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ECONOMIC INCENTIVES FOR ENVIRONMENTAL PROTECTION

TRANSFERS OF FEDERAL RECLAMATION WATER: A CASE STUDY OF CALIFORNIA'S SAN JOAQUIN VALLEY

BY

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Pursuant to the Reclamation Act of 1902 and subsequent specific authorization acts, the federal government has constructed numerous irrigation projects throughout the arid western states. The Supreme Court has construed section 8 of the 1902 Act to mean that, unless directly in contradiction to explicit congressional di-

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rective, state law governs the control, appropriation, use, and distribution of federal project waters. Section 8 also provides that "the right to the use of water acquired under the provisions of [the] Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right." This provision might be interpreted to provide that where project waters are concerned, Congress has preempted state water transfer policies aimed at encouraging efficient use of scarce water resources. The authors conclude, however, that there are no significant legal impediments to the transfer of irrigation water for reclamation and conservation purposes. Voluntary conservation of irrigation water, reclamation of drainage water, and transfers of the "surplus" provided by such efforts, in fact, appear vital as part of the solution to agricultural drainage induced water pollution and high groundwater in the western San Joaquin Valley. With this focus, the authors examine the interworking of federal and California statutory schemes, providing a detailed case study of the legal implications of voluntary transfers involving federal project waters.

I. INTRODUCTION

In 1983, the U.S. Fish and Wildlife Service noticed that something had gone terribly wrong at the Kesterson National Wildlife Refuge in California's San Joaquin Valley: some of Kesterson's newly hatched waterfowl had crippling deformities. Beaks were grotesquely shaped, wings were missing, legs were twisted, and skulls were unformed; many birds died soon after hatching. The "refuge" had become hostile to its inhabitants, and the name "Kesterson" soon became synonymous with environmental disaster.

In time researchers discovered the cause of the Kesterson calamity: selenium poisoning. Selenium, a naturally occurring, non-metallic trace element, was being leached from the soil underlying some portions of the Westlands Water District by agricultural irrigation water. Following application of the water to crops, subsurface drains collected the water and carried it to the Kesterson Reservoir through the San Luis Drain. Once in Kesterson, the selenium became concentrated in vegetation and small animal life. As the selenium moved up the food chain, the concentrations dramatically increased. In very small amounts, selenium is beneficial to humans and other animals. At higher levels, selenium becomes toxic. For bird life, it is now clear that high concentrations of se-
lenium are fatal.¹

The Kesterson tragedy is only the most notorious of the many economic and environmental problems created by drainage from irrigated land on the west side of the San Joaquin Valley. (See Figure 1). These problems include diminished agricultural productivity, loss of irrigable land, increased irrigation and drainage costs, groundwater contamination, pollution of surface water and wetlands, and destruction of fish and wildlife.²

Although a variety of factors contribute to the problems associated with drainage water, three are of paramount importance. First, much of the irrigated land in the western San Joaquin Valley contains high natural levels of salts and potentially toxic trace elements such as selenium, arsenic, boron, and molybdenum. Irrigation leaches these substances into the groundwater. The increasing salt concentration threatens to render the groundwater unusable, at least at depths between 20 and 150 feet.³

Second, the aquifer beneath the west side lands is perched above a layer of Corcoran clay that runs the length of the Valley. This clay layer prevents irrigation water that percolates into the perched aquifer from draining into the confined aquifer below. As a consequence, the groundwater table beneath much of the land is less than five feet from the surface. The high groundwater table reduces the productivity of irrigated lands by saturating the root zone of crops, in some cases with water that is polluted by high levels of salts, selenium, and other toxic substances.⁴

Third, the importation of surface water from the Sacramento-San Joaquin Delta has exacerbated the first two causes by increasing both the quantity of drainage water and the amount of land deemed suitable for irrigation. For approximately 100 years,

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¹ Introductory material from R. Wahl, Markets for Federal Water Subsidies, Property Rights, and the Bureau of Reclamation ch. 7 (1989). For a history and detailed description of the San Luis Drain and Kesterson Wildlife Refuge, see id. at 197-203.


³ Id. at 30-42.

⁴ Id. at 25-37.
this land was served by local surface water (predominantly from the San Joaquin, Kings, and Kern Rivers) and by groundwater. Since mid-century, however, these supplies were either replaced or augmented by water imported from the Delta. In 1951, the federal government completed construction of the first two San Joaquin Valley components of the Central Valley Project (CVP), and the Bureau of Reclamation began deliveries to the Northern and Grasslands subareas through the Delta-Mendota Canal and to portions of the Tulare and Kern subareas through the Friant-Kern Canal. In 1968, the CVP's San Luis Unit and the California State Water Project (SWP) extended the imported supplies to the Westlands subarea and to previously unserved portions of the Tulare and Kern subareas. Today, the CVP supplies an average of 3.75 million acre feet of water each year to over 2.4 million acres of land within the drainage study area.5

The irrigation-induced water pollution and high groundwater table in the western San Joaquin Valley have created internal economic costs for farmers, have imposed external costs on other farmers and other water users outside the drainage problem areas, and have placed external environmental costs on society. Elevated concentrations of selenium, boron, molybdenum, and arsenic are occurring in evaporation ponds throughout the western San Joaquin Valley.6 High pollution levels have endangered fish and wildlife in approximately 200,000 acres of parks, wildlife refuges, and nature preserves dependent on drainage water for half of their water supply, forcing these vast facilities to discontinue use of drainage water.7 In addition, over 750,000 acres of irrigated land are presently affected by shallow groundwater and, if current irrigation practices continue, an additional 250,000 acres may be affected by the year 2000. “This will reduce crop productivity, cause loss of farm income through conversion from salt-sensitive to salt-tolerant crops, increase costs of drainage management, and force land out of production.”

The San Joaquin Valley Drainage Program, a cooperative effort of the U.S. Department of the Interior and the California Resources Agency, has developed an array of strategies to address

5. Id. at 15-18.
6. Id. at 41.
7. Program Report, supra note 2, at 21-22.
8. Id. at 21.
these problems. The strategies range from disposal of the drainage water into deep injection wells or through a reconstructed San Luis Drain, to treatment of contaminated water and reuse, to reduction of the amount of drainage water by encouraging water conservation or retirement of some agricultural lands.

Voluntary transfers could serve as an important means of promoting the reclamation and conservation of water in the drainage study area. Both reclamation of drainage water and conservation of surface water used for irrigation could free up water that would be available for transfer to other uses. Moreover, these strategies depend on an initial capital investment, either for treatment and reclamation facilities or for improvements to existing conveyance and irrigation systems. Water transfers provide not only an alternative market for the reclaimed or conserved water, but also a source of revenue to pay for the capital improvements required to generate that water.

This Article provides a detailed explanation of how water that presently is used for irrigated agriculture could be conserved and transferred from areas within the western San Joaquin Valley that produce or suffer from drainage problems to some other use. We have focused on the transferability of water supplied by

9. Id. at 87-97.

10. In this Article, the term “water transfer” means the voluntary reallocation of project water from an existing irrigation user to some other use, such as another irrigation use, a municipal and industrial supply, wetlands, or fish and wildlife habitat. The transferor would be located in an area of the western San Joaquin Valley that produces excessive amounts of drainage water, which would render it economically advantageous to alter existing irrigation practices to reduce the amount of drainage and, as a consequence, to generate some water for transfer. The transferee could be located in the same district as the transferor, in another water agency within the San Joaquin Valley, or in some other part of the state. In most cases, the transfers would be long-term and would generate revenue for the transferor in excess of its costs.

The water transfers could be structured in two ways. First, the contractors of project water—irrigation districts, water agencies, and water storage districts—could decide to transfer water that is made available by reclamation or conservation programs that they adopt on behalf of their members. Second, individual farmers within the contracting agencies could decide to transfer water that is generated by the fallowing of land or by the farmer’s own conservation efforts. In the latter case, the contractor would have to approve the transfer and would serve as the agent for the farmer in securing the approval of the other necessary parties. Some transfers would require the approval of the California State Water Resources Control Board, the state agency with general regulatory jurisdiction
the Central Valley Project for three reasons. First, the CVP provides water to almost two-thirds of the irrigated land in the drainage study area.\(^11\) Second, the shallow groundwater and drainage problems have coincided with the arrival of imported project water over the last forty years. As the primary source of the problems, it is appropriate that the CVP should contribute to their solution. Most importantly, the CVP is both the largest component of the federal reclamation system and the project within which the economic, environmental, and political pressures to engage in long-term transfers of water are the greatest. As such, the knowledge gained from the efforts to conserve and to reallocate CVP water may be useful in analyzing the transferability of water supplied by federal reclamation projects in the other western states.\(^12\)

Following a review of the meager federal statutory law on point, and a more detailed discussion of the applicable California statutes, we address a series of questions regarding the transferability of water provided by the CVP. We conclude that CVP contractors and individual farmers may transfer project water. We also recommend specific action that the Department of the Interior and the Bureau of Reclamation should take to facilitate voluntary transfers as part of a broader strategy to redress the problems of agricultural drainage in the western San Joaquin Valley.

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over surface water rights. All transfers of CVP water would require the authorization of the Bureau of Reclamation, the operator of the CVP.

11. \textit{Id.} at 19.

Figure 1*

* Used by permission of the San Joaquin Valley Drainage Program
II. Transfers of Water Supplied by the Central Valley Project: A Review of the Applicable Law

The transfer of water supplied by the CVP is governed by a complex interplay of general federal law, detailed California statutes, and nascent policies of the Department of the Interior and the Bureau of Reclamation. On the question of water transfers, both Congress and the federal courts have deferred to the law of the state in which the federal reclamation project is located. The federal agencies that manage the CVP, therefore, should incorporate those provisions of California law that have been enacted to promote the voluntary conservation and transfer of water. Unfortunately, the Department of the Interior and the Bureau of Reclamation have not adequately identified which features of California law are applicable to project water. Nor have they set forth a coherent federal policy statement to govern long-term transfers of CVP water. The absence of clear legal guidelines creates uncertainty, which may deter transfers of water from the drainage study area.

A. Federal Law

Neither the general provisions of federal reclamation law nor the specific legislation that established the CVP directly address water transfers. As a consequence, transfers of CVP water are governed primarily by California law. Interpreting section 8 of the Reclamation Act,\footnote{13. Section 8 of the Reclamation Act 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 . . .} the Supreme Court held in California v. United States\footnote{14. 438 U.S. 645 (1978).} that state law governs the control, appropriation, use, and distribution of project water unless the application of state law would be inconsistent with an explicit congressional directive.\footnote{15. Id. at 678-79.} Based on this holding, the U.S. Court of Appeals for the Ninth Circuit has concluded that "the conspicuous absence [in

\footnote{13. Section 8 of the Reclamation Act 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 . . .}

\footnote{14. 438 U.S. 645 (1978).}

\footnote{15. Id. at 678-79.}
federal reclamation law] of transfer procedures, taken in conjunction with the clear general deference to state water law, impels the conclusion that Congress intended transfers to be subject to state water law.”

B. California Law

Three aspects of California water transfer law are germane to the present inquiry. These are the statutes that authorize the voluntary reclamation, conservation, and transfer of surplus water; the provisions that approve the transfer of water based on contract right rather than water right; and the sections that define and limit the jurisdiction of the State Water Resources Control Board (Board).

1. Transfers of Reclaimed, Conserved, and Surplus Water

Sections 380 through 387 of the California Water Code alto allow water users to reclaim waste water, to engage in conservation, and to transfer the surplus made available by such efforts. These provisions address a number of difficult questions that will be analyzed below in Section III. For example, is the reclamation or conservation of water a beneficial use? May reclaimed and conserved water be sold, or does it simply return to the pool where it could be claimed by users who are not parties to the transfer agreement? Do farmers who conserve water for transfer risk losing a portion of their entitlement for waste or unreasonable use? Do the California transfer laws apply to water that is held by contract rather than by water right? What are the respective roles of the irrigation district or water agency and the individual farmer?

The laws governing the transfer of reclaimed, conserved, and surplus water are founded on two premises. First, it is reasonable and socially beneficial to allow water users to change existing, perhaps wasteful, irrigation practices by reclaiming drainage water or adopting conservation measures and to sell the “surplus” water produced by such changes to some other user. Second,
these types of decisions are best made at the local level by districts and individual farmers.

Consistent with these premises, section 380 recognizes that the "various regions of the state differ widely in the availability of water supplies and in the need for water to meet beneficial uses" and that "[d]ecisions regarding operations to meet water needs depend in part upon regional differences." It then declares that "[m]any water management decisions can best be made at a local level, to the end that local and regional operational flexibility will maximize efficient statewide use of water supplies." The legislature also stated in section 380 that the policy of encouraging local agencies to transfer water based on local and regional economic considerations is in furtherance of the reasonable and beneficial use doctrine of article X, section 2 of the California Constitution and section 109 of the Water Code.

To clear away any uncertainty over the power of local water agencies to transfer water outside their jurisdictional boundaries, section 382 declares that "[n]otwithstanding any other provision of law, every local or regional public agency authorized by law to serve water to the inhabitants of the agency may sell, lease, exchange, or otherwise transfer water that is surplus to the needs of the agency's water users for use outside the agency." Section 381 supplements this declaration by directing that the authority of local and regional agencies "pursuant to this chapter shall control over any other provision of law which contains more stringent limitations on the authority of a particular public agency to serve water for use outside the agency, to the extent those other laws are inconsistent with the authority granted therein." This pro-

19. Id. § 380.
20. Id.
21. This provision declares that [t]he right to water . . . is and shall be limited to such water as shall be 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 diversion of water. CAL. CONST. art. X, § 2.
22. Section 109 provides that it is "the established policy of this state to facilitate the voluntary transfer of water and water rights where consistent with the public interest in the place of export and the place of import." CAL. WATER CODE § 109.
24. Id. § 381.
nouncement of the supremacy of the new water transfer law is important, because there are provisions in the irrigation district law, as well as in local water supply contracts that prohibit or restrict the transfer of water. According to section 381, these limitations are invalid to the extent that they may be applied to prohibit a transfer that satisfies the other requirements of sections 380 through 386.

The reference in section 382 to water that is "surplus to the needs of the agency's water users" raises two issues. First, what constitutes "surplus water" and who determines whether it exists? Second, according to article X, section 2 of the California Constitution, an appropriator has rights only to the amount of water that it can put to a reasonable and beneficial use. How, then, may a user transfer water that by definition is surplus to its needs? The first question is answered in section 383; the second is addressed by sections 1010, 1011, and 1244, which are discussed below.

