES, A GUIDE TO WATER TRANS-
FERS IN CALIFORNIA 5 (June 1990 draft) (on file with author).

169. See supra note 140. A consequence of the broad place of use and purpose of use
terms in the SWP and CVP permits is that in many cases water may be transferred between
SWP contractors and between CVP users without invoking the jurisdiction of the Board.

170. The information contained in this and the next two paragraphs was obtained
through interviews conducted with Robert G. Potter, Deputy Director of the California
Department of Water Resources. The water transfer criteria are described in greater detail

171. CAL. WATER CODE § 1810.
C. Transfers of Water Supplied by the Central Valley Project

Until 1992, there existed substantial uncertainty about the transferability of water supplied by the Bureau of Reclamation to contractors within the Central Valley Project. Although the Bureau historically has permitted CVP contractors to transfer project water on a short-term basis to other contractors within the CVP system,172 it was unclear whether CVP contractors had the right to engage in long-term transfers, whether they could transfer project water to users outside the CVP service area, and whether the California transfer laws analyzed above were applicable to the CVP system.173 Responding to these questions, as well as to the perceived need to facilitate the reallocation of CVP water supplies from some existing users to the urban areas of California and to environmental uses, Congress passed the Central Valley Project Improvement Act of 1992.174 This Act contains explicit authorization for long-term transfers of project water to users located both within and without the existing CVP service area and stipulates that such transfers will be governed by a variety of federal and state requirements.175

Although the transfer provisions of the legislation came to dominate the popular news coverage of the bill as it moved from Congress to the White House,176 the principal purposes of the CVP Improvement Act are: (1) to add “fish and wildlife mitigation, protection, and restoration” to the list of authorized project purposes;177 (2) to restore by the year 2002 the natural production of anadromous fish in the rivers and streams of the Central Valley to twice their average levels over the past twenty-five years;178 (3) to dedicate annually 800,000 acre-feet of project yield to implement these environmental objec-


173. For an analysis of these and other questions about the transferability of CVP water prior to the enactment of the Central Valley Improvement Act of 1992, see Brian E. Gray et al., Transfers of Federal Reclamation Water: A Case Study of California's San Joaquin Valley, 21 ENVTL L. 911, 928-81 (1991) [hereinafter Gray, A Case Study].


175. CVP Improvement Act §§ 3401-3412.


177. CVP Improvement Act § 3406(a)(2).

178. Id. § 3406(b)(1).
tives; and (4) to undertake a variety of specific measures to mitigate the damage to fish, wildlife, riparian habitat, wetlands, stream flows, water quality, and other environmental values caused by CVP operations. The Act also creates a "Central Valley Project Restoration Fund" to assist in the accomplishment of these environmental goals. To increase the efficiency of water use within the CVP service area, Congress also required all CVP contractors to install meters to measure the amount of surface water delivered to individual customers, imposed a system of tiered-rate pricing for water service to CVP contractors, and directed the Secretary of the Interior to establish water conservation standards that "promot[e] the highest level of water use efficiency reasonably achievable by project contractors using best available cost-effective technology and best management practices."

The water transfer provisions of the statute serve three important purposes that are either directly or indirectly related to the environmental and conservation objectives of the Act. First, by making CVP water available to users outside the CVP system, Congress sought to ensure that California could allocate its water supplies in a way that reflects current economic and social needs. Second, by permitting CVP users to conserve water and to transfer the surplus generated by such efforts, Congress provided a means by which the users affected by the conservation mandates of the Act could minimize the dislocative economic effects of the new law. Third, by placing a surcharge on transfers of project water to users outside the CVP service area, Congress created a supplemental source of funding for the environmental restoration costs of the legislation.

Section 3405(a) of the CVP Improvement Act authorizes all recipients of CVP water "to transfer all or a portion of the water [delivered by the project] . . . to any other California water user or water agency, State or Federal agency, Indian Tribe, or private nonprofit organization for project purposes or any purpose recognized as beneficial under applicable State law." This section also declares that the conservation and transfer of water "shall be deemed a beneficial use"

179. Id. § 3406(b)(2).
180. Id. § 3406(b)(3)-(23), (c), (d).
181. Id. § 3407(a).
182. Id. § 3405(b).
183. Id. § 3405(d).
184. Id. § 3405(e)(1).
185. Id. § 3405(a).
under Section 8 of the Reclamation Act of 1902. The statute then sets forth an array of criteria that must be satisfied before the Bureau of Reclamation may approve the transfer of project water.

Many of these criteria are designed to protect other water users and third-party interests that might be adversely affected by the transfer of project water. For example, to minimize disputes over whether the transferor had valid rights to the water offered for sale, Congress provided that CVP contractors may not transfer more water in any one year than the average annual deliveries to the contractor during the preceding three years of normal water delivery. Then, in an effort to ensure that the transfer would not harm third-party water rights holders that might rely on the return flow from the transferor’s use, Congress added that the “water subject to any transfer undertaken pursuant to this subsection shall be limited to water that would have been consumptively used or irretrievably lost to beneficial use during the year or years of the transfer.”

This may prove to be a significant restriction on the amount of CVP water available for transfer to other users because it limits the transferable entitlement to the water normally consumed by the transferor’s crops and lost to evaporation. Diffused surface water, irrigation return flow, and percolation to a usable groundwater basin conserved by the water user may not be transferred according to this limitation. In contrast, California law contains no categorical prohibition on transfer of conserved water. Rather, the transferor may dispose of all the conserved water, provided that other water rights holders are not harmed and instream uses are not unreasonably affected.

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186. Id. § 3405(a)(1)(E). This declaration of consistency with Section 8 was helpful, but probably not essential. The federal courts previously had held that, although the beneficial use clause of Section 8, 43 U.S.C. § 372, is a specific requirement of federal law, uses that are regarded as reasonable and beneficial under state law would be deemed to satisfy the federal requirement. See United States v. Alpine Land & Reservoir Co., 878 F.2d 1217, 1222-23 (9th Cir. 1989); United States v. Alpine Land & Reservoir Co., 697 F.2d 851, 854-58 (9th Cir. 1983). For the text of Section 8, see infra note 211. As discussed previously, the conservation and transfer of water are deemed to be reasonable and beneficial uses under California law. See supra text accompanying notes 144-145. Therefore, transfers of conserved CVP water would be consistent with the beneficial use requirement of Section 8. For further analysis of this question, see Gray, A Case Study, supra note 173, at 937-39.

