

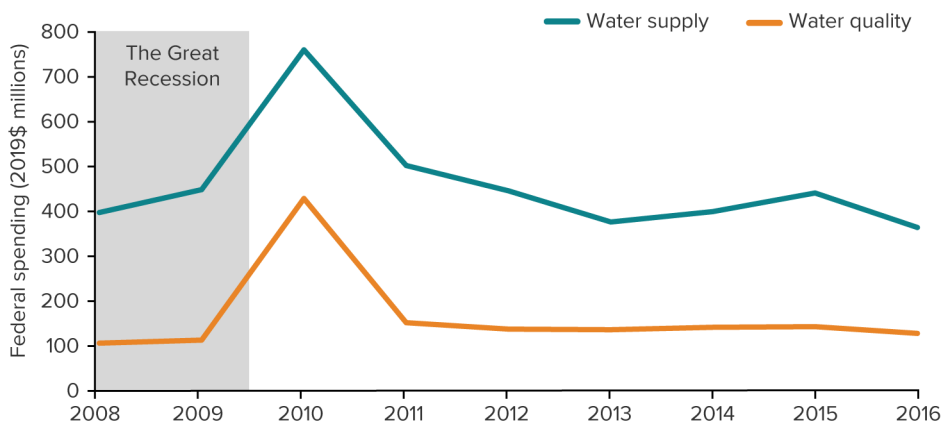


Source List for *Priorities for California's Water*

This document provides additional background references and figures for the PPIC policy brief, *Priorities for California's Water* (November 2020). This policy brief focuses on the effects of disruptions in 2020 on California's water sector and outlines priorities for action. Because comprehensive data on the effects of the COVID-19 health emergency and economic recession on the water sector were still limited at the time of writing, we supplemented published information with interviews with more than 50 experts from across the state to inform our understanding of associated water-related challenges and opportunities. If you have any questions about the information in the report or these sources, contact us at water@ppic.org.

Safe and Affordable Water

- **Risks posed by disinfecting wipes:** Environmental Protection Agency. “[Is it Okay to Flush Disinfecting Wipes?](#)”
- **Statewide utility-shutoff moratorium:** Office of Governor Gavin Newsom. 2020. “[Governor Newsom Issues Executive Order Protecting Homes, Small Businesses from Water Shutoffs.](#)”
- **Water and wastewater revenue loss during the Great Recession (6%):** Hanak, Ellen, and Jelena Jezdimirovic. 2020. “[Commentary: 3 Lessons for California's Water Funding Challenges in Today's Recession.](#)” *PPIC Blog*.
- **Small, rural water systems on the brink of failure:** Hanak, Ellen et al. 2018. *California's Water: Providing Safe Drinking Water*. PPIC.
- **California's Greenhouse Gas Reduction Fund at risk (May Auction):** Kahn, Debra. 2020. “[California Climate Programs See Bottom Fall Out of Main Funding Source.](#)” *POLITICO*.
- **The Safe and Affordable Funding for Equity and Resilience (SAFER) program was created in 2019 to help tackle these problems:** LAO. 2020. “[Expanding Access to Safe and Affordable Drinking Water in California- A Status Update.](#)”
- **During the last extended drought, the state provided emergency supplies where wells ran dry:** Mount, Jeffrey et al. 2015. *Policy Priorities for Managing Drought*. PPIC.
- **Affordability is a growing issue:** State Water Board. 2020. “[Low-Income Water Rate Assistance Final Report.](#)”
- **Lack of information on impacts to revenues:** Sparling, Nina. 2020. “[Just How Bad Is California's Water Debt Problem? The State Isn't Sure.](#)” CapRadio.
- **Propositions 218 and 26's limitation on options for publicly owned utilities to fund lifeline rates for water:** Hanak, Ellen et al. 2018. *California's Water: Paying for Water*. PPIC.
- **Federal spending boosted water and wastewater infrastructure during the last economic recovery:**

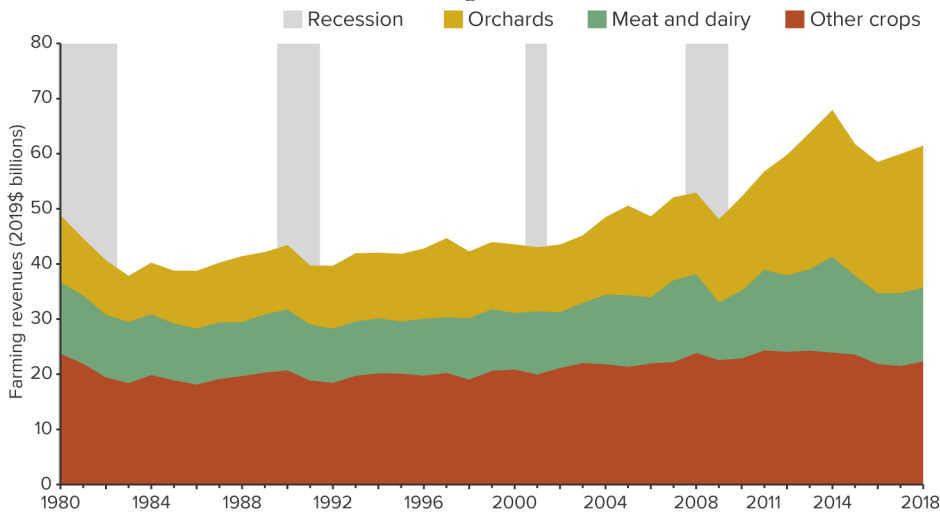


Source: Updated from *Paying for Water in California* (PPIC, 2014).