Section 383 defines "surplus water" in three different ways. In keeping with the goal of the legislation to decentralize the water transfer process, each of these definitions defers to the local water agency's determination that surplus water is available for transfer. The first two subsections address the transfer of "water to which the right is held by the agency." Section 383(a) authorizes the agency to transfer water "which the agency finds will be in excess of the needs of water users within the agency for the duration of the transfer." Section 383(b) approves the transfer of conserved water. It defines surplus water as water "which any water user agrees with the agency, upon mutually satisfactory terms, to forego [the] use [of] for the duration of the transfer." The third subsection authorizes an individual water user within an agency, rather than the agency itself, to negotiate a transfer of...
water that is surplus to the user's needs. Section 383(c) provides that "the water user and the agency [may] agree, upon mutually satisfactory terms, that the water user will forego use for the period of time specified in the agreement" with the transferee and directs that the agency "shall act as agent for the water user to effect the transfer." Although the purpose of this subsection is to allow an individual user within a local water agency to conserve water and to transfer the surplus, the agreement is subject to the approval of the agency. According to section 383, the agency, rather than its member water users, is the paramount actor.

The concern that "water that is surplus to the needs" of the transferor agency's users might be subject to forfeiture under article X, section 2 of the Constitution is addressed in sections 1010, 1011, and 1244 of the Water Code. These provisions declare that reclamation and conservation are beneficial uses of water and authorize the user to transfer any "surplus" created by such efforts. Section 1010(a) stipulates that:

[c]essation of or reduction in the use of water under any existing right . . . as the result of the use of reclaimed water . . . shall be and is deemed equivalent to, and for the purpose of maintaining any right shall be construed to constitute, a reasonable and beneficial use of water to the extent and in the amount that such reclaimed or polluted water is being used.

Section 1010(b) then provides that:

[w]ater, or the right to the use of water, the use of which has ceased or been reduced as the result of the use of reclaimed or polluted water . . . may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights.

Similarly, section 1011(a) declares that:

[w]hen 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 reduc-

29. Id. § 383(c).
30. Id. § 1010(a).
31. Id. § 1010(b).
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." 33

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 section 1244 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. . . ." 34

These sections state the California 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, the Department of Water Resources (DWR), and the courts to monitor existing uses for compliance with the constitutional requirement of reasonable use. 35 Notwithstanding their clear statement of purpose, however, sections 1010, 1011, and 1244 do not completely eradicate the risk that an offer of water for sale could result in a determination of waste or unreasonable use. They do not provide, for example, that a water user in jeopardy of losing its rights can avoid forfeiture by negotiating a transfer. 36 These sections do afford potential transferors a reason-

32. Id. § 1011(a).
34. Id. § 1244.
35. The Water Code provides that the DWR and the 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 Board has authority concurrent with the authority of the courts to enforce the reasonable use requirement of article X, § 2. Environmental Defense Fund v. East Bay Mun. Util. Dist., 26 Cal. 3d 183, 200, 605 P.2d 1, 9-10, 161 Cal. Rptr. 466, 474-75 (1980).
36. For an example of a law that does eradicate such risk, see Cal. Water Code § 1012 (West Supp. 1991), which provides that "any water conservation ef-
able 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.

2. Transfers of Water Based on Contract Right

The appropriative rights to the water supplied by the CVP are held by the Bureau of Reclamation, rather than the local water agencies in the drainage study area or individual farmers to whom the water is sold.\textsuperscript{37} The agencies have contracts with the Bureau for specified quantities of water, which may be subject to variation from year to year based on hydrologic conditions and availability of supply. Individual water users purchase water from the agency in which their farm is located.\textsuperscript{38} These institutional arrangements raise the question whether a CVP contractor, or an individual farmer, may transfer water even though it does not hold the appropriative right.

Unlike other provisions of California’s transfer laws, the re-claimed, conserved, and surplus water transfer statutes expressly provide for the transfer of water by a party other than the water right holder. As described above, section 383(c) authorizes an individual farmer within a local water supply agency to transfer water supplied to it by the agency that is surplus to the farmer’s fort . . . which results in reduced use of Colorado River water within the Imperial Irrigation District [IID]” 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.” This provision appears to preclude the state or any other party from bringing a forfeiture action against IID with respect to the 100,000 acre-feet per year (aft) that it will conserve and transfer to the Metropolitan Water District. See B. Gray, Water Transfers in California: 1981-1989, in 2 THE WATER TRANSFER PROCESS AS A MANAGEMENT OPTION FOR MEETING CHANGING DEMAND 38 (L. MacDonnell ed. 1990). As such, § 1012 is considerably stronger than §§ 1011 and 1244.


38. J. Harvey, Investigation of Water Supply Agencies and Institutions: Institutional Analysis for the San Joaquin Valley Drainage Program 18 (1990). Two contractors, the Kern County Water Agency and the Mid-Valley Authority, supply water to member districts, which in turn deliver the water to individual farms and municipal users. Id.
needs. In such cases, the agency would either hold an appropria-
tive right or a contract right to the water it distributes; the trans-
feror would be a contractor of water from the agency or would be
entitled to a share of the water as an agency member. The statute
thus contemplates the transfer of water held by contract or other
arrangement.

This interpretation of California water transfer law is sup-
ported by two recent transfer applications. In 1989, the Board ap-
proved a short-term transfer of 50,000 acre-feet of SWP water
from the Kern County Water Agency to the Westlands Water
District in exchange for future deliveries of CVP water from
Westlands.\textsuperscript{39} The Board presently has under considera-
tion a petition filed by the Bureau of Reclamation to change the place-of-
use of its CVP permits to allow a long-term transfer of up to
128,300 acre-feet per year of CVP water from the Arvin-Edison
Water Storage District to the Metropolitan Water District
(MWD) in exchange for SWP project water from MWD.\textsuperscript{40}

\textsuperscript{39} See B. Gray, supra note 36, at 21-22. As a result of the 1987-1989 drought
and the projected 50\% reduction in supply from the SWP, many farmers in the
Kern County area were unable to receive financing for the planting of row crops in
1989. Because of the greater than normal rain and snowfall during March 1989,
however, DWR was able to provide Kern County Water Agency (KCWA) with its
full entitlement. This left KCWA with a temporary surplus. Initially, KCWA
planned to use the surplus for aquifer recharge and storage for later years. Follow-
ing a request by Westlands, which was facing critical shortages as a result of the
drought, KCWA agreed instead to transfer 50,000 acre-feet in the form of a tem-
porary transfer and future exchange. The transfer occurred during the last three
months of 1989.

Westlands agreed to pay $20 per acre-foot for the water in 1989 plus trans-
portation costs of approximately $12 per acre-foot. In addition, Westlands will
reimburse KCWA for the water itself over a ten-year period. Westlands plans to
transfer water back to KCWA during wet years when it can acquire sufficient ad-
ditional supplies from the Bureau of Reclamation at a projected cost to Westlands
of $17 per acre-foot. If Westlands makes the exchange deliveries during dry years,
however, KCWA will pay a rebate of between $5 and $15 per acre-foot.

This is one of the few transfers of water between state and federal contractors
and represents the first transfer of SWP water from a state contractor to a non-
state contractor. Thus, to accomplish the transfer, it was necessary for the Board
temporarily to change the place-of-use of DWR's water rights for the SWP to
include Westlands. \textit{Id.}

\textsuperscript{40} \textit{Id.} at 22. Pursuant to this exchange proposal, during relatively wet years
DWR would deliver to Arvin-Edison up to 135,000 afa of MWD's entitlement
from the SWP. Arvin-Edison would use this water either for irrigation or for aqui-
fer recharge. In exchange, during dry years MWD would be entitled to receive up
In sum, both California water transfer law and current administrative practice demonstrate that the water agencies and irrigation districts that obtain CVP water by contract, as well as individual farmers within the agencies and districts, may transfer that water.\textsuperscript{41}

3. Transfers Subject to the Jurisdiction of the California State Water Resources Control Board

The California State Water Resources Control Board has jurisdiction over all proposals to transfer water that require a change in the place-of-use, purpose-of-use, or point of diversion set forth in a permit or license.\textsuperscript{42} When the transferor is the permittee or licensee, the laws are expressly and directly applicable. When the transferor is a contractor or subcontractor of the water right holder, however, the transfer laws apply indirectly. For if the transfer cannot be accomplished without changing the permit or license pursuant to which the water is appropriated, the contractor-transferor must ask the appropriator to petition the Board for approval of the transfer.\textsuperscript{43}

While transfers of water obtained under contract right generally fall within the jurisdiction of the Board, because of the character of the water rights held by the Bureau of Reclamation not all transfers of CVP water are subject to the Board’s approval.

to 128,300 afa of Arvin-Edison’s entitlement from the CVP. In dry years, Arvin-Edison would substitute groundwater for the CVP supplies transferred to MWD. Deliveries to Arvin-Edison would be through the California Aqueduct and Cross-Valley Canal. Deliveries to MWD would be through the California Aqueduct. The exchange would take place from 1995 through 2035.

To accomplish this exchange, it would be necessary to change the Bureau’s permits for the CVP to add the Banks Pumping Plant at Clifton Court Forebay as a point of diversion and to include the MWD service area as a place-of-use. Arvin-Edison and the Bureau are preparing a joint Environmental Impact Report-Environmental Impact Statement. The Board will not schedule a hearing until the environmental analysis is completed.

This is the first petition for a long-term transfer that has been submitted to the Board. If approved, it also would be one of the few transfers between a CVP contractor and a SWP contractor. \textit{Id.}

41. The related questions whether CVP contractors have an interest capable of being transferred according to federal law and whether California’s transfer statutes are applicable to the CVP are analyzed in Section III.


43. See B. Gray, \textit{supra} note 17, at 779.
The permits for the CVP authorize the Bureau to divert water from the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers, and from the Delta. 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. The permits also 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.  

One consequence of the broad place-of-use and purpose-of-use terms in the CVP permits is that in many cases water may be transferred between CVP users without invoking the jurisdiction of the Board. Because such transfers can be accomplished without changing the terms of the permits held by the Bureau, there is no need to seek the Board's approval. Indeed, this conclusion is confirmed by recent practice. During the 1980s, over 3.5 million acre-feet of CVP water was transferred among CVP contractors on a short-term basis. These transfers occurred without invoking the Board's jurisdiction because the water remained within the service area of the CVP.  

The Board's jurisdiction also may be avoided if the water is transferred from a CVP contractor to a user who is within the existing places-of-use set forth in the CVP permits. Transfers of this nature, however, are likely to be rare. For example, a transfer from a CVP contractor to a noncontractor located within the


45. See B. Gray, supra note 36, at 24-27. These transactions ranged in size from a few acre-feet to over 100,000 acre-feet. The primary purpose of the transfers was to accommodate fluctuations in water needs during the year due to changes in cropping patterns and weather.

The most common method of reallocating CVP water was by ad hoc agreement between individual contractors. In addition, two associations of CVP contractors formed water pools, which provide a more regular and formal means of transferring water among contractors along the Sacramento River and the adjacent Tehama-Colusa Canal. None of the transfers of federal project water involved a transfer of a water right or a contract right. Rather, all of the transfers within the CVP system were of water only and lasted for no more than a few months. Id.
broad service area of the CVP would almost certainly have to make use of the California Aqueduct. There is seldom surplus capacity in the Delta-Mendota Canal, the CVP’s aqueduct from the Delta and San Luis Reservoir. Moreover, many SWP contractors do not have access to CVP facilities. Because use of the California Aqueduct to transport CVP water would require a change in the point of diversion in the CVP permits from the Tracy Pumping Plant to Clifton Court Forebay, such a transfer would be subject to the jurisdiction of the Board. In the past, when the Bureau has used the California Aqueduct to wheel water to its own contractors in the Santa Clara and San Joaquin Valleys, the Bureau has sought the approval of the Board.46

In sum, transfers of water out of the drainage area may be undertaken without invoking the jurisdiction of the Board over changes in appropriative water rights if (1) the transfer is from one CVP contractor to another and there is no change in the point of diversion for the water; or (2) if the transfer is from a CVP contractor to a noncontractor and the transaction can be accomplished without changing the permits for the project.

C. Bureau of Reclamation Policy

In contrast to California’s efforts to promote the voluntary transfer of water, until recently neither the Bureau of Reclamation nor its Mid-Pacific Regional Office had any formal, written policy on the transferability of CVP water. The Mid-Pacific Region nonetheless has permitted transfers to occur between CVP contractors and between individual farmers. Between 1981 and 1989, for example, recipients of project water transferred over three million acre-feet within the CVP service area.47 In addition,

46. See id. at 27-33. Between 1985 and 1989, the Bureau conveyed approximately 438,000 acre-feet of CVP water through SWP facilities in ten separate transactions. The Bureau engaged in these transactions to deliver water to contractors in Santa Clara County, to alter flows in the Delta for the benefit of migrating fish, and to supply water to wetlands areas and National Wildlife Refuges in the San Joaquin Valley. Id.

47. See id. at 24-26. The transfers between CVP contractors are routine. Although the parties submit their transfer proposals to the Bureau and request its approval, the Bureau generally does not evaluate the proposals. Rather, the Bureau routinely approves ad hoc transfers between its contractors as a means of reallocating CVP water to remedy short-term disparities between supply and demand. Id.
contractors along the Sacramento River and the Tehama-Colusa Canal have established permanent water banks into which individual farmers can contribute water when they have a surplus and from which they may withdraw water when they have a deficit.\(^\text{48}\)

Except during the 1976-1977 drought, the Mid-Pacific Region has abjured the role of water broker. Thus, the transfers that occurred during the 1980s were initiated by the water users themselves. The parties established the quantity of water, the timing of delivery, and the service fee associated with the transaction. Once these terms were settled, the transferor would ask the local field division office to deliver the transferred water to the transferee and to reduce the transferor’s supplies accordingly. Rarely did the Bureau deny such a request.\(^\text{49}\)

Although without a formal policy, the Mid-Pacific Region has imposed five restrictions on transfers of CVP water that are relevant to this analysis. First, the transferor must have excess water available under its allotment from the Bureau. The Mid-Pacific Region normally defers, however, to the transferor’s determination that it has a temporary surplus available for transfer. Second, agreements to transfer water may only be for the current water delivery year and all deliveries must be completed within that period. Third, the transferee must have a contract with the Bureau for a use of water authorized by the transferor’s contract. For example, the Bureau will approve a transfer from an irrigation contractor to a domestic supplier only if the transferor’s contract permits water to be used for municipal and industrial purposes. Since many Bureau contracts are with irrigation districts for the purpose of agricultural use only, CVP contractors generally are not able to transfer water to municipal and industrial use. Fourth, transferors of project water may not earn a profit on the transaction. They may charge a reasonable service fee, however, to recoup all costs associated with the transfer. The service fee is negotiated by the parties and is not subject to close scrutiny by the Bureau. Fifth, where a transferor and transferee pay different water rates, the transferee is charged the higher of the two rates.\(^\text{50}\)

In December 1988, the Department of the Interior issued its

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\(^{48}\) Id. at 27.

\(^{49}\) Id. at 23.

