

California's Water Market

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➤ **Water marketing is an important tool for managing scarce supplies.**

In California's water market, buyers and sellers trade water through short- and long-term leases and permanent sales of their water rights. Trading adds flexibility to the state's water allocation process. Short-term transfers lessen the economic impact of shortages during droughts by shifting water to activities and places where the lack of water will be more costly. Long-term and permanent transfers accommodate geographic shifts in water demand as the economy changes and the population grows. Today, most trading involves surface water. Establishing local groundwater markets could significantly reduce the costs of bringing groundwater basins into balance under the Sustainable Groundwater Management Act (SGMA).

➤ **Water sales grew significantly during the 1990s, but trading has since been flat.**

Statewide, almost 1.5 million acre-feet of water are traded annually—about 4% of all water used by cities and farms. Most trading occurs within the same county (44%) or region (33%). The state began fostering market growth in the early 1980s, when annual trades averaged just over 100,000 acre-feet. A major uptick in market activity occurred during the 1987–92 drought. In 1991, direct state purchases and a state-run Drought Water Bank resulted in trades of more than one million acre-feet. Market expansion continued when the rains returned, partly driven by increased purchases of water for the environment. Trading has been fairly flat since the early 2000s.

➤ **Most water sales are from the farm sector.**

Both farms and cities buy water, but most sellers are in the farm sector—reflecting the fact that farms hold many more water rights (roughly four times as much as cities). The 2000s saw a shift toward more long-term leasing and permanent sales. Growing cities in the San Joaquin Valley and Southern California were major buyers. Southern California cities now receive nearly 15% of their supplies from such trades. The market has also supported productive farming areas lacking reliable supplies and has helped keep orchards alive during droughts.

➤ **Water sales also support the environment.**

Environmental water purchases have been used to support wildlife refuges, increase flows for fish, and until recently, reduce salt build-up in the Salton Sea. Such trades can help reduce conflicts among water users over the allocation of scarce supplies. In all, nearly six million acre-feet were acquired for environmental purposes from 1982–2017, or 17% of total market flows. Funds have come from state and federal taxpayers and some water users. Recent funding declines have reduced volumes of environmental water purchases.

➤ **The transfer approval process is complicated.**

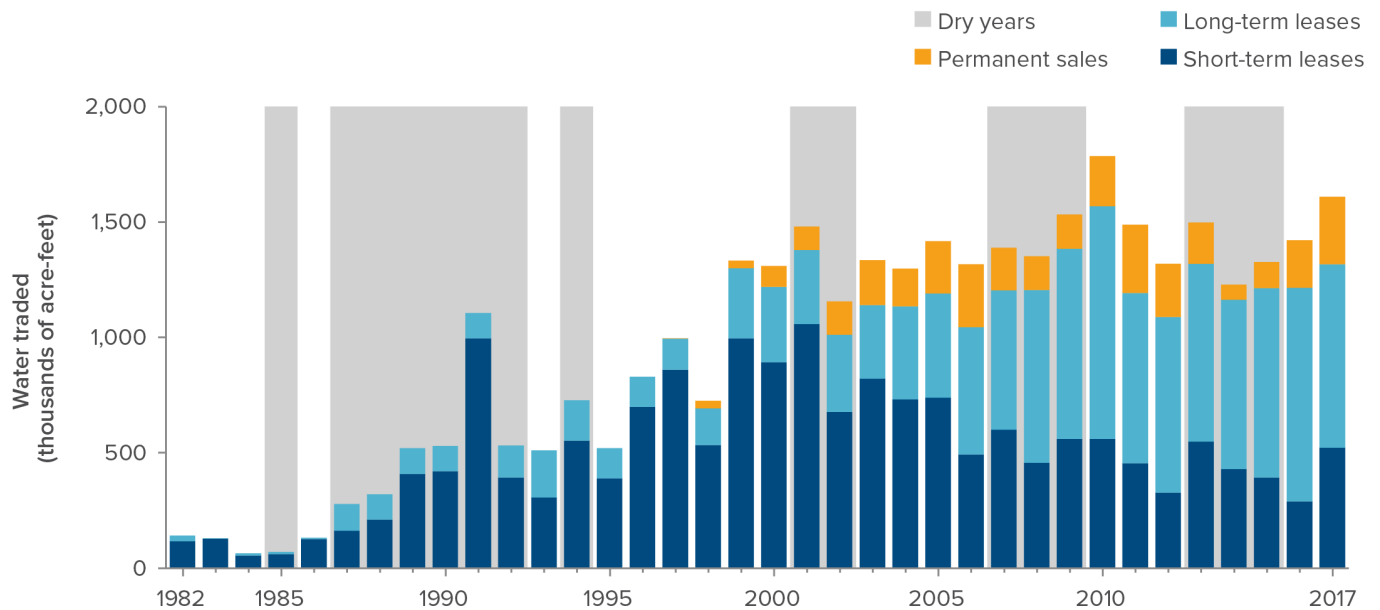
Trading is subject to regulatory oversight because moving water from one place to another can affect the environment and other water users. However, the transfer approval process is fragmented and inconsistent, with different rules for different types of water rights and agencies. State and federal administrative reviews can be lengthy—often taking months, even years. Many irrigation districts restrict trading of surface water with outside parties and many rural counties restrict transfers of groundwater. As part of their plans for implementing SGMA, many of the new groundwater sustainability agencies will also establish their own groundwater trading policies.