Notes: Water quality includes wastewater and stormwater spending. Deflated using Consumer Price Index. The Great Recession began in December 2007, and the recovery started in July 2009.

Agriculture and the Rural Workforce

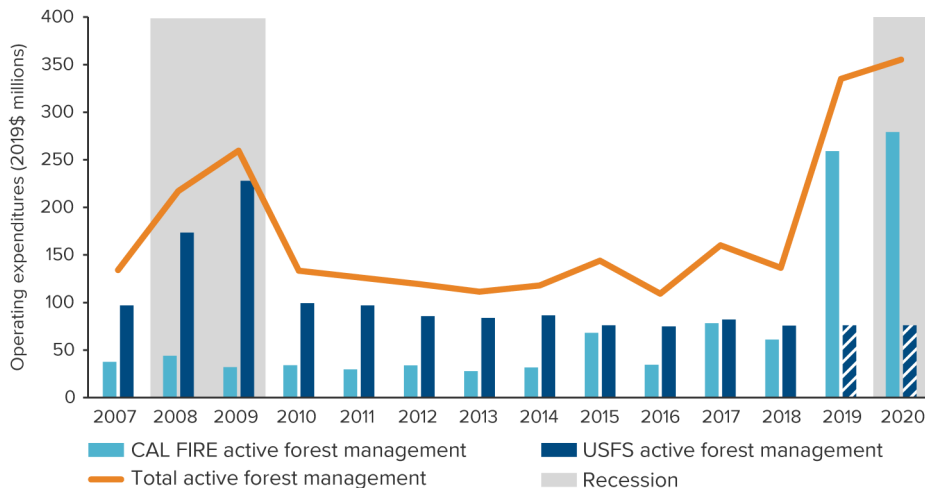
- **The pandemic brought supply chain disruptions:** *Agricultural and Resource Economics Update: May/June 2020*. University of California.
- **Many low-wage workers also faced high exposure risk from close living conditions and crowded commutes:**
 - Orozco Flores, Edward, and Ana Padilla. 2020. *Hidden Threat: California COVID-19 Surges and Worker Distress*. UC Merced.
 - Echeverria, Danielle. 2020. “In Wine Country, coronavirus cases rise in cramped farmworker housing.” *San Francisco Chronicle*.
- **Agricultural counties quickly became virus hotspots, hitting the largely Latino workforce:**
 - “California: Covid-19.” Rural Migration News. UC Davis.
 - Botts, Jackie, and Kate Cimini. 2020. “Investigation: COVID Rips Through Motel Rooms of Guest Workers Who Pick Nation’s Produce.” *CalMatters*.
 - Ho, Vivian. 2020. “‘Everyone Tested Positive’: COVID Devastates Agriculture Workers in California’s Heartland.” *The Guardian*.
 - Tobias, Manuela. 2020. “Foster Farms Processing Plant in California Ordered to Shut Down over COVID-19 Outbreak.” *Fresno Bee*.
- **Wine industry revenues and jobs were also hit hard by wildfires and smoke:**
 - Mobley, Esther. 2020. “Many California Wineries Will Make No Wine This Year Because of Wildfire Smoke.” *San Francisco Chronicle*.
 - German, Brian. 2020. “Wine Glass Half-Full: Challenges Help Balance Winegrape Oversupply.” *AgNet West*.
- **By mid-summer, the state sought to reverse this trend with coronavirus strike teams, increased workplace inspections, and temporary housing for exposed workers:**
 - “CA Sends COVID-19 Strike Teams to the Central Valley.” 2020. *Fresno Bee*.
 - Botts, Jackie. 2020. “First County Announces New COVID-19 Protections for Temporary Ag Workers.” *CalMatters*.
 - “The Final Say: Gov. Newsom has Decided which of these 2020 Bills will be California Law.” 2020. *CalMatters*.
- **Early groundwater plans reveal progress, but also unrealistic expectations about how much water is available for recharge:** Hanak, Ellen et al. 2020. “A Review of Groundwater Sustainability Plans in the San Joaquin Valley.” PPIC.
- **More cooperation is needed to develop alternative supplies, manage demands effectively, and address undesirable effects of pumping:** Hanak, Ellen et al. 2019. *Water and the Future of the San Joaquin Valley*. PPIC.
- **Another way to reduce risk is through negotiated agreements to manage environmental flows in Central Valley rivers:** Hanak, Ellen, and Jeffrey Mount. 2020. “Newsom’s Water Framework is Imperfect But Necessary. The Alternative is Further Deterioration of the Delta.” *CalMatters*.
- **California farm revenues often decline during recessions:**



Sources: National Agricultural Statistics Service (farm revenues), Bureau of Labor Statistics (CPI-urban price deflator), National Bureau of Economic Research (recession dating).