\(^{50}\) B. Gray, supra note 36, at 23-24.
first policy statement of water transfer principles for water supplied by federal reclamation projects. This policy resulted in part from a report of the Water Efficiency Working Group—a joint endeavor of the Western Governors' Association, the Western States Water Council, and the Department of the Interior—which observed that federal reclamation law did not adequately address the subject of water transfers and threatened "to interfere with the implementation of state water transfer policy." In March 1989, the Bureau promulgated a "Criteria and Guidance" document (Criteria Document) designed "to assist in the implementation" of the Department's water transfer principles. These formal policy statements express federal support for water transfers and describe the general criteria applicable to the transfer of water supplied by federal reclamation projects. Four aspects of the new policy are pertinent to the analysis here.

First, the new policy recognizes that "[p]rimacy in water allocation and management rests principally with the States." According to the Criteria Document, the Bureau will attempt to reconcile any conflicts with state laws or water rights with the appropriate state agency. "State laws generally provide procedures for transferring water rights, and should be the primary mechanism for protecting the sellers/lessors of water, as well as third parties."

Second, the policy authorizes the transfer of water supplies developed by federal projects from irrigation to municipal and industrial uses and other purposes. The Bureau has stated that a "change from irrigation to municipal and industrial purpose would require a change in the repayment of costs to include interest during construction and interest in investment . . . [for] the


52. B. DRIVER, WESTERN GOVERNORS' ASS'N WATER EFFICIENCY GROUP, WATER EFFICIENCY: OPPORTUNITIES FOR ACTION, A REPORT TO THE WESTERN GOVERNORS' ASS'N 8 (1987) [hereinafter WATER EFFICIENCY].

53. BUREAU OF RECLAMATION, VOLUNTARY WATER TRANSACTIONS: CRITERIA AND GUIDANCE 1 (1989) [hereinafter CRITERIA DOCUMENT].

54. WATER TRANSFER PRINCIPLES, supra note 51, at 2.

55. CRITERIA DOCUMENT, supra note 53, at 1.
remaining years in the payout period” for the project.56

Third, the policy allows transferors of project water to earn a profit on the transaction. According to the Bureau,

[t]o the maximum extent possible, financial or economic disincentives to the transfer or exchange are to be avoided. . . . The disincentives to be avoided can be characterized as charging a percentage of any “profit” that might be envisioned as the difference between appropriate costs, and the market value of the water.57

Although the Criteria Document states that “[r]epayment subsidies associated with the original type of use of the water are not transferable to a different type of use,”58 this means only that the Bureau will charge the transferee higher rates than paid by the transferor if required to do so by the Reclamation Reform Act or because the transfer is from an irrigation to municipal and industrial (M&I) use. “A distinction must be made between the financial terms between the entities proposing the exchange and Federal repayment considerations associated with the transfer. Financial terms between the non-Federal entities are extraneous to the repayment considerations discussed herein.”59 Indeed, the Criteria Document states categorically that “[t]he financial terms negotiated between entities do not concern [the Department of the Interior].”60

Fourth, the policy defines the federal interests that the Bureau will seek to protect in evaluating proposed transfers of project water. The Bureau “will become involved in facilitating a proposed voluntary water transaction only when [the transfer] can be accomplished without diminution of service” to existing federal contractors and when “there are no adverse third-party consequences, or when third-party consequences will be heard or adjudicated in appropriate State forums, or when such consequences will be mitigated to the satisfaction of the affected parties.”61 Following the transfer, the United States must remain in an “acceptable financial, operational, and contractual position.”62

56. Id. at 6.
57. Id. at 7.
58. Id. at 6.
59. Id.
60. CRITERIA DOCUMENT, supra note 53, at 6.
61. WATER TRANSFER PRINCIPLES, supra note 51, at 2.
62. Id. at 3.
Thus, the Bureau may not approve a transfer that would reduce "the present worth of the outstanding obligations remaining to be repaid to the Federal Government." 63

In May 1990, the Bureau's Mid-Pacific Regional Office promulgated a draft "Policy Option Paper" to apply these water transfer principles to the CVP. 64 Although this draft has not been adopted, it does provide some indication of how the Mid-Pacific Region may reform its informal policies to facilitate the long-term transfer of CVP water. 65

The draft begins with the statement that the "current transfer policies of the Mid-Pacific Region are generally in conformance with the Secretary's Voluntary Water Transaction Policy Directive, with two exceptions." 66 These exceptions are the prohibition against profits and the limitation of the term of transfers to one year or less. 67 The draft CVP policy proposes to abolish both of these restrictions. Although the draft itself "applies only to one year water transfers," the Region observes that "[w]ater transfers for periods of greater than one year will be reviewed using the same criteria, but will be made by contract amendment." 68 The draft also declares that "[b]oth the Secretary's policy and new California water law envision the permanent transfer of water from one user and from one function to another and that money, in an amount sufficient to generate the transfer, would be exchanged in the transfer process." 69

The criteria set forth in the draft CVP policy, though incomplete, generally conform to the policies outlined in the Criteria Document. More importantly, the draft also incorporates several elements of California's water transfer laws. The criteria that would appear to be applicable to long-term transfers of CVP water include:

64. Bureau of Reclamation, Mid-Pacific Region, CVP Water Transfer Policy Option Paper (May 1990 draft) [hereinafter CVP Transfer Policy].
65. According to the Mid-Pacific Region, this draft was intended for discussion purposes and does not, as written, necessarily represent a proposed transfer policy. Interview with Robert Stackhouse, Chief of the Repayments Branch, Mid-Pacific Regional Office, Bureau of Reclamation (June 21, 1990).
66. CVP Transfer Policy, supra note 64, at 1.
67. Id.
68. Id.
69. Id.
(1) The requirement that long-term transfers be accomplished pursuant to amendment of the parties' CVP contracts to adjust their respective entitlements and payment obligations.
(2) The condition that the transferee pay the United States "the highest prevailing rate in the contracts of the participating entities, but not less than the [operation and maintenance] costs applicable to the water."
(3) A prohibition on transfers that would "adversely impact project water supplies, other contractors or project operations (i.e. no "paper water" transfers). Only the quantity of water which the transferor could beneficially use, and decides not to use . . . may be transferred."
(4) The requirement that transfers be of water that is conserved by the transferor by fallowing land, deployment of water conservation measures, use of alternative supplies, or changes in cropping patterns.
(5) The statement that the quantity transferred "may be reduced to account for different uses and return flow quantities and patterns."

These principles, though helpful, are but a first cut at the many questions surrounding the transfer of CVP water. As discussed in the next Section, the Bureau should adopt a permanent water transfer policy clarifying that the recipients of project water possess transferable interests, recognizing the primacy of state law, and articulating the criteria by which the Bureau will evaluate transfer proposals.

70. Id. at 1-2. On February 12, 1991, the Mid-Pacific Region issued water transfer guidelines that apply "in the event that the 1991 water year continues the current draught conditions." BUREAU OF RECLAMATION MID-PACIFIC REGION, 1991 CENTRAL VALLEY PROJECT WATER TRANSFER GUIDELINES 1 (1991) (FINAL DRAFT). Although these guidelines generally are consistent with the 1990 transfer policy statement, they contain three additional elements that may be germane to the Bureau's long-term transfer policies. First, the 1991 guidelines define "transferable water" as water that the transferor has used "(during the 5 to 7 years prior to 1988) for beneficial Purposes" and that in the absence of the transfer agreement would have been beneficially used by the transferor and therefore would not be available to the transferee, the CVP, or any other user. Id. Second, the guidelines authorize the transfer of water "made available from idling lands or crop 'set aside' acreage," but prohibit the transferor from irrigating such lands with a substitute water supply. Id. Third, the guidelines expressly authorize the transferor to retain as profit all payments from the transferee in excess of the transferee's cost of service water rate. The Bureau also acknowledged that such profits are "incentives to generate the transfer." Id. at 2.
III. AN EVALUATION OF THE POTENTIAL BARRIERS TO THE TRANSFER OF CENTRAL VALLEY PROJECT WATER

Neither the congressional and judicial directives to incorporate California water transfer law nor the policy statements issued by the Department of the Interior and Bureau of Reclamation have dispelled the notion that significant impediments remain to the transfer of water supplied by the CVP. A recurring issue is the applicability of California law. Following the Supreme Court’s opinion in California v. United States, ⁷¹ and the Ninth Circuit’s decisions in the Alpine cases, ⁷² we believe that state law governs all of the questions analyzed below in which the state versus federal law issue is raised. Largely as a consequence of this incorporation of California law, we also conclude that there are no substantial barriers to the transfer of CVP water. In recent years, however, various parties—ranging from individual farmers to irrigation districts to the Bureau of Reclamation itself—have raised a series of questions that challenge these conclusions. The most important of these questions are set out below, along with analysis of the legal issues and recommendations to the Bureau of Reclamation for ways to clarify its transfer policies to resolve concerns that there remain substantial impediments to transfers of project water.

A. Questions and Analyses

1. Do CVP Contractors and Individual Farmers Possess Interests In Project Water that May Be Transferred to Other Users?

The Department of the Interior’s 1988 Water Transfer Principles, the Bureau’s 1989 Criteria Document, and the Mid-Pacific Region’s past practices establish that CVP contractors, as well as individual farmers, hold interests in project water that may be transferred to other uses. Moreover, both federal and California law authorize contractors and users of project water to engage in water transfers.

The Water Transfer Principles cryptically provide that “[t]he fact that the transaction may involve the use of water sup-

⁷². Alpine I 697 F.2d 851 (9th Cir. 1983); United States v. Alpine Land & Reservoir Co., 878 F.2d 1217 (9th Cir. 1989) (Alpine II).
plies developed by Federal water resources projects shall not be considered during the evaluation of a proposed transaction.\textsuperscript{73} In the Criteria Document, the Bureau explains that

\[\text{if the Federal government is not made worse off financially by the transaction, if the proposed transaction has been approved by the State and local authorities, and if the proposed transaction complies with Federal and State law; then it may be in the public interest to allow federally developed water to be employed.}\textsuperscript{74}

The Water Transfer Principles also state that the Department of the Interior will become involved in facilitating transfers \textit{inter alia} when there is "an existing Federal contractual or other legal obligation associated with the water supply."\textsuperscript{75} Implicit in each of these directives is the recognition that contractors of water supplied by the CVP may transfer their entitlement to other users.

The Bureau has confirmed this interpretation numerous times over the last fifteen years. During the 1976-1977 drought, for example, CVP contractors transferred about 43,000 acre-feet within the CVP service area.\textsuperscript{76} Several million acre-feet were transferred between CVP contractors during the 1980s.\textsuperscript{77} As noted previously, in 1989 the Bureau approved the transfer of CVP water to a noncontractor as part of the exchange agreement between the Westlands Water District and the Kern County Water Agency.\textsuperscript{78} The Bureau also has given preliminary approval to the first long-term transfer of CVP water as part of the exchange proposed by the Arvin-Edison Water Storage District and the Metropolitan Water District.\textsuperscript{79}

The Bureau's practice of allowing contractors and users of CVP water to transfer their entitlements is consistent with both federal and state law. In \textit{Nevada v. United States},\textsuperscript{80} a case involving the Newlands Project in Nevada, the Supreme Court held that the United States could not reallocate project water from ir-

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\footnotesize{73. \textit{Water Transfer Principles}, \textit{supra} note 51, at 3.}
\footnotesize{74. \textit{Criteria Document}, \textit{supra} note 53, at 5.}
\footnotesize{75. \textit{Water Transfer Principles}, \textit{supra} note 51, at 2.}
\footnotesize{76. \textit{See R. Wahl}, \textit{supra} note 1, at 136-39.}
\footnotesize{77. \textit{See supra} note 47 and accompanying text.}
\footnotesize{78. \textit{See supra} note 39 and accompanying text.}
\footnotesize{79. \textit{See supra} note 40 and accompanying text. For other examples of transfers of water supplied by federal reclamation projects, see \textit{R. Wahl}, \textit{supra} note 1, at 133-43.}
\footnotesize{80. 463 U.S. 110 (1983).}
\end{flushleft}
rigration users to the Pyramid Lake Paiute Tribe because the farmers, rather than the Bureau, hold the transferable interest in the water. Once the farmers acquired lands within the project and signed contracts for the supply of project water, the Court reasoned, "the Government's 'ownership' of the water rights was at most nominal; the beneficial interest in the rights confirmed to the Government resided in the owners of the land within the Project to which these water rights became appurtenant upon the application of Project water to the land."  

The contracts used in the Newlands Project differ from the CVP contracts in that the former grant the water users "a permanent water right" for the irrigation of land within the district. Thus, it may be argued that Nevada is inapposite to the question of the transferability of CVP water. The Supreme Court did not base the Nevada decision solely on the Newlands Project contracts, however. Rather, the Court relied heavily on the directives from California v. United States and earlier cases to apply state law to all questions regarding the use and distribution of project water not explicitly governed by federal reclamation law. Because Nevada law vested beneficial ownership in the water user, rather than in the water purveyor, the Court held that the United States could not reallocate project water over the objections of the members of the district. 

In subsequent litigation involving the Newlands Project, the Ninth Circuit applied the Supreme Court's Nevada holding to transfers of project water by individual recipients. The central issue in United States v. Alpine Land & Reservoir Co. (Alpine II) was whether Nevada's statutory forfeiture law governed the State Engineer's evaluation of proposed transfers from existing users to previously unirrigated lands within the Truckee-Carson Irrigation District. The district court had found that it would be inequitable to apply Nevada law because it was not until the Ninth Cir-

81. Id. at 126.
82. See id. at 126 n.9.
84. Nevada v. United States, 463 U.S. at 121-26 (quoting Ickes v. Fox, 300 U.S. 82, 94-96 (1937) and quoting Nebraska v. Wyoming, 325 U.S. 589, 613-14 (1945)).
85. Id. at 126.
86. Alpine II, 878 F.2d 1217 (9th Cir. 1989).
cuit's 1983 *Alpine I* decision that "it was definitively determined that transfers of places of use of water and the procedures to be followed were governed by the Nevada water law." The court of appeals rejected this conclusion, holding that "it was the 1902 Act that established that Nevada state law was governing, not this court's approval of the *Alpine* decree in 1983."

Thus, federal law directs that the question of the transferability of CVP water be answered according to California law. As discussed previously, California's water transfer statutes grant both contractors and their member water users the right to transfer reclaimed, conserved, and surplus water. In view of this state authorization, as well as the Bureau's own policies, we conclude unequivocally that CVP contractors and individual farmers within the drainage study area hold transferable interests in their respective entitlements to project water.

2. *Would Reclamation or Conservation and Transfer of CVP Water Within or From the Drainage Study Area Qualify as a Beneficial Use Under Section 8 of the Reclamation Act?*

California law declares that reclamation and conservation are beneficial uses of water and expressly authorizes the transfer of reclaimed, conserved, and surplus water to other users. It also provides that the offer of water for transfer may not be used as evidence of waste or unreasonable use. There are no similar assurances available under federal law. Thus, some observers have argued that if a user of CVP water within the drainage study area chooses to reclaim drainage water or to reduce its demand by conserving, and offers to transfer the "surplus" water made available by the reclamation or conservation efforts, it could risk forfeiture. Potential transferors could be deterred from offering water for sale out of fear that the Bureau or other CVP users would claim that the proffered water was not being put to a beneficial use and therefore should be returned to the pool of project water available for redistribution to other contractors.

