

Making Room for the Environment in California Water Policy: Ten Years of the Central Valley Project Improvement Act

by

David L. Sunding

Ten years have passed since President Bush signed the Central Valley Project Improvement Act, which made major changes to California's water system. A recent conference examined the accomplishments and shortcomings of the Act and its continued influence on the state's water scene.

Authorized in 1935, the Central Valley Project (CVP) is a vast public works project built over the course of three decades. The system is owned and operated by the U.S. Bureau of Reclamation, a subdivision of the Department of the Interior. The Bureau provides water captured in its reservoirs on a subsidized basis to agricultural and urban water districts under contract. These districts then provide water to individual farms, businesses and households.

A decade ago, the CVP was operated to provide cities and farms with water, with relatively little consideration given to the environmental impacts of storing and diverting water. Today, environmental interests have a seat at the table as a result of landmark reform legislation passed in 1992 called the Central Valley Project Improvement Act (CVPIA).

"It is hard to think of any other system of government that is more conservative, more resistant to change, than water policy, even when there is an obvious need for change," said former Sen. Bill Bradley at a conference, held September 12, 2003, examining the success of the law and its implications for future water policy in the state. Bradley was the keynote speaker at the daylong conference in San Francisco hosted by UC Berkeley's College of Natural Resources and Boalt Hall School of Law. The conference was sponsored by the Giannini Foundation of Agricultural Economics, along with several other groups. The conference brought together over 200 experts in water policy, many of whom participated in the creation of the act, along with students, lawyers, scientists and representatives from agriculture, fisheries, cities and environmental groups.

Beyond listing environmental restoration as an objective of water project operation, the CVPIA

reallocated water supplies to the environment, mandated a doubling of wild salmon populations in the state, and changed the way long-term federal water contracts are designed and implemented in California.

Bradley Played a Key Role in Federal Water Policy Reform

Sen. Bradley, along with Bay Area Rep. George Miller, co-sponsored the Central Valley Project Improvement Act (CVPIA) when he was chair of the Senate Committee on Energy and Natural Resources, in an effort to change the way the Interior Department managed water in California.

UC Berkeley Dean Paul Ludden presented Bradley with a Chancellor's Distinguished Honor Award for his commit-

ment to California, and a graduate prize for water policy research has been established in his honor. The prize will be awarded to a UC Berkeley graduate student focusing on water economics and policy analysis. Congressman Miller also was recognized for his efforts on water policy.

Moving Water from Agriculture to the Environment

An unusual feature of the CVPIA is that it is so specific. The act gave very detailed instructions to the Department of the Interior about how federal water projects were to be operated in California, including how much water was to be set aside for the environment. Congress usually leaves such technical decisions up to agencies, but in this case the legislative history of the act suggests that Congress simply did not trust the Department of the Interior to faithfully implement its wishes.

"It is hard to think of any other system of government that is more resistant to change than water policy..."

Sen. Bill Bradley

In normal years, the CVPIA mandates that 800,000 acre-feet of water should be taken from agricultural and urban uses in California and be left instream to improve the health of rivers in the Central Valley and the Delta estuary. This amount of water is sufficient to meet the needs of roughly four million residential customers in cities, or irrigate roughly 250,000 acres of a typical crop.

While the amount of reallocation seems large, 800,000 acre-feet is only 10 percent of total deliveries made by the Central Valley Project in a normal year. Further, it is an even smaller share of all water diversions that occur in the Central Valley. In an unimpaired state, about 27 million acre-feet of water flowed out of the Central Valley, through the Delta and into the San Francisco Bay in a normal year. Diversions from the CVP, the State Water Project and numerous other local projects, such as San Francisco's Hetch Hetchy system, together reduce inflows to the Bay by 40 percent (or about 16 million acre-feet) in a normal year. Viewed in this way, the 800,000 acre feet reallocated by the CVPIA seems quite modest.

Urban Support for the Act Gained by Streamlining Water Transfers

Other provisions of the CVPIA have also affected the way that federal water supplies are managed in California. To gain the support of urban water agencies, most importantly the Metropolitan Water District of Southern California, the authors of the act inserted provisions streamlining the sale of water from agriculture to cities. Because urban water agencies would also be subjected to some level of cutback under CVPIA, these agencies felt that it was important to have access to water markets in order to make up the difference.

Economic research has underscored the importance of expanding water markets to alleviate the

cost of reduced diversions of surface water to cities and farms. There is a wide disparity, even within agriculture, in terms of the economic value produced per unit of water applied. Farms in some regions are highly capitalized and operate on high-quality soils, thus producing very high levels of net income per acre. Agriculture in other regions is less productive due to unfavorable growing conditions or other factors. One important benefit of water trading is that

it ultimately allocates the burden of a water supply reduction on those growers who can conserve water at the lowest cost.

It is important to note that without markets, water supply cuts are apportioned by the seniority of water rights. Unfortunately, it has been documented that the growers in California with the most senior rights are not usually those with the highest water productivity. The implication, then, is that if seniority of water rights is used to allocate a supply cut, then the

economic impacts of the cut will be larger than necessary. The resulting losses from environmental restoration will be borne by farmers, farm laborers, input dealers and many others in rural California.

