

Managing California's Water Market: Issues and Prospects

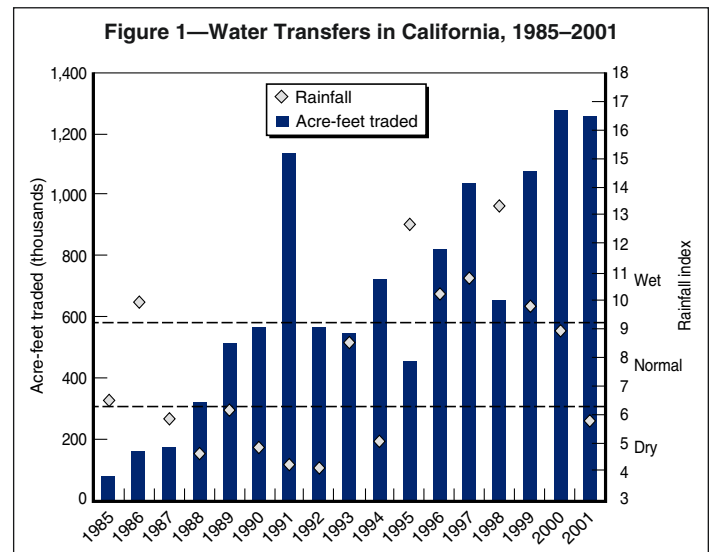
Under current patterns of water use, California faces the prospect of chronic water shortages by 2020. Among the measures that can alleviate supply and demand imbalances is the development of a water market. A market enables the historical holders of water rights—mainly farmers in the agricultural heartland—to transfer water to other users willing to pay for it. Potential buyers include urban and industrial users, farmers with higher-value crops, and environmental programs to support fish and wildlife habitats.

Although significant water trading has occurred since the state began promoting it in the late 1970s, obstacles remain. In particular, rural communities have raised concerns over the potential adverse effects of water transfers on other groundwater users and the local economy, and some have passed local ordinances to restrict water transfers. In *Who Should Be Allowed to Sell Water in California? Third-Party Issues and the Water Market*, Ellen Hanak examines water transfers in California, local resistance to them, and various approaches to resolving water disputes. Drawing on a new database of water transfers as well as interviews with state, county, and water district officials, the report calls for a more comprehensive approach to groundwater management at the local or regional level.

The Growth of California's Water Market

Spurred by drought in the late 1980s and early 1990s, the volumes traded in California's water market now account for roughly 3 percent of the state's water use (see Figure 1). Agricultural water districts are the main suppliers, with Central Valley farmers typically accounting for three-fourths of all sales. In the San Joaquin Valley, where environmental mitigation programs have reduced water deliveries, farmers have turned to the market for replacement water. Their purchases account for over half of the water market's expansion since 1995. The state has also been a major player, running drought-year water banks and buying water for environmental programs. Direct purchases for instream uses and wildlife

reserves account for over one-third of the market expansion. Municipal agencies are the major buyers of long-term and permanent contracts, which account for roughly 20 percent of all sales. Recent legislation requires that local governments demonstrate adequate water supplies for development, and this policy should increase urban demand for long-term water transfers.



Aided by several dry years, California's water market was established when the state began purchasing water and launching water banks in the late 1980s and early 1990s.

Two issues loom large in the state's rural areas, the source regions for most water transfers. The first is a reduction in the quantity or quality of water available to others. California law protects surface water users, including fish and wildlife, from the effects of water transfers under the "no injury" statutes of the Water Code. Because groundwater is not regulated by the state, however, these protections do not extend to groundwater users. With the rise of groundwater transfers during the 1990s drought, the fear of uncontrolled "mining" of the aquifers became widespread in many rural counties.

The second issue concerns land fallowing, or idling cropland, to sell water. When farmers do not plant, the local economy may lose jobs, tax revenues, and sales of agricultural inputs. The state's use of fallowing contracts during the 1991 drought, for example, generated considerable discord in some Sacramento Valley counties. Under state and federal law, third parties do not typically receive protections from the effects of land fallowing.

County Ordinances and Their Effects

Concerned about the effects of groundwater exports, 22 of the state's 58 counties have adopted ordinances restricting such transfers (see Figure 2). The ordinances require an environmental review before sellers receive a permit to export groundwater (or surface water that is replaced by additional groundwater pumping). Interviews indicate that the high costs of these reviews and the likelihood of negative public opinion often discourage potential sellers from seeking permits in the first place.



The state's rural counties are the most likely to impose groundwater transfer restrictions.

A statistical analysis of water transfers from 1990 to 2001 also shows that market restrictions have lowered total sales and shifted water to in-county users, who often pay less than outsiders. Since 1996, total sales have dropped by 787,000 acre-feet, or 14 percent, and total out-of-county sales have declined 932,000 acre-feet, or 19 percent. These reductions offset the

increases that followed state and federal efforts to promote water markets.

Resolving Third-Party Issues

Hanak notes that in the absence of state regulation, county restrictions are best regarded a first-step measure to protect local users from the effects of an unbridled water market. However, these restrictions do little to stabilize aquifers or encourage the efficient use or storage of groundwater. Achieving these goals requires a comprehensive strategy for groundwater management that balances the interests of local users, the potential gains from transfers, and environmental protection.

Land fallowing has created two key third-party issues. The first is establishing fair and sustainable rules for idling crops to sell water. Studies suggest that the local effects of fallowing have been small for programs idling anywhere from 6 to 29 percent of acreage. Current law requires public review of fallowing that exceeds 20 percent of the local water supply, and water districts increasingly include restrictions to maintain the viability of the idled land. However, the state's experience with fallowing is limited, and popular perceptions of its consequences are still shaped by the Owens Valley debacle a century ago, when the City of Los Angeles surreptitiously obtained water rights to the Owens River and ruined the valley's economy.

The second third-party issue is whether communities should receive compensation for land fallowing. Some federal precedents exist for mitigating economic effects when policy changes shift employment and business opportunities. Moreover, several California water transfers pending approval have earmarked funds for local communities. Many parties are concerned, however, that direct compensation would establish a dangerous legal precedent, generate excessive claims, and create unrealistic expectations about the potential community benefits from water transfers. For these reasons, Hanak concludes that funds for community development may have advantages over direct third-party compensation.

Since 1998, the legislature has rejected three bills to institutionalize mitigation. Hanak recommends that immediate legislative action be avoided for two reasons. First, California has no direct experience with such mitigation. Second, the parties involved in upcoming land fallowing programs are now establishing funds to benefit communities and designing measures to limit negative effects on third parties. If successful, these efforts may provide a new model for future programs.

This research brief summarizes a report by Ellen Hanak, Who Should Be Allowed to Sell Water in California? Third-Party Issues and the Water Market (2003, 196 pp., \$15.00, ISBN 1-58213-075-2). The report may be ordered by phone at (800) 232-5343 [U.S. mainland] or (415) 291-4400 [Canada, Hawaii, overseas]. A copy of the full text is also available on the Internet (www.ppic.org). The Public Policy Institute of California is a private, nonprofit organization dedicated to independent, objective, nonpartisan research on economic, social, and political issues affecting California.