87. See supra text accompanying note 16.
88. *Alpine II*, 878 F.2d at 1222 (quoting the district court opinion, 503 F. Supp. 877, 884 (D. Nev. 1980)).
89. *Id.* at 1223.
90. See supra text accompanying notes 18-36 (Section II(B)(1)).
91. *Id.*
According to California's beneficial use laws, there is no legal basis for such a claim. Thus, if state law is applicable, it should dispel any concern that the reclamation, conservation, and transfer of CVP water could result in a reduction in the transferor's entitlement. Although section 8 of the Reclamation Act generally defers to state law, it also directs that "beneficial use shall be the basis, the measure, and the limit of the right" to use water supplied by federal reclamation projects. As a specific congressional directive, this requirement could displace California's definition of beneficial use. If it does, the risk that transfers of reclaimed or conserved project water could violate the federal beneficial use requirement would stand as a significant deterrent to the transfer of CVP water from the drainage study area. According to the Court of Appeals for the Ninth Circuit, however, the question whether transfers are a beneficial use of water under section 8 is guided by California law.

In Alpine I, the Ninth Circuit held that while the requirement of beneficial use is a federal standard, the content of that standard is defined by state law. The court stated that "[w]hile there were provisions of federal law which were intended to displace state law, such as the 160 acre limit [of section 5 of the Reclamation Act], . . . beneficial use itself was intended to be governed by state law." Although the court looked to what it termed the "general law" of beneficial use of the western states, it observed that if the state in which the project is located "applies a special rule of law on a relevant point," the individual state's law of beneficial use should govern. As discussed above, the Ninth Circuit confirmed this last point in its opinion in Alpine II, in which it held that forfeiture laws of Nevada were applicable to transfers of water supplied by the Newlands Project. According to the court, Alpine I "nécessairement contemplated that state law would control both the process and the substance of a proposed transfer of water rights."

We therefore recommend that pursuant to this directive, the Bureau announce that contractors and individual recipients of

93. See United States v. California, 694 F.2d 1171, 1176 (9th Cir. 1982).
95. Id.
CVP water may reclaim drainage water and reduce consumption by voluntary conservation and transfer the surplus supplies generated by these efforts. The Mid-Pacific Region has taken a step in this direction by stating that it will approve transfers where the contractor "has actually reduced the use of water by fallowing land, water conservation, using an alternative water supply . . . or changing the cropping pattern." The Bureau should adopt this as a permanent policy, expand it to include reclaimed water, and declare that the reclamation, conservation, and transfer of water comply with the beneficial use standards of both section 8 of the Reclamation Act and California law.

3. Does the Appurtenancy Requirement of Section 8 of the Reclamation Act Constrain the Transfer of CVP Water?

Section 8 of the Reclamation Act also provides that "the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated." The term "appurtenant" is not defined in the Act. Remnants of appurtenancy are found in the laws of many western states, but its meaning is not uniform. Typically, the appurtenancy requirement means that the right to use water for irrigation purposes may be acquired and held only by one who also holds title to the land on which the water will be used. This definition of appurtenancy would pose no problems for the transfer of CVP water, because it would simply mean that a transferee who uses the water for irrigation also must own some interest in the land to which the water would be delivered. Appurtenancy can also mean, however, that water may not be severed from land without loss of the right to use the water. If the appurtenancy provision of section 8 carries this second meaning, it would constitute a significant impediment to voluntary transfers of project water away from any parcel of land initially irrigated by federal reclamation facilities. Indeed, the uncertainty created by the alternative interpretations of the appurtenancy requirement itself can have deterrent effects by posing a risk of legal challenge to potential transfers of project water.

Because the meaning of appurtenancy is ambiguous, a court

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87. CVP Transfer Policy, supra note 64, at 1-2.
89. See Water Efficiency, supra note 52, at 19.
may look to the legislative history of the Reclamation Act for guidance. When it does, it will find no analysis of the term in the Committee reports and little discussion in the House and Senate debates. The sole explanation of the appurtenancy requirement appears in a statement by Representative Mondell of Wyoming, who carried the bill from the Committee on Irrigation and Arid Lands and who was a leading sponsor of the legislation in the House.

Representative Mondell began the House floor consideration of the measure with a lengthy opening statement which includes the following passage:

The water having been beneficially applied and payments having been made under the provisions of the bill, the water right would become appurtenant to the land and inalienable therefrom. . . . The settler or landowner who complies with all the conditions of the act secures a perpetual right to the use of a sufficient amount of water to irrigate his land, but this right lapses if he fails to put the water to beneficial use and only extends to the use of the water on and for the tract originally irrigated. These most important provisions of the law prevent all the evils which come from recognizing a property right in water with power to sell and dispose of the same elsewhere and for other purposes than originally intended. This is an advance over the water usage of most of the States, and it is not denied that making water rights appurtenant to the tract irrigated will in some cases work hardship, but it is believed that it is much better to risk the individual hardships which will inevitably occur under a provision of appurtenance than to risk the evils certain to result from unlimited authority to transfer water rights.100

Although the Supreme Court has stated that the views of individual legislators, even sponsors, do not control the interpretation of a federal statute,101 Representative Mondell's intent to deny landowners the right to transfer their entitlements to project water is relevant to the question of the meaning of the appurtenancy clause, even if it is not determinative. Moreover, the legislative history of the Act reveals no other direct statements on appurtenancy.102 Consequently, a court likely would give Repre-

100. 35 Cong. Rec. 6679 (1902).
102. R. Roos-Collins, supra note 12, at 853-54.
sentative Mondell's views considerable weight. If his interpretation of the appurtenancy requirement stands, transfers of CVP water away from the land to which it originally was appurtenant would be unlawful.

For several reasons, the modern construction of section 8 should not be based on Representative Mondell's understanding. First, the meaning of the appurtenancy requirement was unclear in 1902 and remains ambiguous today. The Supreme Court has held that if a statute is silent or ambiguous with respect to a specific issue, the courts must give substantial deference to the interpretation of the statute by the agency charged with its administration. The agency's interpretation must be upheld unless it is "arbitrary, capricious, or manifestly contrary to the statute. . . . [A] court may not substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency." As discussed above, both the Department of the Interior and the Bureau have rejected the appurtenancy requirement as a limitation on transfers by expressly authorizing the transfer of project water from existing irrigation users to other uses, including municipal and industrial supply.

Second, the Regional Solicitor of the Department of the Interior has stated that the appurtenancy requirement is not a restriction on the place-of-use of project water at all. Rather, it was a congressional directive that the early federal reclamation contracts, such as those used in the Newlands Project, be granted only to owners of the land that would be irrigated with project water. As explained in *Nevada v. United States*, these early contracts conveyed to the recipients of project water a water right which the users would perfect according to state law. The law of most of the western states required "for the perfection of a water right for agricultural purposes that the water must be beneficially used by actual application on the land. . . . Such a right is appurtenant to the land on which it is used." In view of this history, the purpose of the appurtenancy requirement may well

104. *See supra* text accompanying notes 73-81.
105. Interview with James Turner, Regional Solicitor of the Interior (June 21, 1990) [hereinafter Turner Interview].
107. *Id.* at 126.
have been simply to ensure that the original allocation of project water was to landowners, rather than speculators, who would use the water to irrigate their land and thereby acquire a vested water right in accordance with state law.

Third, as one federal court has ruled, the appurtenancy requirement should be interpreted in harmony with state law.\textsuperscript{108} Just as the beneficial use limitation of section 8 takes its content from California law, so too should the definition of appurtenancy. Under this interpretation, California's express authorization of long-term transfers from irrigation to other uses not associated with "appurtenant land" would take precedence over more restrictive alternative constructions of appurtenancy. This incorporation of state law also is consistent with both \textit{California v. United States} and the \textit{Alpine I} and \textit{Alpine II} decisions. Because of the ambiguity and confusion surrounding the meaning of appurtenancy, it should not qualify as an "explicit congressional directive" that would preempt or frustrate California's water transfer laws. Rather, as the Ninth Circuit concluded in \textit{Alpine II}, state law should control both the process and the substance of transfers of project water.

Together, these arguments make a strong case that the appurtenancy provision of section 8 is not a significant impediment to voluntary transfers. They do not totally erase the stark language used by Representative Mondell to explain what the provision means, however. While it would be helpful for Congress to clarify whether appurtenancy plays any role in transfers in 1990 and beyond, it is not likely to do so in the foreseeable future. Under these circumstances, approval of a proposed transfer by the Bureau should provide a sufficient legal basis for the transfer to withstand a claim that it violates the appurtenancy requirement of section 8. Because the lingering uncertainty about the meaning of appurtenancy may deter some transfers, however, we also recommend that the Solicitor of the Interior issue an opinion stating that the appurtenancy requirement is not a limitation on the transfer of project water to nonirrigation uses.

4. Are There Significant Restrictions on the Purpose-of-Use of CVP Water in Federal Law, the CVP Permits, or the CVP Contracts That Would Limit the Transfer of Project Water?

There are no limitations in general federal reclamation law on the types of uses to which project water may be placed that would prevent its transfer from irrigation to other uses. Moreover, both the CVP enabling legislation and the state water right permits for the project specifically authorize the Bureau to supply water to a variety of nonirrigation uses. Although the CVP agricultural contracts typically limit the contractor's use to irrigation, the Bureau has broad discretion to amend the contracts to permit the contractor to transfer project water to other uses.

a. Federal Law

Contractors in the drainage study area are served primarily by the Delta-Mendota and San Luis Canals. A few contractors receive water from the Friant-Kern Canal. These facilities are authorized under a variety of statutes that address the types of uses to which water supplied by them may be put.

Although construction of the CVP was authorized initially in laws enacted in 1935 and 1936, the first general statement of project purposes was contained in the Act of August 26, 1937.109 This Act authorized construction of the Delta-Mendota and Friant-Kern Canals, among other facilities. Section 2 of the Act states:

[T]he entire Central Valley project ... is hereby reauthorized and declared to be for the purposes of improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for storage and for the delivery of the stored waters thereof, ... for the reclamation of arid and semiarid lands and lands of Indian reservations, and other beneficial uses ... And provided further, That the said dam and reservoirs shall be used, first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses; and, third, for power.110

The inclusion of water supply for "other beneficial uses" as an authorized project purpose makes clear that CVP water deliv-

110. Id. § 2, 50 Stat. at 850.
erred through the Delta-Mendota and Friant-Kern Canals may be used for any beneficial use, including domestic, municipal and industrial, and fish and wildlife purposes. The statement of priority of uses contained in the Act, which does not mention "other beneficial uses," does not alter that fact, although it has had the effect of placing these uses in the fourth priority.

Any doubt as to the availability of water provided by the CVP for use for fish and wildlife purposes was dispelled by the Act of August 27, 1954, which specifically authorized the use of waters provided by the project "for fish and wildlife purposes, subject to such priorities as are applicable under [the earlier CVP legislation]."\(^\text{111}\) The Senate report on the bill explained that the legislation was "intended to preserve the ducks and geese in the Pacific flyway and to assist in the prevention of depredation of crops on agricultural land."\(^\text{118}\) Moreover, a 1954 opinion by the Solicitor of the Interior indicated that fish and wildlife had been an authorized purpose since 1937 and that the express reference in the 1954 Act was simply a "more definitive specification."\(^\text{113}\)

The 1954 legislation contains two different types of authority for devoting at least limited amounts of project water to waterfowl management. Section 2 authorizes the Bureau to deliver CVP water to state and federal waterfowl management areas and refuges (and to construct and operate water supply works for such delivery) in accordance with a plan entitled "Waterfowl Conservation in the Lower San Joaquin Valley," dated October 1950.\(^\text{114}\) Congress appropriated $400,000 for this purpose and declared that such costs would be nonreimbursable. Section 6 of the Act provides for "delivery of water to public organizations or agencies for use within the boundaries of such organization or agencies for waterfowl purposes in the grasslands area of the San Joaquin Valley."\(^\text{115}\) The grasslands area is a natural wetlands area of approximately 100,000 acres along the San Joaquin River, comprising private lands, several water districts, and state and federal wild-


\(^{113}\) Allocations for Fish and Wildlife Conservation on Central Valley Project, Opinion by Acting Solicitor Armstrong (Dep't of the Interior, Nov. 15, 1954).


\(^{115}\) Id. § 6, 68 Stat. at 879-80 (codified at 16 U.S.C. § 695i).
life refuges.\footnote{116}  

Although this legislation expressly authorizes the delivery of CVP water for fish, wildlife, and waterfowl habitat, as interpreted by a 1985 Solicitor's opinion it may strictly limit the Bureau's ability to supply water for these purposes on a nonreimbursable basis. In May 1985, the Regional Director of the U.S. Fish and Wildlife Service and the Director of the California Department of Fish and Game asked the Bureau to provide approximately 200,000 acre-feet of CVP water, free of charge, to the Kesterson National Wildlife Refuge to replace the contaminated drainage water that historically supplied the refuge. This request raised the question whether the Bureau has authority to provide supplies of fresh project water to the refuge or to other grasslands areas in the San Joaquin Valley for waterfowl habitat or for fish and wildlife purposes in addition to the quantities set forth in the 1954 legislation.

In November 1985, the Solicitor of the Interior issued an opinion on the subject, concluding that the 1954 Act limits the supply of CVP water, on a nonreimbursable basis, to fish and wildlife refuges to 47,000 acre-feet per year (a/af) and that deliveries of nonreimbursable water to the Grassland Water District are restricted to 50,000 a/af.\footnote{117} According to the opinion, the Secretary has only limited discretion to provide additional project water.

Sections 2 through 6 of the 1954 CVP Act were intended by Congress to provide the extent of the Secretary's authority to deliver CVP water for fish and wildlife \textit{mitigation} measures in the Grasslands area of the Central Valley.