187. CVP Improvement Act § 3405(a)(1)(A).

188. Id. § 3405(a)(1)(I).

189. See supra note 137; text accompanying notes 144-145.
Section 3405 also directs the Bureau to ensure that transfers of CVP water would not undermine the Bureau’s ability to meet its contractual obligations to other CVP contractors or to implement its “fish and wildlife obligations” under the other provisions of the Act.\textsuperscript{190} Transfers must also be “consistent with State law, including but not limited to provisions of the California Environmental Quality Act.”\textsuperscript{191}

Other criteria require the Bureau to determine that the transfer will have no “unreasonable impacts on the water supply, operations, or financial conditions of the transferor’s contracting district,”\textsuperscript{192} and will not create “significant long-term adverse impact[s] on groundwater conditions in the transferor’s service area.”\textsuperscript{193} In addition, the Bureau may not approve a transfer until it determines that the transfer would not “result in a significant reduction in the quantity or decrease in the quality of water supplies currently used for fish and wildlife purposes.”\textsuperscript{194}

Several other features of the CVP transfer laws are worthy of special attention. First, Congress stated that transfers authorized pursuant to the foregoing provisions do not confer “supplemental or additional benefits” on CVP contractors under Section 203 of the Reclamation Reform Act of 1982.\textsuperscript{195} The purpose of this statement was to inform existing CVP contractors and water users that, by transferring project water, they will not invoke the acreage limitations and pricing provisions of the 1982 Act.\textsuperscript{196}

\textsuperscript{190} CVP Improvement Act § 3405(a)(1)(H). \textsuperscript{191} Id. § 3405(a)(1)(D). Congress provided, however, that transfers between CVP contractors “within counties, watersheds, or other areas of origin” would be “deemed to meet” the restrictions discussed in this and the preceding paragraph. Id. § 3405(a)(1)(M). \textsuperscript{192} Id. § 3405(a)(1)(K). \textsuperscript{193} Id. § 3405(a)(1)(J). \textsuperscript{194} Id. § 3405(a)(1)(L). Congress provided an exception, however, for situations in which the Bureau finds that the adverse effects on water supplies or water quality “would be more than offset by the benefits of the proposed transfer.” Id. If the Bureau makes this determination, it must develop and implement mitigation measures “as integral and concurrent elements of any such transfer to provide fish and wildlife benefits substantially equivalent to those lost as a consequence of [the] transfer.” Id. \textsuperscript{195} Id. § 3405(a)(1)(G); see Reclamation Reform Act of 1982, Pub. L. No. 97-293, § 203, 96 Stat. 1274 (codified at 43 U.S.C. § 390cc (1988)). \textsuperscript{196} Congress has authorized the Bureau to deliver water at subsidized rates to landholdings up to 960 acres. 43 U.S.C. § 390dd (1988). For water delivered to landholdings in excess of this acreage limitation, the Bureau must charge “full cost” rates, which are designed to reimburse the United States for the capital, interest, and operation and maintenance costs of operating the project for the user’s benefit. Id. § 390ee. These provisions are applicable only to contractors who enter into new contracts or who amend their contracts to receive "supplemental or additional benefits." Id. § 390cc. The provision of the CVP Improvement Act discussed in the text is particularly important for those CVP con-
Second, Congress granted "entities within the Central Valley Project service area" a preemptive option over all transfers of project water for uses outside the CVP service area. 197 This "right of first refusal" permits other CVP contractors and water users (and perhaps non-CVP water users within the CVP service area) to preempt a negotiated transfer agreement by offering to purchase the water "on the same terms and conditions" as set forth in the transfer agreement. The preemptive option must be exercised within ninety days from the date on which the parties to the transfer provide notice of their agreement. 198

Congress's decision to establish the right of first refusal recognizes, to a limited extent, claims raised by CVP contractors that the water supplies developed by the project represent a "common pool" and that all contractors have correlative rights to any surplus water that exists within the CVP. Although there was no legal support for these claims before the enactment of the CVP Improvement Act, 199 Congress has now declared that if surplus supplies exist (as evidenced by the decision of a particular CVP contractor or user to transfer), other CVP contractors and water users have preferred rights to that surplus.

More importantly, the ninety-day preemptive option may have two practical consequences that would undermine Congress's primary goal of facilitating the transfer of CVP water. First, the option period is probably long enough to prevent most short-term transfers from occurring. Short-term transfers usually take place in response to drought or other water shortage emergency when the demand for the water is immediate and acute. By the time the parties negotiate the terms of the transfer agreement, the Bureau makes the necessary findings required by Congress under the other provisions of Section 3405(a)(1), and the ninety-day option period runs, in most cases it will be too late to accomplish the purposes of the short-term transfer. Second, even for long-term transfers, the right of first refusal may serve as a deterrent to some transfer negotiations. Although Section 3405
requires entities that exercise the option to compensate the transferee whose contract rights have been preempted for the "total costs associated with the development and negotiation of the transfer," the potential loss of the benefit of the bargain after months or years of contract negotiations may dissuade some potential transferees from seeking to acquire CVP supplies.

Third, Congress imposed an annual surcharge of $25 per acre-foot for project water transferred to any municipal or industrial user that has not previously been a CVP customer. This surcharge is payable to the Restoration Fund established by the Act and is in addition to the general annual charges of up to $6 per acre-foot for agricultural water users and $12 per acre-foot for municipal and industrial customers of the project. The surcharge on transfers to non-CVP municipal and industrial customers furthers Congress's goals of using the transfer process to enhance the environmental resources of the Central Valley and of recapturing some of the subsidy embodied in the CVP water service contracts.

Fourth, although Congress directed that all transfers of project water shall be "consistent with State law," it also preempted California law in one important respect. As discussed earlier, California law provides that a water user within a local irrigation district or other local water agency may transfer its water supply only with the permission of the agency. In the CVP Improvement Act, Congress removed this agency veto over some transfers of CVP water and modified the veto authority as applied to other transfers of project water.