➤ **Reforms could help strengthen the market.**

Several changes could help California's water market function more smoothly. A top priority is improving information about water availability and how much can be safely traded without harming the environment or other legal water users. Establishing groundwater markets will require strong basin accounting systems, as well as caps on how much each water user may pump. Building a central repository of information on volumes and prices of trades can also improve transparency and market access. Clarifying and streamlining the review process for transfers is another priority. Addressing infrastructure weaknesses that restrict moving water between buyers and sellers can also improve trading in some areas.



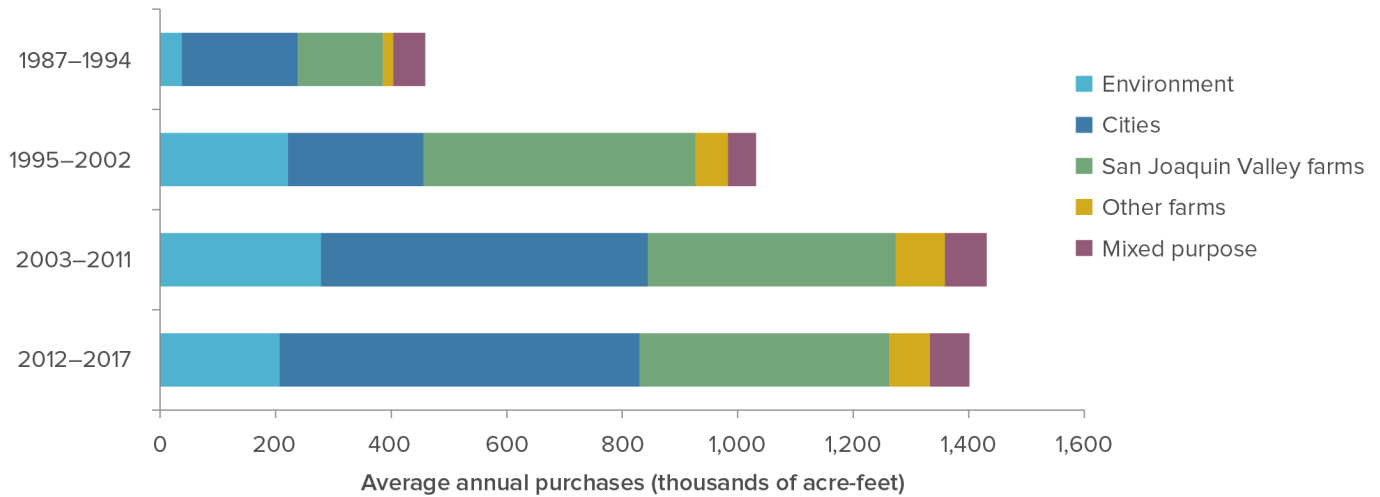
California's water trades have been fairly flat since the early 2000s



Source: Updated from E. Hanak and E. Stryjewski. *California's Water Market, By the Numbers: Update 2012* (PPIC 2012).

Notes: The figure shows surface water traded between entities that are not members of the same water district or wholesale agency. It excludes volumes committed under long-term lease and permanent-sale contracts that were not physically transferred because of hydrologic conditions or other factors (in 2017, roughly 500,000 acre-feet). Dry years are those classified as critical or dry for the Sacramento Valley. Volumes are in thousands of acre-feet (taf).

Cities, farms, and the environment acquire water through the market



Source: Updated from E. Hanak and E. Stryjewski. *California's Water Market, By the Numbers: Update 2012* (PPIC 2012).

Notes: The figure shows actual volumes purchased by different sectors. "Mixed purpose" denotes purchases by agencies with significant urban and agricultural uses, such as the Coachella Valley Water District and the San Luis & Delta-Mendota Water Authority.

Sources: Water trading: compiled from the authors from various sources. Water use: Department of Water Resources. Water trading benefits under SGMA: E. Hanak et al. *Water and the Future of the San Joaquin Valley* (PPIC 2019).

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