Delivery of CVP water in amounts greater than that contemplated in 1954 must be done pursuant to contract for \textit{enhancement} purposes under the Fish and Wildlife Coordination Act or for irrigation, miscellaneous or municipal and industrial purposes under Section 9(c) of the 1939 Reclamation Projects Act. The Secretary


\footnote{117} Opinion of Principal Deputy Solicitor Horn 23 (Dep't of the Interior, Nov. 18, 1985).
could contract for the sale of the full amount of CVP water requested under this additional authority.\textsuperscript{118}

Thus, while the opinion confirms the Bureau's authority to increase the allocation of water to wetlands habitat, it draws a clear distinction between water used for mitigation of harm to fish and wildlife caused by the project and water used for fish and wildlife enhancement. Water delivered for the latter purpose under the 1939 Act would be reimbursable to the project. In the case of transfers of CVP water to wetlands, waterfowl habitat, and wildlife refuges, the recipients of the water—such as the U.S. Fish and Wildlife Service, the California Department of Fish and Game, or the Grassland Water District—would have to pay the Bureau for such water at rates that cover capital and operation and maintenance (O&M) costs, as well as interest on capital "if the Secretary determines an interest charge to be proper."\textsuperscript{119}

Finally, the San Luis Canal was authorized by the Act of June 3, 1960,

\begin{quote}
[f]or the principal purpose of furnishing water for the irrigation of approximately five hundred thousand acres of land in Merced, Fresno, and Kings Counties, California, hereinafter referred to as the Federal San Luis unit service area, and as incidents thereto of furnishing water for municipal and domestic use and providing recreation and fish and wildlife benefits . . . .\textsuperscript{120}
\end{quote}

Water delivered through the Canal therefore may be used for a broad range of irrigation as well as nonirrigation purposes, although when used for nonirrigation purposes it must be used as an "incident" to irrigation use.

These sections of the CVP enabling legislation are consistent with other provisions of the general federal reclamation laws that expressly authorize the delivery of project water to nonirrigation uses. The Act of 1920, entitled "Sale of Water for Miscellaneous Purposes,"\textsuperscript{121} permits the Secretary of the Interior to "contract to supply water from any project irrigation system for other purposes than irrigation" provided that: (1) the applicable water

\begin{itemize}
\item \textsuperscript{118} *Id.* (emphasis added).
\item \textsuperscript{119} 43 U.S.C. § 485b(c) (1988).
\item \textsuperscript{121} Act For the Sale of Water for Miscellaneous Purposes of 1920, ch. 86, 41 Stat. 451 (codified as amended at 43 U.S.C. § 521 (1988)).
\end{itemize}
user's association agrees; (2) there is no other practicable source of water supply for the other purpose; and (3) the delivery of such water for the other purpose is not "detrimental to the water service for [the] irrigation project or to the rights of any prior appropriator . . . ."122

The Reclamation Project Act of 1939123 also authorizes the Secretary to enter into contracts to supply water for municipal or miscellaneous purposes, provided that such contracts "will not impair the efficiency of the project for irrigation purposes."124 The proviso contained in the last clause should not constrain the transfer of CVP water within or from the drainage study area. Neither the transfer of reclaimed or conserved water nor the retirement of agricultural land would place any increased demands on the system. Moreover, the Bureau has broad discretion to determine that the delivery of project water to nonagricultural uses would not impair the capabilities of the project to supply irrigation needs.125

b. CVP Permits

The permits for the CVP issued by the State Water Resources Control Board also allow project water to be used for a variety of purposes, including irrigation, municipal and industrial, domestic, and recreational uses.126 The Board modified these permits in 1978 to require the CVP to contribute to the maintenance of water quality and flows in the Delta.127 Although the permits do not expressly authorize the use of project water for the supply of wetlands and wildlife refuges, the Bureau has been delivering

124. 43 U.S.C. § 485b(c).
125. Environmental Defense Fund v. Andrus, 596 F.2d 848, 850 (9th Cir. 1979)("[T]he district court fully set forth the scope of the Secretary of the Interior's authority and the standard for review of the Secretary's decision. The district court properly concluded that the administrative record provides sufficient explanation and justification for the Secretary's [determination that industrial water sales would not impair the efficiency of water projects for irrigation] and there was no error in the administrative determination").
water for these purposes for many years. Even if the CVP permits do not cover these uses under the term "recreation," the Bureau has authority under the project enabling legislation discussed above to supply project water to waterfowl management areas and for fish and wildlife habitat.

c. General Contracts

Many of the older CVP contracts restrict the use of water to irrigation. The others either contain no restrictions or permit the use of water for domestic or municipal use in addition to irrigation. Those that do contain restrictions will require amendment to enable the transfer of water from the authorized use or uses to another use. Since project authorizing legislation is broad enough to allow changes from irrigation to other uses, the Bureau has discretion to amend these contracts.

d. Recommendation

Although we conclude that there are no significant purpose-of-use limitations that would impede the transfer of CVP water, we are concerned that the Mid-Pacific Region's policy does not adequately reflect this view. The 1990 draft CVP water transfer policy option paper concludes with the following statement:

The Solicitor has informally opined that the transferred water can only be used for the purposes included in the originating contractor's contract (i.e. no transfer of irrigation water for M&I purposes and vice versa). The transferred water must be administered under the provisions of the originating contract as was the case for the Westlands/Kern County Water Agency exchange. If water is going from M&I to irrigation, there would not be a provision to administer the excess land requirements of Reclamation law. 128

This restriction on the types of permissible transfers makes sense in the context of the short-term, informal transfers discussed previously, in which the Bureau's goal is to approve individual transactions without having to amend the contracts of the districts involved in the transfer. It would not represent sound policy, however, for the Mid-Pacific Region to extend this limitation to long-term transfers of project water. The draft policy states that

128. CVP Transfer Policy, supra note 64, at 2.
such transfers "will be made by contract amendment." In such cases, there would be no need to bind the transferee to the types of uses authorized by the transferor's contract, because acreage restrictions, new pricing provisions, and other appropriate terms could simply be included in the new or amended contract between the Bureau and the transferee. Accordingly, we recommend that the Mid-Pacific Region clarify that long-term transferees of CVP water may use the water for whatever purposes are provided in their contracts and are not limited by the type of use terms set forth in the transferor's contract.

5. Are There Significant Restrictions on the Place-of-Use of CVP Water in Federal Law, the CVP Permits, or the CVP Contracts That Would Limit the Transfer of Project Water?

There are no insuperable limitations on the place-of-use of CVP water in federal law, in the CVP permits, or in the contracts for the project that would prevent the transfer of project water to a wide market. Neither the CVP enabling legislation nor general reclamation law expressly restricts the use of project water to the Central Valley. Although the permits and contracts for the project do contain restrictions on the place-of-use, they could be amended to allow for broader distribution of CVP water.

a. Federal Law

As noted above, contractors within the drainage study area receive water from CVP facilities that were constructed pursuant to a number of statutes. The Act of August 26, 1937, which authorized the Delta-Mendota and Friant-Kern Canals, describes a range of purposes for these facilities, but it does not specify a place-of-use for the water provided. The San Luis Unit Authorization Act states that the unit is "[f]or the principal purpose of furnishing water for the irrigation of approximately five hundred thousand acres of land in Merced, Fresno, and Kings Counties, California." It also provides, however, that the San Luis facilities also were constructed to provide future service to "lands and

129. Id. at 1.
municipalities in Santa Clara, San Benito, Santa Cruz, and Monterey counties."\(^{133}\)

The Act of October 23, 1962, which authorized construction of New Melones Dam, establishes a priority for uses within the Stanislaus River basin, but otherwise contains no place-of-use restrictions.\(^{133}\) Indeed, the only major CVP enabling legislation that suggests that the place-of-use of project water is limited to the Central Valley is the Trinity River Division Authorization Act of 1955, which declares that the Trinity facilities were constructed "for the principal purpose of increasing the supply of water available for irrigation and other beneficial uses in the Central Valley. . .."\(^{134}\)

In the absence of clearer place-of-use limitations in the CVP enabling legislation, we conclude that the Bureau may authorize transfers of project water to users located outside the Central Valley. First, discussed above, when a federal statute is silent or ambiguous on an issue, the Supreme Court has held that the interpretation by the agency charged with the statute's administration is entitled to great deference.\(^{135}\) The Bureau's preliminary decision to approve the transfer of CVP water to Southern California as part of the Arvin-Edison/Metropolitan Water District exchange indicates that it does not read the CVP enabling legislation as confining the use of project water to the Central Valley.\(^{136}\)

Second, the Coordinated Operating Agreement (COA), which

\(^{132}\) Id. at § 6, 74 Stat. at 159-60.


\(^{134}\) Act of Aug. 12, 1955, Pub. L. No. 84-386, § 1, 69 Stat. 719, 719. Nor, with one possible exception, is there anything in general federal reclamation law that addresses the question whether the Secretary of the Interior may allow water provided by the Bureau to be used outside of a congressionally authorized service area. The possible exception is a provision in the Act of February 25, 1920, for the "Sale of Water for Miscellaneous Purposes," which authorizes the Secretary to enter into contracts to supply water "from any project irrigation system for other purposes than irrigation." 43 U.S.C. § 521. If "project irrigation system" means project service area (the term is undefined in the statute), it follows that the Act was intended to authorize transfers of water out of authorized project service areas. Some support for this interpretation of the Act is gained from the fact that in 1920 nearly all nonirrigation demand for water existed outside of project service areas. Thus, Congress must have meant to authorize transfers to uses outside of these areas.

\(^{135}\) See supra text accompanying note 103.

\(^{136}\) See supra note 40 and accompanying text.
was approved by Congress in Public Law 99-546,\footnote{137} authorizes the Bureau to sell CVP water "to the State for use by State Water Project contractors."\footnote{138} The COA also states that, to accomplish such a transfer, the Bureau "may be required to seek amendments to existing water rights permits or additional water rights permits for . . . consolidation and expansion of place of use."\footnote{139} As described below, the existing permits for the CVP allow the Bureau to supply water to the Central Valley and to portions of the Bay Area and Central Coast. Thus, by authorizing the Bureau to expand the place-of-use to allow for broader distribution of project water to SWP contractors, Congress has recognized that CVP water may be transferred to users located outside the Central Valley.

\textit{b. CVP Permits}

The water right permits for the CVP, issued and administered by the State Water Resources Control Board, expressly restrict the place-of-use of project water to the Central Valley and to areas within Contra Costa, Santa Clara, San Benito, and Monterey Counties.\footnote{140} If project water were to be transferred to other areas other than these, the Bureau would have to petition the Board to amend its permits in accordance with the requirements of California law, described above in Section II. The Bureau has filed such a petition as part of the Arvin-Edison/MWD exchange.\footnote{141}

\footnote{138} Agreement Between the United States of America and the State of California for Coordinated Operation of the Central Valley Project and the State Water Project, art. 10(h)(2) (1986).
\footnote{139} Id. art. 10(h)(4).
\footnote{141} See supra note 40.
c. **Contracts**

The CVP contracts provide that "[w]ater furnished to the District pursuant to this contract shall not be sold or otherwise disposed of for use outside the District without the written consent of the contracting officer." Thus, the Bureau has authority to permit transfers of water from contractors within the drainage study area to other users or uses that comply with applicable state and federal law.

d. **Recommendation**

Although we conclude that the Bureau has the statutory authority to allow CVP water to be transferred to users located outside the existing service area of the project, it would nevertheless be appropriate for the Department of the Interior to clarify its position on this issue. In 1979, Solicitor of the Interior Krulitz stated that the Bureau may not deliver project water from the San Luis Unit to users located outside the 500,000 acre service area described in the San Luis enabling legislation. While this opinion was overturned by the Westlands settlement and was withdrawn by Solicitor Tarr in 1986, it may have left a lingering impression that CVP water is confined to the explicitly stated service area of the project. Therefore, we recommend that the Solicitor issue an opinion declaring that there are no statutory place-of-use constraints on the transfer of CVP water.

6. **Do CVP Contractors Have Veto Power Over Transfers of Project Water to Which They Are Not Parties?**

The CVP contracts grant specific quantities of project water to each contractor. According to the Regional Solicitor, this allocation represents the extent of each contractor's entitlement unless the contract is amended to increase the allocation. Thus, CVP contractors have no legal claim on water that another

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142. *See, e.g.*, Contract Between the United States and Broadview Water District Providing for Water Service § 4(b) (Nov. 27, 1959).
144. *See R. WAHL*, *supra* note 1, at 111-14.
tractor offers for transfer.\textsuperscript{146}

7. \textit{What Limitations Are Imposed on Transfers of Project Water by the Reclamation Reform Act of 1982?}

In order to distribute more widely the benefits of the federal subsidies available for irrigation (principally interest-free repayment), the Reclamation Act of 1902 restricted the ownership of land receiving irrigation water from a federal project to 160 acres per natural person.\textsuperscript{147} This provision was administered by the Bureau of Reclamation as permitting multiple 160-acre ownerships by different members of the same family (husband and wife, or children, for example), as well as multiple 160-acre ownerships in different districts. Furthermore, the Bureau allowed some large landowners to maintain control over acreage in excess of the 160-acre limit by transferring the ownership of parcels of land to other parties and then leasing the land back from them, still maintaining the farm as one operation.\textsuperscript{148}

In the Reclamation Reform Act of 1982 (RRA),\textsuperscript{149} Congress modernized the ownership restrictions of Reclamation law in response to economic realities and public criticism of the Bureau's administration of the acreage limitation. The RRA gives landowners within districts a choice: they may either remain under the provisions of prior law, or they may voluntarily amend their contracts to come under the ownership and pricing restrictions of the new law.\textsuperscript{150} The new law expands the ownership limitation from 160 acres per natural person to 960 acres per individual,\textsuperscript{151} and defines "individual" to include all members of the farm family, including dependents.\textsuperscript{152} Also, the 960 acre limit is to be computed by adding up an individual's ownerships "westwide" (across all holdings in reclamation districts), rather than district by district as under prior law.\textsuperscript{153}

\footnotesize
\textsuperscript{146} Turner Interview, supra note 105.
\textsuperscript{150} Id. § 390cc.
\textsuperscript{151} Id. § 390dd.
\textsuperscript{152} Id. at § 390bb.
\textsuperscript{153} Id. § 390bb(6).

\normalsize
Furthermore, growers who take advantage of the expanded ownership entitlement available under the RRA are subject to new repayment requirements. First, growers must pay at least full O&M costs for water they receive, regardless of the size of their landholdings in lieu of the fixed rates in many CVP contracts, which are currently less than O&M costs. Second, any large landholding, consisting of both owned and leased lands, must pay "full cost" for water delivered to any leased land exceeding the 960-acre limit. The idea of the "full cost" charge (which includes full O&M, capital, any O&M deficits, and interest) is to remove any future interest-free repayment subsidy provided to such land. When districts renew their contracts, they automatically come under the provisions of the new law. The RRA also provides that any districts that amend their contracts to receive supplemental or additional benefits before their contract renewal date have no choice; they automatically become subject to the provisions of the new law.

In addition, the RRA authorizes individual growers to elect to come under the expanded ownership entitlement of the new law even if the district as a whole decides not to. "Individual elections" by growers are irrevocable; once a grower elects to come under the new law, he cannot later requalify for the favorable pricing scheme under the old. Individual elections, rather than district amendments, are common in the CVP. Those small-acreage growers who did not desire to expand their ownership limits wanted to continue paying contract rates that were below O&M costs, whereas growers who become individual electors must pay full O&M costs.