Section 3405(a)(1) states that "[t]ransfers involving more than 20 percent of the Central Valley Project water subject to long-term contract within any contracting district or agency shall also be subject to review and approval by such district" according to the criteria applicable to the Bureau of Reclamation. This means that for transfers up

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200. CVP Improvement Act § 3405(a)(1)(F).
201. Probably in recognition of these concerns, Congress provided that the preemptive option requirement of Section 3405 shall expire on September 30, 1999. Id. § 3405(a)(3).
202. Id. § 3407(d)(2)(A).
203. Id.
205. CVP Improvement Act § 3405(a)(1)(D).
206. See supra notes 158-160 and accompanying text.
207. CVP Improvement Act § 3405(a)(1).
to the aggregate twenty percent threshold, local water agencies have no authority to block transfers of CVP water by their members. Above the twenty percent threshold, the agencies retain the approval authority conferred by California law, but are limited by the criteria set forth in Section 3405(a)(1) of the CVP Improvement Act. Thus, for transfers that exceed the twenty percent threshold, an agency may exercise its veto power only if it determines, for example, that the transfer would “unreasonably impact[ ] ... the water supply, operations, or financial conditions of the transferor’s contracting district”\(^\text{208}\) or create “significant long-term adverse impact[s] on groundwater conditions in the transferor’s service area.”\(^\text{209}\)

CVP contracting agencies that object to this limitation on their transfer veto authority may argue that Congress’s declaration that all transfers of water pursuant to the CVP Improvement Act shall be consistent with state law signals that Congress did not intend to preempt California law in this manner. Such a characterization of the legislation would be contrary, however, to the Supreme Court’s opinion in *California v. United States*,\(^\text{210}\) in which the Court articulated the standard by which preemption issues under the federal reclamation laws are to be resolved. The Court held that, while state law generally governs the appropriation, use, and distribution of water supplied by the CVP, state law is preempted if it is inconsistent with an explicit congressional directive governing the operation of the project.\(^\text{211}\)

Inasmuch as California’s grant to local agencies of authority to veto water transfers proposed by their members would conflict with Con-

\(^{208}\) *Id.* § 3405(a)(1)(K).

\(^{209}\) *Id.* § 3405(a)(1)(J).


\(^{211}\) *Id.* at 675-76, 678-79. The Court based its decision on Section 8 of the Reclamation Act of 1902, Pub. L. No. 57-161, § 8, 32 Stat. 388 (1902), which provides:

> Nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof. Provided, that the right to use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.


On remand, the court of appeals upheld 25 conditions imposed by the Board on the New Melones unit of the CVP, including several conditions designed to protect instream flows above the dam and water quality and flows below the dam. *United States v. California*, 694 F.2d 1171, 1182 (9th Cir. 1982).
gress's specific directive disallowing such a veto for transfers of CVP water up to the twenty percent threshold, state law is preempted. For transfers in excess of the twenty percent limit, the unbridled veto power held by local agencies under California law is modified by the express provisions of Section 3405(a)(1), which require local agencies that receive CVP water to justify the reasons for disallowing a transfer proposed by a member water user.

Finally, Section 3411(a) provides that, notwithstanding any other provision of the Act,

the Secretary shall, prior to the reallocation of water from any purpose of use or place of use specified within applicable Central Valley project water rights permits and licenses to a purpose of use or place of use not specified within said permits or licenses, obtain a modification in those permits and licenses, in a manner consistent with the provisions of applicable State law, to allow such change in purpose of use or place of use.212

This provision clearly requires the Bureau of Reclamation to petition the State Water Resources Control Board for a change in the CVP permits before the Bureau authorizes a transfer of water from a current CVP user to a purchaser located outside the existing CVP service area as defined in the permits for the project. Thus, if a contractor in the Central Valley sought permission to transfer water to the Metropolitan Water District, the Bureau would be required to request the Board to modify the place of use terms of the CVP permits, which presently do not authorize the delivery of water to Southern California.213

Less clear, however, is whether Section 3411(a) applies to reallocations of project water other than water transfers. For example, is the Bureau of Reclamation required to seek a change in its water rights before it may comply with Congress's directive to dedicate 800,000 acre-feet of the annual project yield “for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes” of the Act?214 Although this presents an interesting question regarding Congress's purposes in enacting Section 3411(a), as a practical matter it is unnecessary to decide the issue. As currently written, the state water rights permits for the CVP authorize the use of water appropriated by the project for water quality, instream flows, and offstream

212. CVP Improvement Act § 3411(a).
213. Such a transfer also would require a change in the point of diversion set forth in the CVP permits because the Bureau would have to use the California Aqueduct to accomplish the transfer.
214. See CVP Improvement Act § 3406(b)(2).
habitat uses such as the provision of water to national wildlife refuges and other wetlands areas.

The primary permit for the CVP—issued in the form of Water Rights Decision 990 for Shasta Dam and the Tracy Pumping Plant—requires the Bureau to “bypass or release into the natural channel of the Sacramento River at Keswick Dam, for the purpose of maintaining fish life such flows as are provided for” in a 1960 agreement between the Bureau and the California Department of Fish and Game that has been amended and modified by administrative order on several subsequent occasions.215 Decision 893, which authorized the appropriation of water from the American River at Folsom and Nimbus Dams, requires the Bureau to operate those facilities in part “for purposes of fish conservation in the American River and for salinity control in the Sacramento-San Joaquin Delta.”216 Additionally, Decision 1422, as modified by Water Right Order 83-3, states that the Stanislaus River water appropriated by the New Melones unit of the CVP “may be used for irrigation, domestic, municipal, industrial, preservation and enhancement of fish and wildlife, recreation and water quality control purposes.”217 Finally, Decision 1020, which authorized the appropriation of an additional one million afa from the Delta for use in the San Luis unit of the CVP, states that water may be appropriated “for irrigation, incidental domestic, stockwatering, municipal, industrial and recreation purposes.”218 Although the permit does not specify the types of recreational uses to which the water may be put, one purpose for the construction of the San Luis unit was to permit the Bureau to supply additional water to wetlands in the Grasslands re-

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217. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, WATER RIGHT ORDER 83-3: ORDER AMENDING WATER RIGHT DECISION 1422 AUTHORIZING STORAGE IN NEW MELONES RESERVOIR FOR GENERATION OF HYDROELECTRIC POWER AND FOR CONSUMPTIVE USE 26-27 (Mar. 1983) (Permit Terms 1-a and 1-d).

218. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, WATER RIGHT DECISION 1020: OLD RIVER 20 (June 1961) (Permit Term 1).
region of the San Joaquin Valley and to national wildlife refuges in the area.\textsuperscript{219}

Moreover, as confirmed by the California Court of Appeal in the \textit{Delta Water Cases}, all of the permits for the CVP are subject to the State Water Resources Control Board’s reserved jurisdiction to curtail direct diversions and to order the release of stored water as required to maintain water quality and to provide additional flows in the Delta.\textsuperscript{220} The Board exercised this reserved jurisdiction in Decision 1485, which it issued in 1978,\textsuperscript{221} and again in draft Decision 1630, in which it proposed to require the CVP and the SWP jointly to “maintain, by reduction of diversion at the pumps in the southern Delta, by release of natural flow or water in storage, by operation of the Delta Cross Channel gates, or by other measures or combinations of these and other measures, water quality conditions and flow rates in the channels of the Delta and Suisun Marsh” as specified elsewhere in the Decision.\textsuperscript{222}

Although these water quality and instream flow requirements are written as conditions on the water rights held by the Bureau for the CVP, they are nonetheless state-authorized uses of the water appropriated or controlled by the project. Accordingly, Congress’s directive to allocate 800,000 afa of project yield to fish, wildlife, and habitat restoration can be accomplished consistently with the purposes of use set forth in the existing permits for the CVP. Furthermore, because this dedicated water will be used for environmental purposes within the Central Valley basin, it will not be necessary to change the place of use as defined in the CVP permits.\textsuperscript{223}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{219} See Gray, \textit{A Case Study}, \textit{supra} note 173, at 943-47.
\item \textsuperscript{220} United States v. State Water Resources Control Bd. (\textit{Delta Water Cases}), 227 Cal. Rptr. 161, 189-90 (Ct. App. 1986). In the opinion, the court describes the terms of each permit that explicitly or implicitly reserve this jurisdiction. \textit{Id.} at 186 n.22.
\item \textsuperscript{221} \textit{Water Right Decision 1485}, \textit{supra} note 60, at 31.
\item \textsuperscript{222} \textit{Water Right Decision 1630}, \textit{supra} note 6, at 107-08.
\item \textsuperscript{223} The only CVP permit that does not contain any references to stream flows, water quality, or recreational uses is Decision 935, which authorized the appropriation of water from the San Joaquin River for the Friant unit of the project. \textit{California State Water Resources Control Board, Water Right Decision 935: San Joaquin River} 13 (June 1959). This disparity is irrelevant to the issue discussed in the text, however, because Congress provided in the CVP Improvement Act that the fish, wildlife, and habitat restoration requirements of the legislation are not applicable to the San Joaquin River below Friant Dam between Gravelly Ford and the Mendota Pool. \textit{CVP Improvement Act} § 3406(c)(1). Instead, restoration of flows in, and rehabilitation of the riparian habitat along, the San Joaquin River below Friant Dam will be the subject of a plan developed by the Department of the Interior in cooperation with the California Department of Fish and Wildlife.
\end{itemize}
\end{footnotesize}
Finally, even if the dedication of project water to fish, wildlife, and habitat restoration purposes did require a change in the water rights permits held for the CVP, the State Water Resources Control Board has clear statutory authority to grant the change in use. In 1991, the California Legislature amended the Water Code to permit all water users to petition the Board for a change in water rights "for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in, or on, the water." The Board may grant the petition if it determines that the change will not increase the amount of water the petitioner is entitled to use, will not "unreasonably affect any legal user of water," and otherwise complies with the California water rights law.

D. Conclusion

As a result of these laws and policies, all water in California is now freely transferable. Voluntary transfers therefore should play an important role in the reallocation of the state's water resources in response to the changes outlined at the outset of this Article. Nevertheless, three questions remain.

First, is the agency veto analyzed above likely to be a significant impediment to the establishment of a long-term, widely-used water market? For the reasons given in the text, the answer is yes, and the agency veto should be modified to integrate the price incentives that motivate voluntary conservation and water transfers with the decision-making authority needed to accomplish such transfers, while protecting the legitimate interests of the local agencies from which water is transferred.

Second, can long-term water transfers occur without causing undue harm to the environment and to the areas from which the transfers take place? This question arises because the statutes that are designed to protect these interests apply only to transfers that are subject to review by the State Water Resources Control Board, and many transfers fall outside of the Board's jurisdiction. Although the answer to this question is complex and beyond the scope of this Article, it is certain that large-scale, long-term transfers will not be politically

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224. 1991 Cal. Stat. 663 (codified at CAL. WATER CODE § 1707(a) (West Supp. 1993)).
226. See supra text accompanying notes 160-166.
227. See supra text accompanying notes 138-140.
acceptable unless third-party environmental and economic interests are represented both in the transfer negotiations and in the regulatory review process. Moreover, the representation of these interests must include categorical protections, such as the transfer tax enacted as part of the CVP Improvement Act.\textsuperscript{228} The proceeds of the tax would be used to compensate those who are injured by the transfer of water, including fish and wildlife dependent on irrigation water or crop residue, farm workers unemployed by the changes in farm management occasioned by the transfer, and local communities whose income is reduced or social welfare costs increased by the possible decreases in farm production.\textsuperscript{229} As Professor Sax has observed,

\begin{quote}
[There is a] common inclination to think of water transfers in the mode of a contract, with two parties only—a buyer and a seller. . . . [A] more appropriate model would be a diplomatic negotiation with a number of parties, each with important and legitimate interests that need to be accommodated, but without clearly defined rights. The future of water transfers will be jeopardized unless something like that broader and more inclusive model is embraced.\textsuperscript{230}
\end{quote}

Third, do the laws analyzed in Part II of this Article, which render water rights fragile and subject to reevaluation, undermine the certainty of ownership and entitlement that many economists have identified as essential to the creation of a viable water market? Although there is a tension between the two, the following case study illustrates the constructive interplay between the reasonable use doctrine and the water transfer laws.

\section*{IV. The Interplay Between Voluntary and Involuntary Reallocation: A Case Study of the IID-MWD Transfer}

The most prominent water transfer that has occurred in California is the 1988 agreement for the transfer of conserved water from the Imperial Irrigation District (IID) to the Metropolitan Water District (MWD).\textsuperscript{231} According to this agreement, IID will transfer 106,110

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{228} See supra text accompanying notes 202-204.
\item \textsuperscript{229} These and other related issues are analyzed in Gray, Laws and Institutions, supra note 157.
\item \textsuperscript{231} The Imperial Irrigation District was formed in 1911 to develop the water resources of the Colorado River for agricultural and incidental municipal uses in the Imperial Valley. IID now receives all of its Colorado River water pursuant to a contract with the Bureau of Reclamation. See KAHRL, \textit{WATER AND POWER}, supra note 33, at 206, 220-
\end{itemize}
\end{footnotesize}
acre-feet per year to MWD for 35 years, and MWD will contribute approximately $98 million for delivery and irrigation system improvements and other conservation measures in the Imperial Valley. Although this transfer is unique in many respects, it demonstrates how the water transfer laws analyzed in Part III can work to reallocate water from existing, less efficient uses to areas of growing demand for which the water has a greater economic value. Moreover, because an important inducement to this transfer was the State Water Resources Control Board’s finding that IID’s use of water violated Article X, Section 2 of the California Constitution, the IID-MWD transfer illustrates the way in which the mandatory reallocational laws discussed in Part II interact with the voluntary transfer laws described in Part III.

