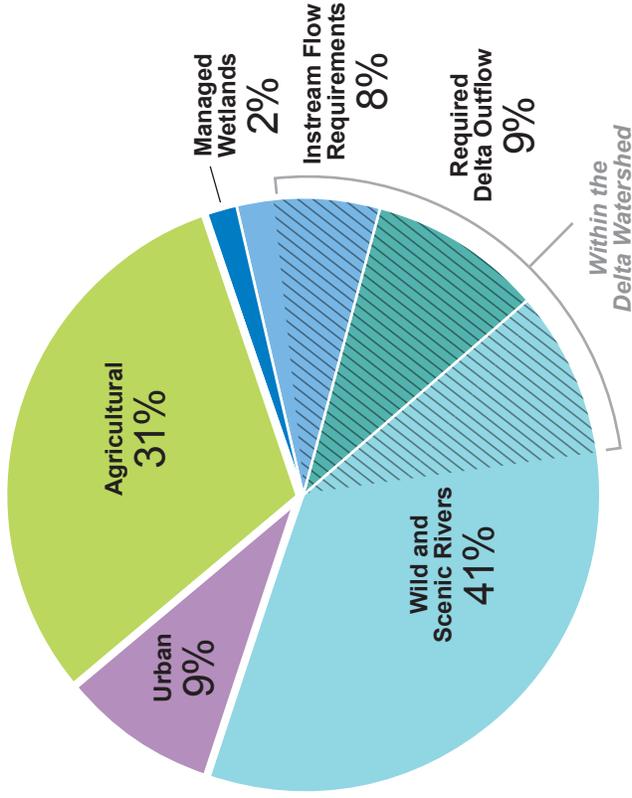




How Water Is Used in California

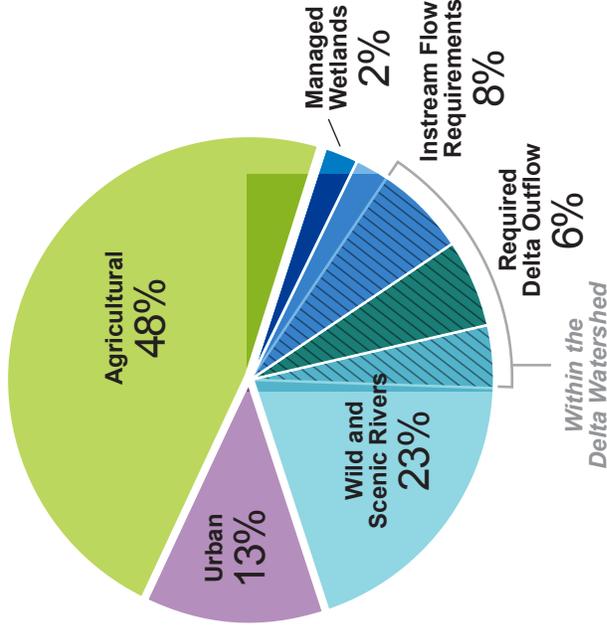
Water Year 2006 (Wet)

108 MAF



Water Year 2007 (Dry)

77 MAF



Water Use	Definition	Applied Water Use	
		2006 (Wet)	2007 (Dry)
Urban	Water for urban purposes, including residential, commercial, institutional, and industrial.	%	%
Agriculture	Water for irrigated agriculture including multi-cropping.	9%	13%
Managed Wetlands	Water for managed wetland areas.	31%	48%
Minimum Instream Flow Req'ts	Water within natural waterways as specified in an agreement, water rights permit, court order, FERC license, etc.	2%	2%
Minimum Required Delta Outflow*	Freshwater outflow from the Sacramento-San Joaquin Delta required by law to protect the beneficial uses within the Delta from the incursion of saline water.	8%	8%
Wild and Scenic Rivers	Over 2,000 miles of river systems are designated wild, scenic, and recreational under the 1968 National Wild and Scenic Rivers Act and the 1972 California Wild and Scenic Rivers Act.	9%	6%
		41%	23%
		MAF	MAF
		9.5	9.6
		33.3	36.9
		1.6	1.6
		8.5	6.5
		10.1	4.5
		44.8	18.1

* Total Delta Outflow is higher than Required Delta Outflow: 2006=41.3 maf and 2007=6.2 maf (pie chart includes Required Delta Outflow only). Quantities reflect surface and groundwater supplies.



Where Does California's Water Go?

- California's water supports three main sectors: cities and communities, agriculture and environment.
- On average, the proportion of water used by each sector is 10 percent cities and communities, 40 percent agriculture, and 50 percent environment.
- This statewide ratio varies widely depending upon whether a year is wet or dry.
- All sectors overlap: water allocated for one purpose is often reused for another purpose downstream.