As a result of these laws, there are at least two financial disincentives associated with contract amendment: (1) all growers, including those owning less than 160 acres, in districts that amend their contracts must pay full O&M costs, not just those who are individual electors; (2) if a contract is amended to pro-

155. Id. at § 390ee.
156. As Table 1 infra at 958, shows, this would happen for most CVP reclamation districts in the drainage study area between 1994 and 1996. Westlands and a few other districts have nonadjustable contract water rates that continue until 2007 or 2008.
158. Id. § 390cc(c).
vide supplemental or additional benefits, the RRA requires payment of O&M costs as a minimum. This opens the possibility that the Bureau of Reclamation, particularly for contract amendments providing supplemental or additional benefits, might require more current repayment standards, such as paying cost of service (full O&M, plus capital, but excluding interest). In fact, the Bureau's policy is generally to seek cost of service where contract amendments provide supplemental or additional benefits. 159

Bureau of Reclamation regulations hinge the designation "supplemental or additional benefits" on governmental expenditures:

All contract amendments [after October 12, 1982] will be construed as providing supplemental or additional benefits except those amendments which do not require the United States to expend significant funds, to commit to significant additional water supplies, or to substantially modify contract payments due the United States. 160

The regulations go on to specify several types of contract amendments, including minor construction on preexisting contracts and short-term deferrals of payments, that will not be considered supplemental or additional benefits. One specific exception is relevant to water transfers:

The transfer of water on an annual basis from one district to another [will not be considered to provide supplemental or additional benefits], provided that (1) both districts have contracts with the United States, (2) the rate paid by the district receiving the transferred water is the higher of the applicable water rate[s] for either district, and provided further that the rate paid does not result in any increased operating losses to the United States above those which would have existed in the absence of the transfer and the rate paid does not result in any decrease in capital repayment to the United States below that which would have existed in the absence of the transfer, and (3) the recipients of the transferred water pay a rate for the water which is at least equal to the actual O&M costs or the full-cost rate in those cases where, for whatever reason, the recipients would have been subject to such costs had the water not been considered transferred water . . . . 161

159. Cost of service is a Bureau determination, rather than a requirement of either the RRA or the regulations.


161. Id. § 426.5(a)(3)(ii)(F). The reason for these provisions is to assure that a
The regulations also provide that the Secretary can designate other contract amendments as exceptions. In some cases, acquisition of federal project water through an exchange—an exchange of physical quantities of water between two parties by interchanging their respective sources of supply—will not subject the recipient to federal Reclamation law. According to the regulations,

[a]cquisition of irrigation water from federally financed facilities by exchange shall not subject the users of such water to Federal Reclamation law and these regulations if no material benefit results from the exchange to the recipient of water from the federally financed facilities.\(^{163}\)

We examine in more detail the disincentives the RRA has created for water transfers and whether these disincentives are reasonable given the public policies set forth in the act.

\(a\). \textit{Financial disincentives}

The regulations written pursuant to the RRA recognized that many CVP contracts allow water to be transferred with the written permission of the contracting officer. Before the enactment of the RRA, many districts had taken advantage of this provision to transfer water under the Bureau's “no profit” policy in the CVP—that is, they could transfer water at the higher of the contract rates of the buyer and seller, with the higher contract rate going to the Bureau of Reclamation.\(^{163}\) The rules allow transfers of this kind to continue since such transfers do not require contract amendment.\(^{164}\)

According to the Regional Solicitor, three situations would require contract amendments before CVP water could be transferred: (1) when the existing contract did not explicitly permit

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\(^{162}\) \textit{Id.} § 426.18(b)(1)(B)(2).

\(^{163}\) \textit{See supra} note 157 and accompanying text.

\(^{164}\) A related question is whether transfers allowed by current contracts, but at a profit, would carry additional financial charges. Since it does not involve contract amendment and the RRA directly, we address this subject under the discussion of Bureau administrative policy on transfers. \textit{See infra} notes 179-181 and accompanying text.
transfers (with the permission of the contracting officer); (2) when
the proposed transfer is to a use not allowed under the current
contract (for example, from irrigation to municipal and industrial
use if the original contract is for irrigation only); or (3) when a
district, in order to effectuate a long-term transfer, wants to re-
duce its contractual entitlement to water and allow a receiving
district to increase its contractual entitlement (or in the case of a
transferee with no prior contract with the Bureau, to allow the
receiving district to enter into a contract with the Bureau). 165

Section 426.5(a)(3)(ii)(F) of the RRA regulations is designed
to assure that if a contract amendment is required in order to
effect a transfer, the O&M deficit of the project would not be
made worse by the transfer. Under the prior policy this could
happen if the district receiving water under the transfer had a
higher contract rate, but the contract rate was farther below its
O&M cost (or its cost of service) than in the selling district. 166

Tables 1 and 2 show, first, how many districts in the drainage
study area might fall under one of the first two categories where a
contract amendment is needed in order to transfer water. 167 Sec-
ond, the tables give an indication of the magnitude of the disin-
centives if an amendment is required. Tables 1 and 2 list the vari-
ous water districts in the study area that have contracts with the
CVP for delivery of water, along with some data on their water
deliveries and contract rights. There are thirty-five such districts:
eleven in the Northern subarea, fifteen in the Grasslands subarea
(plus four exchange contractors), four in the Westlands subarea,
and one in the Kern subarea. The districts in the fifth study sub-
area (Tulare) receive water from the State Water Project, as do
many of the districts in the Kern subarea. As Table 1-b shows,
the thirty-five CVP districts in the study area received a total of
2.23 million acre-feet of water in 1989 out of a total contractual
entitlement to 2.5 million acre-feet.

165. Turner Interview, supra note 105.
166. The rules did not impose this requirement directly. They merely defined
contract amendments permitting transfers under these new terms as not to be
granting a supplemental or additional benefit. As explained above, contract
amendments granting supplemental or additional benefits impose additional bur-
dens on districts, which most CVP districts have chosen to avoid.
167. The third category, amendment to effectuate a long-term transfer, could
apply to any district.
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(See notes and summary statistics following Table 1-b.)
### Table 1-b. CONTRACT AND RELATED DATA FOR CVP DISTRICTS IN DRAINAGE STUDY AREA

**(Summary Statistics)**

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**Notes on Table 1**

1. Irrigation districts and irrigated acreage in 1987 are compiled principally from Kristi Branch and Gregory Poremba, “Social Aspects of Agriculture and Agriculturally-Based Operations in the Westside of San Joaquin Valley,” prepared under contract to the Federal-State San Joaquin Valley Drainage Program, January 1990, Table 3-1, p. III-13; Table 3-2, p. III-18; Table 3-6, p. II-31; and Table 3-17, pp. III-56 to III-60. ID denotes irrigation district. WD denotes water district, and WSD denotes Water Storage District. CVP service facilities are denoted as DMC (Delta Mendota Canal), SL (San Luis Canal), DMP (Delta Mendota Pool), and FK (Friant-Kern Canal).

2. Water deliveries in 1989, maximum water entitlement under long-term contract, irrigation and municipal and industrial contract water rates (if municipal and industrial water is authorized by contract with the Bureau of Reclamation), and contract expiration dates are from Bureau of Reclamation records, Sacramento, California, principally from a tabulation “Water Service Contracts” updated March 1, 1990. Water delivery data are for the calendar year, rather than the water year (normally March 1 through the end of February). Cost of service and full O&M costs for 1990 are from “1990 Irrigation Water Rates,” Central Valley Project, California, Mid-Pacific Region, Bureau of Reclamation, Sacramento, California. Multiple entries for a single irrigation district reflect either multiple contracts for the same district, multiple delivery points (with different water rates for each), or different classes of water (with different water rates for each). Class II water (see Shafter-Wasco WSD in the Kern subarea) represents lower priority water, which may not be available in all water years.

3. The exchange contractors in the Grasslands subarea (contractors receiving perpetual rights to project water in exchange for prior rights transferred to the Bureau preceding construction of Friant Dam) pay no water charges. These four contractors are signatories to the same contract, which provides for a total of 840,000

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acre-feet in "noncritical years" and 650,000 acre-feet in "critical years."

4. In some cases 1989 deliveries exceed the maximum long-term contractual amounts because the districts arranged to take surplus water on an interim basis (e.g., see Westlands Water District).

5. Only those districts with contract rates for municipal and industrial (M&I) water have M&I use authorized in their contracts. Not all of these contractors are currently taking M&I water.

6. Under the column on voluntary contributions toward O&M costs, "lt" denotes that the 1989 contribution was "less than" 1989 O&M costs, and "nd" denotes "no O&M deficit."

7. "CWR" denotes "contract water rate," and "CS" denotes "cost of service."

8. "na" denotes either "not available" or "not applicable."
### Table 2. RECLAMATION REFORM ACT PROVISIONS APPLICABLE TO CVP DISTRICTS IN DRAINAGE STUDY AREA - 1989

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<th>Paying At Least Full O&amp;M</th>
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<td>1</td>
</tr>
<tr>
<td>Total excl. exch.</td>
<td>405,118</td>
<td>495,954</td>
<td>47</td>
<td>135,370</td>
<td>13</td>
</tr>
</tbody>
</table>

**Notes on Table 2**

Source: Bureau of Reclamation records, Sacramento, California.

Note: The Pacheco WD has amended its contract and therefore has no acreage under prior law.
(1) Permission to transfer water

The thirty-five contracts were not reviewed to see which specifically allow for transfer or assignment of water to other CVP districts with the permission of the contracting officer. Bureau staff have indicated, however, that such a clause is contained in nearly all CVP contracts. Therefore, few, if any, contracts (except possibly the exchange contracts discussed separately below) would need amendments to authorize the transfer of water.

Furthermore, even if a district needed to have this authority added to its contract, there would be no financial penalties for transfers made on an annual basis. Under subsection 426.5(a)(3)(ii)(F) of the regulations, the transferring parties would only have to assure that the financial condition of the United States would not be made worse by the transfer. 168

(2) Addition of M&I use to a contract

Excluding the exchange contractors, eleven of the remaining thirty-one contractors in Table 1 (thirty-seven percent by volume of 1989 deliveries, or twenty-four percent by volume of long-term contract entitlements) currently have contracts that allow for delivery of municipal and industrial water. These include four out of the eleven districts in the Northern subarea, five out of the fifteen in the Grasslands subarea, one of the Westlands contracts, and the CVP contractor in the Kern subarea. 169 Therefore, a substantial number (but by no means all) of the contracts would need to be amended before transferring water to a nonirrigation use.

How significant would the financial costs be for a district considering contract amendment? The regulations contain no explicit exemption from the supplemental or additional benefits designation for this type of transfer. To the contrary, one might argue that such a change would "substantially modify contract payments due the United States," 170 since M&I repayment bears interest charges and irrigation use does not. There is no definitive ruling by either the Regional Solicitor or the Commissioner, how-

168. See supra note 161 and accompanying text.
169. See supra Table 1 at 958.
170. See supra note 160 and accompanying text.
ever, that adding M&I use (or some other type of additional use) to the contract would constitute a supplemental or additional benefit.

If such an amendment were considered a supplemental or additional benefit, then according to the RRA the amended contracts must require payment of at least full O&M costs. As Table 1 shows, one of the contractors, the Pacheco Water District, is paying cost of service (full O&M, plus capital) for all of its water, and another, the Westlands Water District, is paying cost of service for that portion of its water delivered to the Westplains area. In these cases there would be no financial disincentive associated with any amendments needed to transfer water. Moreover, both districts have municipal and industrial uses authorized in their contracts. The other districts (Centinela, Laguna, and Romero) have contract rates that currently exceed O&M costs.

For the other districts, however, there would be financial costs to amendment, as reflected by the difference between their current contract rates and O&M costs. On an acre-foot basis, this difference ranges from $1.43 to $6.12 per acre-foot among all districts and from $1.43 to $5.93 for those districts without M&I water deliveries authorized in their contracts. There are two factors that lessen this impact, at least for some districts. First, substantial acreage in some districts is farmed by growers that have made individual elections to come under the new law, even though the district as a whole has not done so. Second, some districts are already making voluntary payments toward their O&M costs.

(a) Acreage already paying O&M costs

As Table 2 indicates, in 1989 about forty-seven percent of the acreage in the drainage study area to which acreage limitation was applicable had come under provisions of the new law requiring payment of full O&M costs. An additional thirteen percent paid full O&M costs as part of “full cost.” Therefore, in 1989 a total of about sixty percent of the acreage in the study area paid at least full O&M. The percentage of acreage paying full O&M varied by subarea, ranging from twenty-three percent in the Northern subarea to thirty percent in the district in the Kern

171. See supra Table 1 at 958.
subarea, fifty-seven percent in the Grasslands subarea, and sixty-seven percent in the Westlands subarea.

Nevertheless, there is still substantial acreage in districts within the study area that does not pay full O&M. On a district basis, the percentage of acreage paying full O&M in 1989 ranged from zero percent in Centinela and Widren to ninety-seven percent in Eagle Field and one hundred percent in Pacheco (a district which has amended its contract). In most cases, if a district's contract must be amended to transfer water, there would still be a sizable immediate financial requirement placed on the district.

(b) Districts making voluntary payments towards O&M costs

In light of the new repayment requirements of Public Law 99-546\(^{172}\) regarding interest charges on O&M deficits, a number of CVP contractors have begun making voluntary payments towards their O&M costs, their past O&M deficits, or both. Districts are allowed to specify to which category their voluntary payments are to be credited. Some CVP districts (although none of those in Table 1) are making voluntary payments equal to or greater than current annual O&M costs. Among the districts listed in Table 1, three have no O&M deficits (Centinela, Laguna, and Pacheco), and another four are making some voluntary payments toward their annual O&M costs (Banta Carbona, Plain View, Broadview, and San Luis). In these four cases, the voluntary payments do not cover the complete O&M costs. Thus, except for the districts already paying cost of service, there would be some immediate financial requirements associated with amending their contracts.

From these data it might first appear that there is a very strong disincentive for districts to amend their contracts since they would have to pay O&M costs on all water, just to be able to transfer a small percentage of water. An examination of the other legal provisions applicable to CVP water users, however, reveals that this is not the case. Public Law 99-546 requires that interest accrue at current government borrowing rates on all district O&M deficits incurred after October 1, 1985.\(^{173}\) The O&M deficits, plus


accumulated interest, must be repaid to the United States after the district renews its contract. Consequently, the districts face two options, both of which are approximately equivalent financially: (1) pay O&M charges as they go; or (2) pay O&M deficits, plus interest, after contract renewal. 174 As noted, some districts have begun to make voluntary O&M deficit payments to the Bureau in order to avoid accumulating interest charges. 175 An unknown number of additional districts may be collecting the amounts from their water users and banking the revenues themselves with the intention of pursuing the second option. At any rate, all districts will be paying full O&M costs directly to the Bureau after contract renewal. 176 Furthermore, after contract renewal, all districts will also be paying full capital charges, so there will be no financial disincentives for transfers at that point under the RRA regime.