A. Findings of Waste and Unreasonable Use and Preliminary Contract Negotiations

The IID-MWD transfer originated with the petition filed in 1980 by John Elmore, a farmer whose lands adjoin the Salton Sea, which asked the Department of Water Resources to investigate alleged waste and unreasonable use of water within IID. Elmore claimed that the District’s lack of reservoir regulation and excessive deliveries of water to farmers produced unreasonable amounts of return flow, or “tailwater,” which ran off the farmers’ land into the Salton Sea and flooded Elmore’s land. DWR concluded that IID’s practices were unreasonable and referred the matter to the State Water Resources Control Board. The Board conducted hearings pursuant to Section 275 of the Water Code. In its Water Rights Decision 1600, the Board ruled that IID’s failure to implement “practical measures available to reduce the present losses of water within the District . . . is unreasonable and constitutes a misuse of water under article X, section 2 of the California Constitution.”

24. The Metropolitan Water District was created in the mid-20th century to purchase water from the federal government's Boulder Canyon Project and the California State Water Project for distribution to domestic, municipal, industrial, and agricultural users in six southern California communities. Id. at 224-32.


233. This section empowers DWR and the Board to “take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state.” CAL. WATER CODE § 275 (West Supp. 1993).

234. DECISION 1600, supra note 121, at 66. The Board directed IID to monitor the tailwater discharge of all fields receiving water deliveries, to repair defective tailwater
IID challenged Decision 1600 on the ground that the Board did not have statutory authority, following its own administrative adjudication, to declare an existing use of water unreasonable. Rather, IID argued, the Board was required to file suit to enforce the mandate of Article X, Section 2, in which litigation IID would have the right to a trial de novo. The court of appeal rejected this contention and held that the Board has “all-encompassing adjudicatory authority,” under both Section 275 and the California Constitution, to enforce the reasonable use doctrine.235

While this lawsuit was pending, IID began to consider various measures to conserve water. Prompted in part by an Environmental Defense Fund study, which proposed that MWD finance water conservation capital improvements within IID in exchange for the conserved water,236 IID commenced negotiations with MWD in 1984. MWD previously had expressed an interest in obtaining water from IID primarily because it had no other long-term sources of additional water supply. The electorate’s rejection of the Peripheral Canal in 1982 had limited the supply capacity of the SWP,237 and the imminent completion of the Central Arizona Project would soon reduce MWD’s entitlement from the Colorado River.238

By mid-1985, the parties had drafted a memorandum of understanding, which provided that MWD would pay $10 million per year into IID’s water conservation fund in exchange for 100,000 afa of conserved water. In October 1985, however, the IID board of directors rejected the memorandum and voted to require an environmental impact report on the proposal. By mid-1986, contract negotiations had broken off completely, with the parties at loggerheads over the price of MWD’s conservation investments, the term of the transfer agreement, and the characterization of the transfer itself. IID contended

structures, to submit a “detailed and comprehensive water conservation plan,” and to develop a plan for construction of regulatory reservoirs by February 1, 1985. Id. at 67-69. It did not, however, order the District to conserve a specific amount of water.

235. Imperial Irrigation Dist., 231 Cal. Rptr. at 288-89. The court of appeal remanded to the superior court for a determination of whether the Board’s Decision 1600 was supported by substantial evidence. On remand, the superior court affirmed the Board’s findings and conclusions in all respects. See Imperial Irrigation Dist. v. State Water Resources Control Bd., 275 Cal. Rptr. 250, 267 (Ct. App. 1990).

236. ROBERT STAVINS & ZACH WILLEY, TRADING CONSERVATION INVESTMENTS FOR WATER (1983).

237. The Peripheral Canal, which was to be a joint facility of the SWP and the CVP, would have moved water from the Sacramento River around the eastern periphery of the Delta—rather than through its channels—to the SWP and CVP pumping plants.

that the transfer was a sale of water. In contrast, MWD argued that it was simply investing in capital improvements, which would free-up conserved water to which it would be entitled according to the terms of the “Seven Party Agreement.” Negotiations resumed in late 1987 and continued into 1988. Although the parties were able to narrow their disagreements, they remained divided over both the price and the characterization of the agreement.

In September 1988, the State Water Resources Control Board broke the deadlock by issuing its long-awaited follow-up order to Decision 1600. The Board directed IID to conserve 20,000 afa by January 1, 1991 and 100,000 afa by January 1, 1994. Three months later IID agreed to transfer 100,000 afa to MWD.

B. The Agreement

The agreement between IID and MWD established a water conservation program that included the lining of existing canals, construction of reservoirs and interceptors, installation of gates and automation equipment, and implementation of water supply monitoring. The program was designed cumulatively to conserve 106,110 afa for transfer to MWD. It is administered by a Program Coordinat-

239. The Seven Party Agreement defines how the Secretary of the Interior distributes water from the Boulder Canyon Project to its California contractors. The priorities are:

<table>
<thead>
<tr>
<th>PRIORITY</th>
<th>AGENCY</th>
<th>ENTITLEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 3</td>
<td>Palo Verde ID Yuma Project IID Coachella Valley WD Palo Verde ID (mesa lands)</td>
<td>3.85 million afa</td>
</tr>
<tr>
<td>4</td>
<td>MWD</td>
<td>550,000 afa</td>
</tr>
<tr>
<td>5</td>
<td>MWD</td>
<td>662,000 afa</td>
</tr>
<tr>
<td>6</td>
<td>IID Coachella Valley WD Palo Verde ID (mesa lands)</td>
<td>300,000 afa</td>
</tr>
</tbody>
</table>

The entitlements under priorities 5 and 6 are reduced to zero upon completion of the Central Arizona Project. See Looking to the Future, supra note 3, at 28.


