

Facts about California's Water System

Prepared by the Association of California Water Agencies

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Water Supply Overview

- Precipitation varies widely from year to year. In average years, close to 200 million acre-feet (MAF) of water falls in the form of rain or snow in California. One acre-foot is about 326,000 gallons, or enough water to supply two typical families for a year.
- Over half of that water soaks into the ground, evaporates or is used by native vegetation. That leaves somewhere around 82 million acre-feet of usable surface water in average years. Of that water:
 - 48% goes to environmental uses such as instream flows, wild and scenic river flows, required Delta outflow and managed wetlands.
 - 41% is used by agriculture.
 - 9% is used by cities and industry.
- About 75% of California's available water originates north of Sacramento, while about 80% of the demand occurs in the southern two-thirds of the state.
- Most of the rain and snowfall occurs between October and April, while demand is highest during the hot and dry summer months. The Sierra snowpack typically provides about 30% of the state's water supply when it melts in the spring and summer months.
- Groundwater provides about 40% of the state's water supply. In dry years, that percentage can climb as high as 60%.
- California is prone to both droughts and floods. Other notable droughts include a prolonged dry spell from 1987-1992 and an extremely dry span in 1976-1977.

Water Delivery System

- California's communities, farms and businesses rely on water from a variety of sources. Surface water projects, which capture and deliver rain and snow runoff, provide a major portion of the state's total water supply. The projects include more than 1,000 federal, state and local reservoirs and hundreds of miles of canals and pipelines.
- Two important projects are the federal Central Valley Project (CVP) and the State Water Project (SWP). The CVP and SWP bring water from Northern California through the Sacramento-San Joaquin River Delta for delivery to users in the San Joaquin Valley, parts of the San Francisco Bay Area and Southern California.
- Key water projects and the amount of water they are contracted to deliver:
 - **Central Valley Project (federal):** Delivers about 7 million acre-feet (MAF) per year. Constructed in 1930s - 1950s.
 - **State Water Project (state):** Delivers about 2.3 MAF / year. Constructed in 1960s – early 1970s.
 - **All-American Canal (local):** Delivers 3 MAF / year. Constructed in 1930s.
 - **Colorado River Aqueduct (local):** Delivers 1.2 MAF / year. Completed in 1941.
 - **Los Angeles Aqueduct (local):** Delivers 200,000 AF / year. Completed in 1913.
 - **Mokelumne Aqueduct (local):** Delivers 364,000 AF / year. Completed in 1929. Second aqueduct completed in 1949.
 - **San Francisco Hetch Hetchy Project (local):** Delivers 330,000 AF / year. Completed in 1923.

The Role of Local Water Agencies

- Local water agencies perform a number of functions to deliver water to California's communities, farms and businesses.
- Water agencies are as varied as the communities they serve. They range in size from small irrigation districts serving a few dozen farms to large urban agencies that serve millions of customers.
- Many agencies purchase water from the major state and federal water projects. They then treat the water as needed, and deliver it to their customers. Others act as wholesale agencies that buy or import water and sell it to retail water suppliers.

- Some agencies operate their own local water supply systems, including reservoirs and canals that store and move water as needed.
- Many agencies rely on groundwater exclusively, and operate local wells and distribution systems.
- In recent decades, local agencies have developed more diversified sources of water supplies. Many agencies use a combination of imported surface water and local groundwater. They also produce or purchase recycled water for use in irrigating golf courses and other landscaping.
- Many coastal agencies are pursuing ocean desalination projects to further diversify their water supplies. Other agencies operate plants that desalinate brackish groundwater.
- Some agencies have worked out water transfer agreements in which they purchase water from other agencies.
- Urban and agricultural agencies have invested hundreds of millions of dollars in water conservation and water use efficiency programs that reduce demand for water. Today, urban Southern California uses the same amount of water it used a few decades ago, even though its population has grown tremendously.
- Water agencies throughout the state are moving toward integrated regional water management planning, which generally includes a mix of programs such as water recycling, water use efficiency, groundwater management and conjunctive use, water transfers, flood protection and watershed management.
- In addition to providing water supplies, many local water agencies have responsibility for providing local flood control and flood protection. Some are responsible for managing and replenishing groundwater basins, while others also treat wastewater.
- Many local water agencies also play a role in managing watersheds, maintaining parks and other recreation facilities.
- Though specifics may vary for individual water agencies, many factors affect the cost of treating and delivering water including: rising treatment costs, aging water infrastructure, increasing energy costs, cost of developing new supplies and invasive species control. For more information, please see ACWA's Value of Water Spotlight page at <http://www.acwa.com/spotlight/value-water>.