(c) Reduction in contractual deliveries in order to transfer them to another party

Another type of transfer would be accomplished by reducing contractor A's contractual entitlement and recontracting it to contractor B. There may or may not be payments made by B to A in order to induce A to enter into the agreement. Here again, it is not clear whether the Bureau would consider such amendments to provide supplemental or additional benefits. Arguably, such an amendment would substantially modify contract payments due the United States from the transferrer district, thereby placing it into the category of supplemental or additional benefits. 177 If so, the financial effect would be similar to the effect of adding M&I use to the contract.

b. Other disincentives created by the RRA

Even though the direct financial disincentives of contract

174. The options appear to be approximately equivalent considering that if a district collects full O&M costs from its water users and places them in the bank, rather that giving them to the Bureau, the district will accumulate enough payments and interest to pay off the additional obligation owed to the Bureau after its contract is renewed.
175. See supra Table 1 at 958.
176. Most of the CVP contracts expire before 1997. See supra Table 1 at 958.
amendment may not be that large, there clearly are perceived disincen-
tives of some sort since few districts have amended their
contracts to come under the provisions of the new law (only a
single district in Table 1). Discussions with Bureau personnel fa-
miliar with acreage limitation indicate that there are two prin-
cipal additional reasons for districts not amending. One is that
under prior law the ownership entitlement is applied district-by-
district for lands acquired prior to December 6, 1979, rather than
westwise. A number of landholders evidently own land in more
than one district. Second, under prior law the acreage limitation
applies to all members of a family, so that ownership of several
160-acre parcels by different family members is possible. Any
disincentives to transfer deriving from these restrictions will not
enter into the decisions of districts after contract amendment or
renewal because the restrictions of the new law will be applicable
to all of a district’s lands after that time.

In conclusion, any water transfers that require a district to
pay O&M costs under the RRA regulations do not appear to en-
counter significant disincentives because (1) substantial acreage is
already paying those costs and (2) all acreage is liable for paying
those costs as a result of Public Law 99-546. Both Public Law 99-
546 and the RRA express a social decision that certain privileges
are not to be extended to water districts unless they meet certain
minimum standards to bring their payments more into line with
the Bureau’s cost of service rates. These laws also reflect Con-
gress’ judgment that the benefits of promoting the voluntary con-
servation and transfer of CVP water do not override the need for
districts to meet the minimum standards of repayment. Inasmuch
as it took nearly four years of legal and legislative activity to
reach agreement on the terms of reforming acreage limitation
prior to passage of the RRA, it would not be practical at this time
to recommend legislative changes with regard to this particular
aspect of water transfers. Moreover, the financial disincentives for
water transfers that do exist under the RRA will lessen as the
CVP districts approach their contract renewal dates, which for
most districts in the drainage study area occur within the next six

178. These two factors might be considered financial incentives as well, since,
when the provisions of new law become applicable, any acreage that is excess
under the new law will be ineligible for project water, and some leased lands may
become subject to “full cost” pricing. An example would be if the ownership is
shifted to a new owner, but leased to a farming operation of more than 960 acres.
years.

8. What Limitations are Imposed on Transfers of Project Water by Bureau of Reclamation Administrative Policies On Repayment?

A related question is what financial disincentives might be associated with the Bureau's administrative policies that govern the contractors' repayment obligations. This question arises because, once a district has a contract that permits the transfer of water, the contracting officer still must approve each specific transfer request. Inasmuch as many CVP contracts are not currently paying O&M costs, let alone capital costs, and given the Bureau's desire to bring these contracts up to current repayment standards, it is likely that the Bureau will impose some added repayment requirements on districts that seek to transfer water, particularly if they desire to do so at a profit. In other words, the question of potential financial disincentives arises whether or not an amended contract is required.

According to the Regional Solicitor, the Bureau has considerable discretion over the conditions it may impose to secure the approval of the contracting officer to transfer water.179 For example, the 1990 CVP draft Transfer Policy Option Paper contained a requirement that contractors transferring water must pay at least the O&M cost of the transferred water.180 Pricing options available to the Bureau in establishing a long-term policy include: (1) requiring the transferring district to pay cost of service on just the transferred water; (2) requiring the district to pay O&M costs on all of the district's water (transferred or not); or (3) requiring the district to pay cost of service (O&M plus capital) on all water supplied to the district.

The rationale for any of these options would be that if a district is to receive increased income on water provided at federal expense, the district should at least be paying its share of the federal expenses. But there is more at stake. The Bureau must responsibly consider the effect of its pricing policy on the incentive voluntarily to reclaim, conserve, and transfer problem drainage water. Pricing option 1 would not create much of a disincen-

179. Turner Interview supra note 105.
180. CVP Transfer Policy, supra note 64, at 1.
tive for transfers, since the current cost of service rates are relatively low, and the value of the transferred water to the purchaser would likely exceed this rate. Similarly, because of the O&M repayment requirements of Public Law 99-546, Option 2 would not be a disincentive. Option 3 could create a strong disincentive to transfer water, however. If a district wanted to transfer only two percent of its water, for example, it would have to raise its payments to cost of service on all of its water. As Table 1 indicates, only a small number of contractors currently pay cost of service. The Bureau faces a policy decision whether the need to bring contracts up to current standards warrants that restriction.

The Mid-Pacific Region has taken a first step toward facilitating efficient water transfers by issuing its 1990 draft transfer policy. The Bureau should take the next step of establishing a permanent transfer policy, which clearly states the financial terms that will apply to transactions. This policy should be designed to allow long-term transfers, as well as transfers of one year or less. In establishing its transfer policy, the Bureau should consider the public policy considerations embodied in the Reclamation Reform Act of 1982 and Public Law 99-546 to limit the subsidy and the need to improve financial recovery in the CVP. The Bureau should also create financial incentives to promote water conservation. This suggests that the Bureau should adopt a policy that would charge transferor districts the cost of service on all transferred water, as well as require payment of future O&M costs for all district water, both transferred and retained. This latter requirement would be nearly financially equivalent to the conditions already imposed by Public Law 99-546.

9. Are There Any Special Restrictions on the Transfer of CVP Water by the Four Exchange Contractors?

A different set of considerations applies in the case of the exchange contractors. As shown in Table 1, the four exchange contractors located in the drainage study area are the Central California Irrigation District, the Columbia Canal Company, Firebaugh Canal Company, and the San Luis Canal Company. These districts diverted water from the San Joaquin River before construction of the CVP, primarily pursuant to riparian rights.

181. See supra note 64-65 and accompanying text.
Because Friant Dam impounds virtually all of the natural flow of the river, the United States agreed to provide the four districts with water from the Delta-Mendota Canal in exchange for their riparian rights extinguished by the project.

The exchange contract differs from standard CVP contracts in three respects. First, its term is perpetual. Second, in recognition of their preproject rights, the exchange contractors pay nothing for CVP water. Rather, the costs of delivering the exchange water are paid by the CVP contractors along the Friant and Madera Canals. Third, neither the acreage limitations of the Reclamation Act of 1902 nor the provisions of the RRA are applicable to these districts. These unique provisions present the question of what conditions, if any, would be imposed on the exchange contractors if they desired to transfer some portion of their water.

Because the exchange contract does not specifically allow for transfer of water, the Regional Solicitor believes that a contract amendment would be required for these districts to engage in a transfer. This raises the issue whether such an amendment would constitute a supplemental or additional benefit, which would invoke the pricing provisions (and possibly the acreage limitations) of the RRA. If so, the exchange contractors could be deterred from transferring water because of the severe financial consequences of coming under the terms of the RRA.

The determination whether Bureau authorization of a transfer would constitute a supplemental or additional benefit depends on the rights the exchange contractors now possess. Under California law, riparian rights generally may not be transferred apart from the land. Nor may water taken pursuant to the right be used anywhere other than on the riparian land. Thus, if the Bureau were to allow an exchange contractor to transfer water provided by the CVP, the authorization might well be a supplemental or additional benefit.

For two reasons, we do not believe that the Bureau should interpret its approval of transfers by the exchange contractors in this manner. First, by accepting CVP water in exchange for their riparian claims, the contractors have acquired contract rights that

182. See supra Table 1 at 958.
183. Turner Interview supra note 105.
184. See B. Gray, supra note 17, at 763-65.
are no longer limited by the riparian land limitation. Second, even if the contract rights retain their riparian character, they may be transferable under California law because they have been quantified. Section 1740 of the California Water Code provides that riparian rights that are quantified in a statutory adjudication "shall be transferable" pursuant to the general long-term transfer laws.\textsuperscript{185} Although the exchange contractors' rights were not established by statutory adjudication, they nonetheless have been quantified. As such, they should be freely transferable under California law along with appropriative and other contract-based water rights.

Inasmuch as the uncertainty surrounding this issue may inhibit the exchange contractors from offering some of their water for transfer, we urge the Solicitor of the Interior to issue an opinion stating that the Bureau's approval of a contract amendment to facilitate the transfer would not constitute a supplemental or additional benefit and accordingly would not subject the exchange contractors to the provisions of the RRA.

10. May Individual Users of CVP Water Within an Irrigation District or Other Local Water Supply Agency Veto a Proposed Transfer of Project Water by Other Users Within the District?

In their reports to the San Joaquin Drainage Program, B.J. Miller and Marc Reisner have suggested that a proposed transfer of CVP water by a contractor or an individual farmer could be blocked by other farmers within the contracting agency. Miller observes, for example, that the ultimate users of project water have neither water rights nor contract rights to the water; rather, they are entitled as members of a water agency or irrigation district to a share of the "pool" of water the district purchases from the Bureau.\textsuperscript{186} Miller describes the politics of the water user pools:

These pools tend to have one thing in common—[the members] all want more water, especially during droughts when the need for transfers is highest. So, even if one or more members of the pool would be willing to transfer their water, other members may not

\textsuperscript{185} CAL. WATER CODE § 1740 (West Supp. 1991).
\textsuperscript{186} B.J. Miller, Water Transfers in California: Problems and Solutions 5-6 (Mar. 1990).
be. They will strongly resist transfers out of the pool . . . argu[ing] that they have been paying for the facilities to deliver the water for many years and that if any of their fellow pool members want to give up their water, the remaining users should get it.\textsuperscript{187}

Reisner confirms this problem:

Under the by-laws of most contracting irrigation districts, water cannot leave the district boundaries if there is "demand" for water within the district. In other words, no individual farmer—acting independently, through the district, or through the Bureau itself—can sell water outside the district if a member objects on the ground that he is undersupplied and would suffer harm.\textsuperscript{188}

If these claims are legally enforceable, there would be little chance that water would be transferred between contractors in the drainage study area, or to users outside the area, because in every water agency and irrigation district, there is likely to be at least one member who would object to the transfer of any water outside the district.

Although the prospect of intradistrict objections to transfers is real, we believe that the legal basis for such objections is overstated. There are some provisions in the rules and regulations and in the water service contracts of irrigation districts within the study area that arguably authorize individual farmers to veto transfers proposed by the district or other farmers within the district. The rules and regulations of the Grassland Water District and the Central California Irrigation District state, for example, that "[e]ach consumer shall be entitled to his proportionate share of the quantity of water available in accordance with the provisions of the Water Code of the State of California."\textsuperscript{189} Other districts provide that in the event of a shortage "the supply as shall be available and subject to delivery will be prorated on an acreage basis to such acreage as is eligible to receive water until such time as delivery of a full supply can be made."\textsuperscript{190}

\textsuperscript{187} Id.

\textsuperscript{188} M. Reisner, A Catalog of Obstacles to Water Transfers in California: A Report to the San Joaquin Valley Drainage Program 15 (June 1990).

\textsuperscript{189} RULES AND REGULATIONS OF THE GRASSLAND WATER DISTRICT GOVERNING THE DISTRIBUTION AND USE OF WATER art. V (June 1988); RULES AND REGULATIONS OF THE CENTRAL CALIFORNIA IRRIGATION DISTRICT GOVERNING THE DISTRIBUTION AND USE OF WATER rule 13 (Jan. 1990).

\textsuperscript{190} RULES AND REGULATIONS OF THE PANOCHE WATER DISTRICT rule 8 (Sept. 1976).
In contrast, the Westlands Water District’s contract with its agricultural customers states that the District will furnish water “subject to the terms and conditions under which said water is made available to the District including, but not limited to, the requirements of federal reclamation law and if, in the exclusive judgment of the District, the water and facilities for its delivery are available.” According to the contract, the District is obligated to “use its best efforts, to the extent that it has water and capacity available therefor and taking into account the requirements of other water users to receive water from said facilities, to provide such water in the manner and at the times requested.”

Significantly, none of these provisions expressly authorizes a district member, who is not party to a proposed transfer, to veto the transaction. Rather, such a right must be implied from allocational directives that do not address the question of the transferability of water after it has been allocated to individual farmers. It is unlikely that such an implied right would be recognized because the creation of a veto power in nonparty district members would conflict with California law. Section 383 of the Water Code grants local water supply agencies the authority, acting either unilaterally or with the agreement of individual recipients, to transfer reclaimed and conserved water that the agency finds is surplus to the needs of its members. The purpose of this law is to encourage reclamation and conservation by using transfers to pay for such efforts and to create financial incentives to use water more efficiently. If nonparticipating farmers had the right to claim water made available by the reclamation, conservation, and transfer activities that the district board of directors finds to be in the best interests of the district, this purpose would be frustrated.

Under California’s water transfer laws

[t]he authority of local or regional public agencies pursuant to this chapter shall control over any other provision of law which contains more stringent limitations on the authority of a particular

191. Westlands Water District, Terms and Conditions for Agricultural Water Service § 3 (June 1990).
192. Id.
193. Cal. Water Code § 383 (West Supp. 1991); see supra text accompanying notes 18 through 36 (Section IIB(1)).
194. See supra text accompanying notes 18-36 (Section IIB(1)).
public agency to serve water for use outside the agency, to the extent those other laws are inconsistent with the authority granted herein. 195

This directive probably would override explicit authority in district rules and regulations or water service contracts vesting individual farmers with the power to veto transfers approved by the district. It certainly declares that such veto authority should not be created by implication from the water allocation principles summarized above. This conclusion is consistent with the views of the DWR and the Bureau. Each agency has stated that the decision whether to transfer project water rests with the project contractors, subject of course to the approval of the DWR or the Bureau as the operator of the project. 196

Notwithstanding the legality of transferring water for use outside the district, there remains the very practical question whether a district would authorize the transfer over the objections of one or more of its members. The answer, we suppose, is that it depends. In districts such as the Central California Irrigation District that have hundreds of members with equal voting rights, 197 the dissenting views of a few farmers might not be an impediment. In other districts that are controlled by relatively few farmers and which suffer from dramatic intradistrict allocational disparities, transfers proposed over the objections of a few members could be problematic. 198 As a result of the high groundwater and drainage problems, many of the districts in the study area are facing severe economic and environmental constraints on their existing water supply and farming practices. In the near future, such districts may well decide that it is necessary to transfer some water to pay for the costs of remedying these problems,

195. CAL. WATER CODE § 381.
196. Interview with Robert Potter, Deputy Director, Department of Water Resources (June 26, 1990); Turner Interview supra note 105.
197. See J. Harvey, supra note 38, at 8. According to Harvey, CCID contains over 1800 member farms.
198. For example, although the Westlands Water District supplies water to about 600 farms, it has been reported that the District is controlled by only four or five large landowners. Id. Within the original boundaries of the District, farmers receive an average annual supply of 2.6 acre-feet of water per acre. In the Westplains area, which the District annexed in 1965, farmers receive only about half of that amount. Statement of Jerald R. Butcher, General Manager, Westlands Water Dist., to the Senate Subcomm. on Water and Power 2 (Aug. 29, 1989).
whether or not they have the unanimous consent of their member farmers. Our conclusion here is simply that if a district chooses to transfer water as part of its response to the drainage problem, members of the district who are not parties to the transaction have no legal basis for standing in the way.