This aspect of water trading has been examined and quantified by several economists at UC Berkeley and UC Davis, including Richard Howitt, David Zilberman and myself. One scenario we considered is the 800,000 acre-foot cut mandated by the CVPIA in normal rainfall years. The costs of this supply reduction are reduced by one-half if there is a water market south of the Delta as opposed to forcing junior rights holders such as Westlands Water District to bear all of the reduction.

Has the CVPIA Worked?

While the various parties agree that the act was a milestone in water law and policy, there is wide disagreement as to whether the law has been beneficial or effective. For example, a main goal of the CVPIA



Sen. Bradley spearheaded efforts that led to reform of western water policy during his term as chair of the Senate Committee on Energy and Natural Resources.

was to double wild salmon populations in the Central Valley watershed — a goal that has, for the most part, been unmet. Understanding why these environmental objectives have gone unfulfilled is important to the future success of the CVPIA, and also to other, similar aquatic restoration efforts in other parts of the country (e.g., the Everglades).

The CVPIA required the U.S. Fish & Wildlife Service to prepare a restoration plan detailing how fish populations were to be doubled as required by the act. The CVPIA also established a \$60 million restoration fund to pay for the restoration program; the fund was financed by surcharges on some water deliveries provided by the CVP. Implementation of these provisions has been slow — in fact, the FWS only released the fish doubling plan this year.

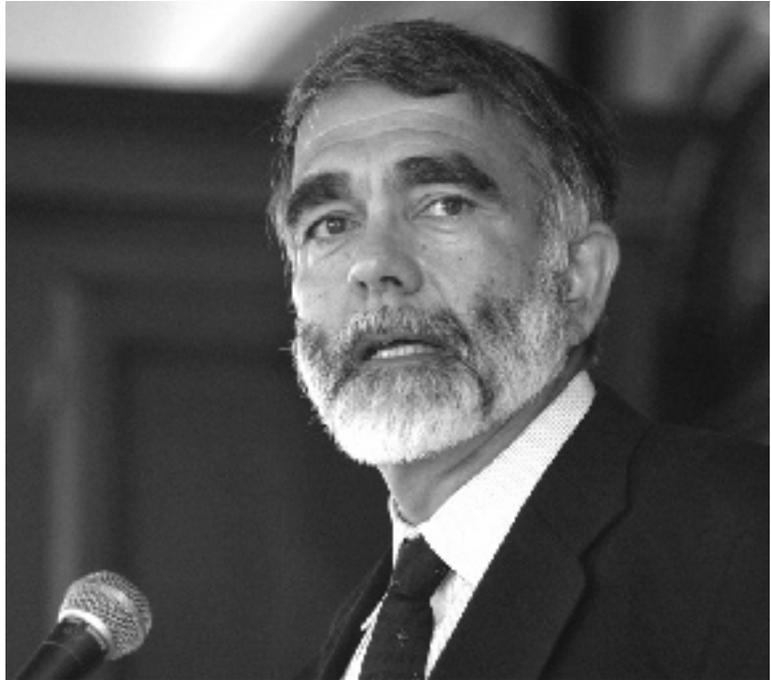
To date, the restoration fund has financed a variety of conservation measures, including some physical fixes to the CVP system that make it less damaging to fish. One problem encountered with restoration is how to use the water allocated to the environment to help salmon. Resource managers and biologists at the federal agencies charged with solving this problem point to a need for adaptive management and learning from past successes and mistakes. To date, however, it is questionable how much has been achieved.

Looking to the Future

Agricultural and environmental interests have waged multiple legal battles over interpretation and implementation of the act. A major point of contention, for example, is how to measure the amount of water that has been reallocated to the environment. In a dynamic and variable system like the CVP, it is difficult to know when 800,000 acre-feet of water have been reallocated, particularly since baseline conditions are continually changing.

The Cal-Fed Bay Delta Program, a subsequent effort with an even wider scope to balance water supplies among various users statewide, continues to struggle as well. Last month, a federal court decision in Fresno revived a major lawsuit by agricultural businesses against the Cal-Fed program.

Participants at the CVPIA conference agreed that the outcome of these decisions will be crucial to California's future. "After the energy debacle, water



Professor John Leshy was the Solicitor General of the Department of the Interior in the Clinton Administration. He played a major role in implementing the CVPIA.

Photos by Jim Block

may well present the next big crisis in California," said Cynthia Koehler, a visiting scholar at College of Natural Resources' Center for Sustainable Resource Development. Groups on all sides of the debate will remain alert to see whether the changes in water policy introduced by the act will allow lawmakers and water managers to meet future challenges.

David L. Sunding is a professor and Cooperative Extension specialist in the agricultural and resource economics department at UC Berkeley. His interests are in wetlands and endangered species, water resources and environmental law and policy. He can be contacted by telephone at (510)642-8229 or by e-mail at sunding@are.berkeley.edu.