Where Does Water Devoted to Agriculture Go?

- California's unique geography and Mediterranean climate have allowed the state to become one of the most productive agricultural regions in the world. The Sierra Nevada Mountain range that lines the eastern edge of the state captures and stores winter precipitation that can be then used for summer irrigation in the Central Valley. This water, combined with the Mediterranean climate, permits the growing of a great number of crops.
- California produces more than 300 different crops and leads the nation in production of more than 80 commodities. California is the sole producer of 14 commodities including almonds, artichokes, dates, figs, raisins, pistachios, prunes and walnuts.
- There are approximately 77,900 farms and ranches in California, and their combined sales generated \$46.4 billion in 2013. The value of California's farm output leads the nation.
- Most of this production would not be possible without irrigation. In an average year, California agriculture irrigates more than 9 million acres.

Much of Our Water Has Multiple Purposes

- Water released from upstream reservoirs to control salinity in the Sacramento-San Joaquin Delta often serves the dual purpose of benefitting threatened and endangered native species in the Delta and meeting various requirements to maintain certain levels of flow in rivers.
- Keeping saltwater out of the Delta also ensures that the State Water Project and the federal Central Valley Project can deliver fresh water to 25 million Californians and millions of acres of farmland.
- Much of the water dedicated to agriculture in California serves dual purposes: for example, flood-irrigated rice fields serve as critical habitat for many species of migratory birds that fly through California.
- In California agriculture, water is seldom used only once. Applied water is often reused multiple times on the same farm or in the same region. Reuse of agricultural recoverable flows is a prominent characteristic of California agriculture.

Drought Diminishes Supplies to All Sectors

- California communities have been ordered to reduce their overall water use by an average of 25 percent compared to 2013. State regulators tailored mandatory cutback targets ranging from 8 percent to 36 percent for each community based on past conservation efforts.
- In dry years, environmental flows are naturally reduced, as are many regulatory flow and water quality requirements. Some streams have dried up entirely. Others are slack and warm enough to threaten native fish populations. In the past two years of severe drought, flow requirements for environmental purposes also have been reduced by state regulators struggling to balance multiple demands for water. The State Water Resources Control Board has issued 12 separate orders since January 2014 in the Sacramento-San Joaquin Delta alone, reducing flows required for environmental purposes. These reductions made over 400,000 acre-feet of water available for other purposes in 2014, and another 600,000 acre-feet that will be made available for other purposes in 2015.
- A recent analysis by the University of California, Davis, Center for Watershed Sciences estimates that in 2015, surface water deliveries to farmers will be reduced by 8.7 million acre-feet. Groundwater pumping will increase an estimated 6.2 million acre-feet, for a net loss of 2.5 million acre-feet to California's farms.
- For two consecutive years, many San Joaquin Valley farms dependent upon the Central Valley Project have gotten no water from the project. Farms in Kern County dependent upon the State Water Project have had deliveries cut 80 percent. State regulators have ordered thousands of long-time water rights holders, many of them farmers and irrigation districts, to stop taking water from California rivers and streams because there simply is not enough water to meet all needs.
- Farmers are responding to the water shortages by pumping groundwater where possible, buying water from more fortunate growers, or fallowing land. UC Davis economists estimate that in 2015, farmers will choose not to grow crops on about 564,000 acres, with a corresponding loss of revenue of \$856 million.

State Growers Using Water More Efficiently

- Between 1967 and 2010, the total applied water to crops was reduced by 5 percent, from 31.2 million acre-feet to 29.6 million acre-feet (one acre foot is enough to supply all the needs of roughly two typical households for a year).
- Economic efficiency in that same time frame increased 96.6 percent, from a value of \$651 per acre-foot to \$1,280.
- Over four decades (a roughly corresponding period), yields rose at an average rate of 1.42 percent per year as both crop varieties and farming practices have improved. That makes the 40-year yield increase about 57 percent.
- More than half of California's irrigated agricultural acreage has some sort of precision irrigation technique being used (e.g., subsurface drip, micro-sprinkler and drip) with the sharp trend of these practices increasing each year.
- The state is facilitating greater adaptation of precision techniques with the State Water Efficiency and Enhancement Program (SWEET), a grant program for farmers implementing irrigation systems that reduce water and energy use and cut greenhouse gas emissions.
- Projects funded under the program will save hundreds of thousands of acre-feet of water and reduce greenhouse gas emissions by more than 2 million metric tons.