242. The original agreement between the parties called for the conservation and transfer of 100,000 afa. This was increased by 6,110 afa in a subsequent agreement among IID,
ing Committee composed of three members: one representative appointed by each of the parties and a third, jointly appointed member. The agreement requires IID to have the conservation program fully operable within five years. The term of the agreement is thirty-five years.\footnote{243}

MWD’s principal duty under the agreement is to fund the conservation program, including the construction and annual operating and maintenance costs. The agreement also provides that MWD will reimburse IID for indirect expenses associated with the program, such as lost hydroelectric power revenue, mitigation of adverse effects on agriculture from increased salinity, environmental mitigation, and public information expenses. The parties estimated that the capital costs will be approximately $92 million and that the annual costs will exceed $3 million.\footnote{244} They fixed MWD’s liability for indirect costs at $23 million.\footnote{245}

IID’s primary obligations are to implement the conservation program and to make available to MWD the water conserved by the program. The agreement also establishes a timetable for the implementation of the conservation program and a schedule of water to be conserved, which is set forth below: \footnote{246}

\textit{Water Conservation Schedule}

\textit{IID-MWD Transfer Agreement}

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>New Water Conserved and Available for Use by MWD (afa)</th>
<th>Cumulative Water Conserved and Available to MWD (afa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1-90</td>
<td>38,610</td>
<td>38,610</td>
</tr>
<tr>
<td>1-1-91</td>
<td>14,745</td>
<td>53,335</td>
</tr>
<tr>
<td>1-1-92</td>
<td>10,490</td>
<td>63,845</td>
</tr>
<tr>
<td>1-1-93</td>
<td>22,940</td>
<td>86,785</td>
</tr>
<tr>
<td>1-1-94</td>
<td>13,215</td>
<td>106,110</td>
</tr>
<tr>
<td>1-1-95 and each year thereafter until modified</td>
<td>---</td>
<td>106,110</td>
</tr>
</tbody>
</table>

MWD, the Coachella Valley Water District, and the Palo Verde Irrigation District. See infra text accompanying notes 266-267.


\footnote{244} Id. apps. B, C.

\footnote{245} Id. § 2.2, at 14.

\footnote{246} Id. § 3.2, at 19.
As shown in the schedule, once IID conserves 106,110 acre-feet, MWD’s right to receive conserved water is not cumulative.\(^{247}\) If MWD fails to use all the water conserved by the program during any subsequent calendar year, it will not be entitled to more than 106,110 acre-feet during the next calendar year. MWD may “bank” the conserved water received from IID, however, in Lake Mead or in any other reservoir in which it obtains water banking rights.\(^{248}\) Finally, in times of shortage—defined as any year in which the Secretary of the Interior cannot deliver 3.85 million acre-feet to the first three priorities of the Seven Party Agreement—IID may choose not to provide conserved water to MWD.\(^{249}\)

The parties also reserved a number of rights and contentions. First, other than the transfer of water made available by the conservation program, the agreement does not affect the parties’ respective rights to water from the Colorado River.\(^{250}\) Second, the parties agreed that, except for legal proceedings to enforce the contract, they would not base any legal contention on the existence and execution of the agreement.\(^{251}\) This provision, similar in purpose to Water Code Section 1244\(^{252}\) was designed to prevent MWD from using the conservation and transfer agreement to bolster its claim that IID is wasting water. Indeed, the agreement declares that, subject to MWD’s right to use the water conserved by the program, neither the execution nor the performance of the agreement shall “result in any forfeiture, diminution, or impairment of any rights of IID in the conserved water.”\(^{253}\)

Third, the agreement states that the water conserved and transferred to MWD retains its third priority status under the Seven Party Agreement.\(^{254}\) MWD then made two seemingly contradictory declarations. On the one hand, it promised not to assert that the agreement and conservation program have the effect of changing the status of the conserved water from IID’s third priority to its own fourth or fifth priorities.\(^{255}\) On the other, MWD reserved its claim to water “not put to beneficial consumptive use by the holders of the

\(^{247}\) Id. § 3.4, at 23.

\(^{248}\) Id.

\(^{249}\) Id. § 3.5, at 23-24.

\(^{250}\) Id. § 6.2(b), at 32.

\(^{251}\) Id. § 6.2(c), at 32-33.

\(^{252}\) See supra text accompanying note 146.

\(^{253}\) IID-MWD Agreement, supra note 243, § 6.2(d), at 33.

\(^{254}\) Id. § 6.2(d), at 34.

\(^{255}\) Id.
first three priorities of the Seven Party Agreement as set forth in both IID’s and MWD’s water delivery contracts with the Secretary [of the Interior].” The purpose of these provisions was to preserve MWD’s contention that IID was wasting water and that the Secretary should reallocate all water in excess of IID’s reasonable and beneficial uses to MWD under the Seven Party Agreement. At the same time, IID preserved its denial of that claim and sought to ensure that MWD could not use the execution of the conservation and transfer agreement as an admission by IID of waste and unreasonable use.

The water conservation programs established by the agreement are now well underway. Conservation projects under construction include lining of canals, irrigation system automation, installation of non-leak gates, and other projects as provided in the Conservation and Supplemental Agreements. The parties believe they will achieve full conservation by the 1995 deadline.

C. Subsequent Developments

Shortly after the agreement was executed, the Coachella Valley Water District (CVWD) filed suit against IID, MWD, and the Bureau of Reclamation, seeking to enjoin implementation of the transfer. CVWD claimed that the transfer violated the Seven Party Agreement. Because CVWD holds the most junior priority among the Agricultural Agencies, it sought to protect itself in the event that the full 3.85 million afa allotment was not delivered to the first three priorities under the Seven Party Agreement.

CVWD argued: (1) IID’s use of the Colorado River water is limited to potable and irrigation purposes within the boundaries of IID and the Coachella Valley; (2) IID has no right to transfer water outside its district; (3) CVWD’s right to use water allocated to the first three priorities under the Seven Party Agreement is superior to MWD’s fourth priority; and (4) the Secretary has no authority to deliver third-priority water to MWD. The lawsuit was settled out of court and dismissed with prejudice on December 19, 1989.