Wildfire Risk in Headwater Forests

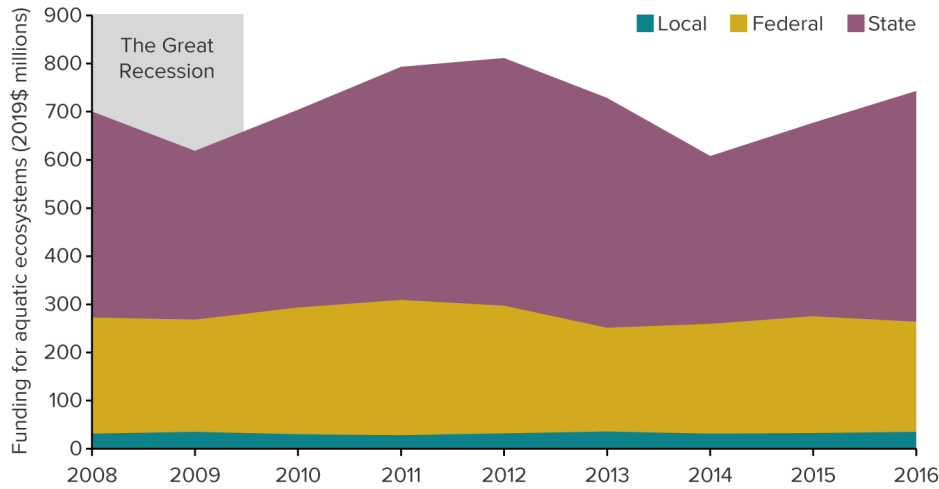
- **Increase in density of small trees in headwaters lands:** McIntyre et al. 2015. “Twentieth-Century Shifts in Forest Structure in California: Denser Forests, Smaller Trees, and Increased Dominance of Oaks.” *PNAS*.
- **Benefits of proactively managing headwater forests:** McCann et al. 2020. *The Benefits of Headwater Forest Management*. PPIC.
- **Fire suppression and vegetation management as essential services during COVID-19:** McCann and Butsic 2020. “How Is the Pandemic Affecting Wildfire Preparedness?” *PPIC Blog*.
- **California 2020 statewide wildfire siege:** McCann. 2020. “Grappling with the Statewide ‘Wildfire Siege.’” *PPIC Blog*.
- **Fuel reduction needs on USFS lands in the Sierra Nevada:** North et al. 2012. “Using Fire to Increase the Scale, Benefits, and Future Maintenance of Fuels Treatments.” *Journal of Forestry*.
- **State cap-and-trade spending on forest health:** McCann. 2020. “Paying for Forest Health Projects.” *PPIC Blog*.
- **Headwaters forest ownership:** Butsic et al. 2017. *Improving the Health of California’s Headwater Forests*. PPIC.
- **Forest management as a driver of economic recovery:** McCann and Butsic. 2020. “Improving forest health would create jobs, improve economies in rural California.” *CalMatters*.
- **Several forest health projects are funded by water utilities:** Edelson, David and Hertslet, Angel. 2019. “Restoring Forests through Partnership: Lessons Learned from the French Meadows Project.” Unpublished report of The Nature Conservancy, Placer County Water Agency, Sierra Nevada Conservancy, Placer County, American River Conservancy, and Sierra Nevada Research Institute at the University of California, Merced.
- **The recession jeopardizes recent increases in state spending on forest management:**



Sources: Governor’s 3-year positions, 2007–20. USFS budget justifications, fiscal years 2009–20 (2019 and 2020 are author projections). McCann. 2020. “Paying for Forest Health Projects.” *PPIC Blog*.

Freshwater Ecosystems at Risk

- **Freshwater ecosystem health has been declining for decades—a trend made worse by long-term drought and rising air and water temperatures:** Mount, Jeffrey, et al. 2019. *A Path Forward for California's Freshwater Ecosystems*. PPIC
- **Restoring more-natural flow patterns to rivers makes more efficient and effective use of water allocations:** Grantham, Ted, et al. 2020. *Making the Most of Water for the Environment: A Functional Flows Approach for California's Rivers*. PPIC
- **Climate Resilience Bond is on hold:** Kahn, Debra. 2020. "Newsom No Longer Backs Climate Resiliency Bond." *POLITICO Pro*.
- **De-escalation includes building a coalition of the willing within the water user community, repairing the strained relationship with the federal government, and expanding collaboration with stakeholders:** Hanak, Ellen, and Jeffrey Mount. 2020. "Newsom's water framework is imperfect but necessary. The alternative is further deterioration of the Delta." *CalMatters*.
- **State funding for ecosystems is vulnerable to cutbacks:**



Source: Updated from *Paying for Water in California* (PPIC, 2014).

Notes: Deflated using Consumer Price Index. The Great Recession began in December 2007; the recovery started in July 2009.