11. Do the Laws That Protect Third-Party Interests Stand As Significant Impediments to the Transfer of CVP Water?

Related to the question of the veto power of member farmers is the argument that transfers of CVP water from the drainage study area would violate provisions of California law that protect various third-party interests. These interests include other water users that depend on the surface runoff or return flow from project water used for irrigation; fish, wildlife, and instream uses; and economic interests in the area from which the water would be transferred.

There is no legal impediment to the transfer of project water even if the transfer would reduce the surface runoff or return flow to other users. All of the project water used in the drainage study area is imported. According to California law, appropriators and other users of return flow generated by imported water have no rights to prevent the importer from discontinuing the supply or from recapturing the return flow before it leaves the importer’s land.199 Thus, a farmer or other water user who benefits from surface runoff or return flow produced by his neighbor’s use of CVP water for irrigation could not legally object to a transfer that reduced or eliminated the runoff.

There is no equivalent exemption for imported water from the third-party environmental and economic protection provisions in the California Water Code. These laws state that the Board may authorize the transfer of reclaimed, conserved, or surplus water only if it finds that the transfer will not unreasonably affect fish, wildlife, or other instream beneficial uses or the “overall economy of the area from which the water is being transferred.”200 Although difficult to analyze because the vague “unrea-

sonableness" standard vests the Board with broad discretion, this restriction should not prevent the transfer of water within or from the drainage study area.

The fundamental purpose of these transfers would be to protect the environment and economy of the San Joaquin Valley. Transfers of water made available from reclamation or conservation generally would benefit fish, wildlife, and other instream uses by reducing the amount of salts, selenium, and other pollutants that presently enter the surface waters, groundwater, wetlands, and wildlife refuges throughout the western San Joaquin Valley.\(^\text{201}\) Additionally, transfers would help to finance reclamation and conservation projects that may be necessary to allow irrigated agriculture to continue in the drainage study area. Although some currently irrigated land may be retired from agricultural use, on balance the economic consequences of failing to conserve and transfer water would be far worse than the economic consequences of doing so.\(^\text{202}\)

In individual cases, protection of third-party interests could justify denial of a transfer. Marc Reisner has observed, for example, that

\[ \text{relatively high quality water now escaping from the San Luis Canal Company district helps dilute wastewater from Salt Slough that contains elevated concentrations of salts and selenium. . . . According to one DWR engineer, the "sloppy" irrigation methods of some CVP contractors have incidentally created a significant amount of wildlife habitat which is valued by the Department of Fish and Game.}\(^\text{203}\) Reisner also notes that surface runoff and return flow in the Northern and Grasslands subareas “reach the San Joaquin [River] and benefit downstream irrigators and fish and wildlife habitat.”\(^\text{204}\) If the Board, DWR, or the Bureau were to deny a transfer to protect these types of interests, the decision would be based on the facts and equities of the particular transfer and would represent a judgment that the benefits of the existing irrigation and drainage practices outweigh both the harm created by such practices and the benefits of the proposed transfer.

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201. See Program Report, supra note 2, at 30-42.
202. See infra note 220 and accompanying text.
203. M. Reisner, supra note 188, at 22.
204. Id. at 31.
12. Are Laws Such as the National Environmental Policy Act and the California Environmental Quality Act Applicable to Transfers of CVP Water?

The National Environmental Policy Act (NEPA)\(^{205}\) requires that an environmental impact statement (EIS) be prepared on all "major Federal actions significantly affecting the quality of the human environment."\(^{206}\) The California Environmental Quality Act (CEQA)\(^{207}\) similarly provides that state and local government agencies must prepare an environmental impact report (EIR) when they propose to take action that may have a significant effect on the environment.\(^{208}\) State and local agencies also are required to "mitigate or avoid the significant effects of projects . . . whenever it is feasible to do so."\(^{209}\) Because many water transfers may have significant effects on the environment, an EIS or an EIR will have to be prepared before the transfer receives final authorization. Responsibility for drafting the environmental analyses rests with a "lead agency."\(^{210}\) For transfers of CVP water, the lead agency for the purposes of NEPA would be the Bureau of Reclamation. Because the project contractor is a state agency, however, the transfer also could be subject to CEQA. As part of the Arvin-Edison/MWD exchange, for example, the Bureau and the contractor are preparing a joint EIS-EIR.\(^{211}\)

Some argue that the necessity of complying with NEPA and CEQA may deter transfers by increasing both the planning time and the costs of the transaction. To reduce these expenses, we recommend that the Bureau, the DWR, and the State Water Resources Control Board draft a joint, program EIS-EIR on transfers of drainage water within and from the western San Joaquin

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206. Id. at § 4332(2)(C).
208. CAL. PUB. RES. CODE § 21002.1 (West 1986).
209. Id. § 21002.1(c).
211. See supra note 40. Of course, not all transfers of CVP water would require preparation of an EIS or EIR. The Bureau has answered the question whether its approval of a transfer of project water is subject to NEPA as follows: Documentation for compliance with NEPA could range from a categorical exclusion to an environmental impact statement. The type of documentation required will be a function of the specific action being proposed.

Criteria Document, supra note 53, at 8.
Valley. The Council on Environmental Quality, which oversees federal compliance with NEPA, has encouraged agencies to prepare a single program EIS on actions that are related geographically, "including actions occurring in the same general location," and generically, "including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter." Similar authority exists in California law to prepare a program EIR.

Transfers within and from the drainage study area would have a number of common characteristics. For example, they would occur within one geographic region and would involve water derived from common sources. The transfers also would raise similar environmental issues, as discussed in the preceding subsection. Accordingly, the appropriate state and federal agencies should begin drafting a joint program EIS-EIR on transfers associated with the drainage study area. To the extent that unique issues arise later on in actual transfers, they may be addressed in a follow-up EIS or EIR on the individual transaction.

IV. SUMMARY AND RECOMMENDATIONS

Our review of federal reclamation law, the CVP authorizing legislation, the CVP water right permits, and the project contracts reveals no serious impediments to the transfer of water made available by reclamation or conservation from drainage problem areas in the western San Joaquin Valley. According to federal and California law, both the CVP contractors and the individual recipients of project water hold interests that may be transferred. Neither the beneficial use requirement nor the appurtenancy limitation of section 8 of the Reclamation Act limits the transfer of water by existing agricultural users. Although there are some purpose-of-use and place-of-use restrictions in the CVP permits and contracts, these may be amended to facilitate transfers of project water to other uses or areas. Nothing in federal law would prevent such amendments. Finally, there do not appear to be significant financial disincentives to transfer in ei-

212. 40 C.F.R. § 1502.4(c).
ther the Reclamation Reform Act or the regulations that imple-
ment the Act.

The Department of the Interior and the Bureau of Reclama-
tion have taken commendable first steps toward promoting the
voluntary reallocation of project water in the 1988 Water Trans-
fer Principles and 1989 Criteria and Guidance Document.216 The
Department's approval of long-term and permanent transfers, as
well as its recognition that transferors may earn a profit on such
transactions, are especially positive contributions.216

Notwithstanding these policy statements, there remain sev-
eral areas in which additional guidance would be helpful. As
noted above:

(1) The Solicitor of the Interior should issue an opinion declaring
that state law generally governs the transfer of project water and

215. See supra text accompanying notes 51 and 53.
216. Although authorized by law and Bureau policy, the difficult question re-
mains whether it is sound policy to allow the recipients of subsidized water, pro-
vided to them to encourage the cultivation of land, to profit from the sale of the
water. Questions of equity, efficiency, and practicality surround this question.
These issues have been comprehensively explored in B. Driver, supra note 52, at
37-55 and in R. Wahl, supra note 1, at 181-85. A brief synopsis of this analysis
follows.

As to equity, an initial impulse is to feel that farmers should not be able to
make a profit on the sale of water that has been heavily subsidized by taxpayers.
Yet many federal programs confer windfalls on various individuals; profits that
reduce growers' water bills or assessments are subject to federal tax; most contrac-
tors would or could be encouraged to invest profits in conservation measures; profi-
ts are the greatest incentive for transfers; and many transferees, especially munici-
pal and industrial users, would pay higher water rates to the Bureau. Thus, the
federal taxpayer is actually better off after many transfers of project water.

Nonetheless, it strikes many as unfair to permit contractors to retain profits if
they are behind in their payments to the Bureau. It also strikes many as fair, if
not always practical, for a portion of profits to be diverted to mitigate the effect of
water development on the natural environment or to offset negative economic or
socio-cultural effects of the transfers themselves.

Most of the efficiency arguments militate in favor of permitting at least some
portion of profits to be retained by contractors on the ground that this incentive is
needed to encourage transfers. Finally, considerations of practicality limit the effi-
cacy of imposing limits on the portion of revenues gained by a transfer that con-
tractors should be permitted to retain.

On balance, considerations of equity, practicality, and efficiency suggest that
contractors should be permitted to retain at least a share of profits from transfers,
provided they are not in arrears in payments to the Bureau that are required by
law.
explaining why the beneficial use and appurtenancy requirements of section 8 of the Reclamation Act do not limit transfers of reclaimed or conserved water from irrigation to nonirrigation uses.

(2) The Regional Solicitor should draft an opinion stating that CVP water may be transferred to a variety of nonagricultural uses both within and outside the Central Valley. The Regional Solicitor also should clarify that the Bureau's approval of transfers by the exchange contractors would not constitute a supplemental or additional benefit and therefore would not invoke the provisions of the Reclamation Reform Act.

(3) The Mid-Pacific Regional Office of the Bureau of Reclamation should promulgate a final policy on long-term transfers of CVP water. This policy should incorporate California's transfer laws—particularly the state's authorization of transfers of water made available by reclamation and conservation—and should disavow the Region's prior general practice of denying transfers from irrigation to nonirrigation uses. The Regional Office also should state clearly the repayment and other criteria that it will apply to proposals by its contractors to transfer portions of their entitlements.

V. Conclusion

We have determined that there are no significant impediments to the transfer of CVP water by irrigators in the western San Joaquin Valley who choose reclamation, conservation, and transfers as part of their strategy to address the high groundwater and drainage problems. Although the legality and desirability of individual transfers will depend on the economic, hydrologic, environmental, and political circumstances of each case, we hope that our analysis of the panoply of legal issues associated with such transfers will alleviate some of the uncertainties that, up to now, may have discouraged otherwise salutary proposals.

Before concluding, however, it is necessary to address two criticisms that have been raised by persons who believe that substantial, long-term water transfers legally cannot, or as a practical matter will not, occur in California. First, Marc Reisner has noted that the "Owens Valley Syndrome" remains a significant deterrent to water transfers from agricultural to nonagricultural uses. In his report on obstacles to water transfers in California, for example, he states that a "significant fraction of the farming community appears unalterably opposed to any water transfers to ur-
ban areas, as if the flood gates will open . . . and farming will disappear from the state.”217 Second, Reisner reports that some members of the agricultural community may oppose water transfers for strategic political reasons, believing that “a water crisis can only lead to the construction of more aqueducts and dams.”218

Perhaps the most appropriate response to arguments of this nature is simply to observe that a strategy of repairing the drainage problem through voluntary water transfers should be precisely what its name implies—voluntary. All that can be done is to identify the legal requirements that apply to the transfer of CVP water and to attempt to dispel those fears that do not find support in law, economics, or reasoned long-term water supply planning. If, after analysis and understanding of the legal, economic, hydrologic, and environmental considerations, a district chooses to reject a conservation and transfer proposal because it does not find the financial terms attractive, out of fear and loathing of the market, or as part of a grand Machiavellian water development strategy, that is its prerogative.

In the areas of the western San Joaquin Valley affected by the drainage problem, however, opponents of water transfers may find that equitable claims, ideology, and political tactics take a back seat to simple economics. For the consequences of failing to reduce drainage in an affordable manner could be catastrophic. The San Joaquin Valley Drainage Program estimates that if current practices continue nearly 554,000 acres of irrigable land will be lost to salinization, abandoned, or converted to noncrop uses during the next fifty years. Associated losses in farm revenues could reach $440 million per year. Surrounding communities could lose an additional $63 million annually. And, it is estimated, more than 9000 jobs would be lost in the Valley and personal income reduced by more than $123 million per year.219

217. M. Reisner, supra note 188, at 37. For a more detailed analysis of why this fear is unfounded, see R. Wahl, supra note 1, at 190.
218. M. Reisner, supra note 188, at 38.
219. Program Report, supra note 2, at 81-84. In contrast, the adverse regional economic consequences of transferring some project water should not be significant. Transfers of water made available by reclamation or conservation would not reduce agricultural production because the same land would be farmed (using less project water) and the costs of the reclamation and conservation would be more than paid for by the revenue from the transfer. Although some land could
On top of these economic consequences would fall the environmental and legal burdens. Continued discharges of drainage water into rivers, wetlands, and evaporation ponds threaten fish, wildlife, and migratory birds. Moreover, as a result of the cessation of deliveries of contaminated water to wetlands areas in the valley, the total acreage of wetlands could be reduced by forty percent, from 90,000 to 55,000 acres. 220 "Populations of migratory and resident wildlife species dependent on these scarce habitats would be expected to decline." 221 Thus, unless significant changes are made to the existing system of irrigation and disposal of drainage water, local water agencies and individual farmers could well face decades of litigation for alleged violations of the Clean Water Act, 222 the Endangered Species Act, 223 the Migratory Bird Protection Act, 224 California water quality laws, waste and unreasonable use laws, and the public trust.

For these reasons, we anticipate that water transfers will play an important role in a comprehensive solution to the drainage problem. Indeed, there would appear to be stronger economic, environmental, and legal inducements to transfer water from problem drainage lands in California's San Joaquin Valley than exist in most other federal reclamation projects throughout the American West.

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be followed, the income from the transfer would compensate for the lost farming revenues. It would not, however, compensate those members of the local economy — farmers, merchants, and employees of the food processing industry — who benefit indirectly from the production of crops. See R. WAHL, supra note 1, at 185-90.

220. Id.
221. PROGRAM REPORT, supra note 2, at 85.