256. Id. § 6.2(g), at 34-35.
257. Gregory Caligari, Update to the Water Conservation Agreement Between the Metropolitan Water District of Southern California and the Imperial Irrigation District 3 (1991) (unpublished manuscript, on file with author). Mr. Caligari served as the author’s research assistant and obtained the information set forth in Subpart IV.C from telephone interviews with MWD officials involved in the IID-MWD transfer and subsequent events.
258. In 1934, IID and Coachella entered into an agreement of compromise pursuant to which IID was assigned the superior right to water within the third priority. Id. at 4.
259. Id. at 4-5.
260. Id. at 5.
As part of the settlement, the parties executed two agreements, which are known as the “Approval Agreement” and the “Supplemental Agreement.” The Approval Agreement declares that all of the parties agree to be bound by the Conservation Agreement between IID and MWD and will not use the conserved water generated by the conservation programs, except as provided in the Approval Agreement.\footnote{Imperial Irrigation District, Metropolitan Water District of Southern California, Palo Verde Irrigation District, and Coachella Valley Water District, Approval Agreement § 1.1, at 4 (1989) (on file with author) [hereinafter Approval Agreement].} It then provides that in any calendar year in which the entities with the first three priorities under the Seven Party Agreement receive less than 3.85 million acre-feet, MWD must reduce its use of conserved water by as much as 50,000 acre-feet.\footnote{Id. §§ 3.1, 3.2, at 15-19.} If this occurs, MWD remains liable for all payment obligations under the Conservation Agreement.\footnote{Id. § 3.2, at 19.} In return, MWD receives an extension of the 35-year term of the Conservation Agreement for the number of years shown in the following table:\footnote{Id. § 3.3, at 20.}

<table>
<thead>
<tr>
<th>Total Reduction in MWD Use (acre-feet)</th>
<th>Extension of Conservation Agreement Term (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26,000 to 75,000</td>
<td>1</td>
</tr>
<tr>
<td>75,001 to 125,000</td>
<td>2</td>
</tr>
<tr>
<td>125,001 to 175,000</td>
<td>3</td>
</tr>
<tr>
<td>175,001 to 225,000</td>
<td>4</td>
</tr>
<tr>
<td>225,001 or greater</td>
<td>5</td>
</tr>
</tbody>
</table>

In lieu of MWD reducing its use of conserved water by the amounts specified in the Approval Agreement, IID may choose to reduce its net Colorado River diversions by an equal amount, and thus not extend the term of the Conservation Agreement for such reduction.\footnote{Id. § 3.4, at 20.}

MWD estimates that it will have to reduce its use of conserved water one year out of ten. Based on this assumption, MWD would stand to lose up to 50,000 acre-feet of conserved water every ten years.\footnote{Caligari, supra note 257, at 8-9.} In order to offset this loss, IID agreed to conserve, for use by MWD, an additional 6,110 afa at its own expense.\footnote{Approval Agreement, supra note 261, § 4.1(1), at 21.} Thus, over the course of ten years, the conserved water provided to MWD at IID’s...
expense would total 61,100 acre-feet, which would more than make up for the 50,000 acre-feet that MWD estimates it will have to forego. However, MWD could lose up to 50,000 acre-feet of conserved water every year if the conditions for reducing its use of conserved water occur more frequently than anticipated.

The Supplemental Agreement between MWD and CVWD limits CVWD’s net Colorado River diversions and clarifies the circumstances under which MWD must reduce its use of conserved water.\textsuperscript{268} It provides that CVWD’s net diversions from the Colorado River in any one calendar year shall not exceed 450,000 acre-feet unless additional water is available under the sixth priority of the Seven Party Agreement.\textsuperscript{269} The Supplemental Agreement also states that CVWD will not request MWD to reduce its use of conserved water in any year that a reduction in the use of the conserved water by MWD would otherwise be required, unless IID’s net diversions of Colorado River water would have exceeded 2,825,000 acre-feet, less the amount of water conserved under the terms of the Conservation Agreement.\textsuperscript{270}

\section*{D. Conclusion}

The IID-MWD transfer was largely the product of one of the rare applications of California’s waste and unreasonable use laws. It is doubtful that IID would have seriously considered investment in the conservation measures necessary to make water available to transfer had Elmore not filed his complaint, and had the Board not followed up by investigating IID for waste under Section 275 of the Water Code. Following the Board’s 1984 and 1988 orders, IID was confronted with the choice of finding a means of financing the necessary water conservation or forfeiting its rights to 100,000 afa. Self-interest dictated that IID preserve its water rights by signing the conservation and transfer agreement with MWD.

In agreeing to transfer water to MWD, IID took advantage of the conserved water provisions of the Water Code, including Sections 1011 and 1244.\textsuperscript{271} In fact, to facilitate the transfer, the Legislature enacted special legislation in 1984 designed to minimize the risk to IID’s water rights. Section 1012 of the Water Code provides that “any water conservation effort . . . which results in reduced use of Colorado

\textsuperscript{268} Metropolitan Water District of Southern California, Agreement to Supplement Approval Agreement (1989) (on file with author).
\textsuperscript{269} Id. § 1.1, at 2-3.
\textsuperscript{270} Id. § 1.2, at 3.
\textsuperscript{271} See supra text accompanying notes 144-146.
River water within the Imperial Irrigation District” shall not cause a “forfeiture, diminution, or impairment of the right to use the water conserved . . . except as set forth in the agreements between the parties and the United States.”\textsuperscript{272} This provision appears to preclude the state or any other party from bringing a forfeiture action against IID with respect to the 100,000 afa it conserves pursuant to the agreement. As such, Section 1012 is considerably stronger than Sections 1011 and 1244, which authorize the transfer of conserved water and declare only that the transfer “in itself, shall not constitute evidence of waste or unreasonable use.”\textsuperscript{273}

For its part, MWD was motivated to pursue the conserved water transfer option for two reasons. First, in the early 1980s, MWD was facing projected increases in demand coupled with severe supply constraints.\textsuperscript{274} Second, while MWD initially pursued the option of forcing a reallocation of the Colorado River supplies through the laws of waste and unreasonable use, it ultimately chose the transfer option to minimize the expense and uncertainty associated with the proceedings that would be required to divest IID of a portion of its entitlement. To obtain a reallocation by administrative fiat rather than voluntary transfer, MWD would have had to convince both the State Water Resources Control Board and the Bureau of Reclamation that IID was wasting water and that the appropriate remedy for such unreasonable use under the Seven Party Agreement would be to reallocate such water to MWD. In view of the administrative hearings and judicial review that would be required, this strategy was not only legally risky, it also would have taken well over a decade to accomplish. MWD’s decision to pay over $100 million for water that it could have obtained “for free” thus reflects a rational business judgment that the transfer option was less risky, and ultimately less expensive, than the alternative strategy.

Although the IID-MWD transfer derived from a unique confluence of factors, it nonetheless stands as a model for future transfers. The transfer shows how vigorous enforcement of the state’s laws against waste and unreasonable use can be a catalyst for the realloca-

\textsuperscript{272} \textit{CAL. WATER CODE} § 1012 (West Supp. 1993).

\textsuperscript{273} Id. § 1244 (emphasis added). The Legislature also enacted a special bill in 1987 to relieve IID of all liability “for any effects to the Salton Sea or its bordering area resulting from the conservation measures.” Id. § 1013.

\textsuperscript{274} The population in MWD’s service area increased by 10% between 1980 and 1985 and is expected to rise an additional 35% percent from 1985 and 2010. See \textit{LOOKING TO THE FUTURE}, supra note 3, at 6. For a description of the supply constraints, see \textit{supra} text accompanying notes 237-238.
tion of water from inefficient uses to relatively higher-valued uses. It also demonstrates that water conserved from already developed supplies can serve new demands as effectively as can the development of new supplies. Perhaps most importantly, the IID-MWD transfer may be the deal that breaks the institutional logjam by convincing the water industry that long-term, large-scale transfers are both possible and (under some circumstances) the most attractive water supply option.

Conclusion

The policies of the modern era in California water law have begun to converge in the Sacramento-San Joaquin Delta, the place where all water comes together in this state. Laws such as the CVP Improvement Act, water rights determinations such as draft Decision 1630, and impending administrative decisions such as the designation of additional species for protection under the Endangered Species Act and the Environmental Protection Agency's exercise of its authority under Section 303(c) of the Clean Water Act are emblematic of the central themes of the modern era. The preceding era of California water policy was dominated by the statewide development of water resources and expansion of water supplies. In turn, the modern era represents collective judgments that the policies of the past must be balanced by contemporary efforts to restore native fish runs, riparian habitat, river flows, and other *in situ* uses of the available water. Thus, the themes of the modern era are restoration of the natural environment and, when needed, reallocation of developed water supplies to the consumptive and nonconsumptive uses that are most valued in today's economy and by today's society.

As the United States Ninth Circuit Court of Appeals observed recently in adjudicating a constitutional challenge to earlier amendments of laws governing the CVP, although Congress can change federal policy,

> it cannot write on a blank slate. The old policies deposit a moraine of contracts, conveyances, expectations and investments. Lives, families, businesses, and towns are built on the basis of the old policies. When Congress changes course, its flexibility is limited by those interests created under the old policies which enjoy legal protection. Fairness toward those who relied on continuation of past policies cuts toward protection. Flexibility, so that government can adapt to changing conditions and changing majority preferences, cuts against. Expectations reasonably based upon constitutionally protected property rights are protected against policy changes by
the Fifth Amendment. Those based only on economic and political predictions, not property rights, are not protected.\textsuperscript{275}

The challenge, the court emphasized, is to determine which interests are constitutionally protected from changes in governmental policies and which are not.\textsuperscript{276}

As described in Parts I and II, because all uses of water must conform to the requirements of the reasonable use doctrine set forth in Article X, Section 2 of the California Constitution, the state has broad authority to alter existing water rights to ensure that the rights are exercised, and that the water is allocated, in an efficient, socially beneficial manner. This doctrine—expressed most recently and forcefully in cases such as Joslin, Audubon, the Delta Water Cases, and Imperial—is not simply a statement of California water policy; it also is a limitation on the water right itself and therefore defines the constitutionally protected interests in existing allocations of the state's water resources. Moreover, the view that "reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes"\textsuperscript{277} is not new.

Rather, it may be traced back beyond the enactment of Article X, section 2 to the very first water rights case decided by the California Supreme Court in 1855. This dynamic and utilitarian conception of water rights formed the basis of the court's adoption of prior appropriation as the water law of the West and permeated its subsequent cases that recognized the doctrine of riparian rights, incorporated the principle of reasonable use, and ultimately integrated the riparian and appropriative systems.\textsuperscript{278}

Thus, the decisions and policies of the modern era that sanction the reallocation of California's water resources are simply the culmination of a long history of state water rights, which regards the property right in water as fragile and dependent on contemporary economic conditions and societal values.

As discussed in Parts III and IV, however, while the state possesses extensive power to reallocate water resources by regulation and decree, it has chosen to exercise this authority sparingly. Instead, with the strong support of the Legislature, the policy of the State Water Resources Control Board has been to use the reasonable use doctrine and associated laws to induce negotiated, "voluntary" reallocations.

\textsuperscript{275} Madera Irrigation Dist. v. Hancock, 985 F.2d 1397, 1400 (9th Cir. 1993).
\textsuperscript{276} Id. at 1401.
\textsuperscript{278} Gray, In Search of Bigfoot, supra note 41, at 272.
under the water transfer statutes. These laws afford water users several benefits.

First, water rights holders or users who are threatened with a reduction in their water supply because of waste or unreasonable use may retain the benefits of their existing rights by conserving water and selling the “surplus” water produced by such efforts. As the IID-MWD transfer illustrates, through this strategy, existing users whose transportation, distribution, or irrigation systems are antiquated (and therefore vulnerable to a reasonable use challenge) may invoke the transfer laws to arrange for funding of their conservation efforts and simultaneously protect their water rights.

Second, the transfer laws may provide a means for users with growing demand to obtain new supplies at prices below the cost of developing additional supplies. Acquisition of developed water through the market has become an important water supply strategy as the remaining sources of undeveloped and available water diminish. Again, the IID-MWD example is an instructive example of this use of the transfer laws.

Third, as the environmental restoration provisions of the CVP Improvement Act, Endangered Species Act, and Clean Water Act are implemented, it may become necessary to reallocate some water from existing users to instream and other nonconsumptive uses. The transfer laws provide a means of ameliorating some of the disruptive effects of these reallocations because they permit users whose supplies are reduced to acquire water from other users who may now have additional incentives to conserve and offer the fruits of their conservation activities for sale. The creation of price incentives for conservation, and the availability of water through the market, should allow the government-mandated reallocations to environmental uses to occur while sustaining the same aggregate level of economic product generated by the water available for consumptive purposes.

The challenges of the modern era of California water law are to restore balance to a system that historically has promoted development to the neglect of the natural environment, and to ensure that the water resources of the state are used efficiently and are allocated to the most valued uses. As this Article demonstrates, the laws and policies that have been created during the modern era are more than up to these challenges.