

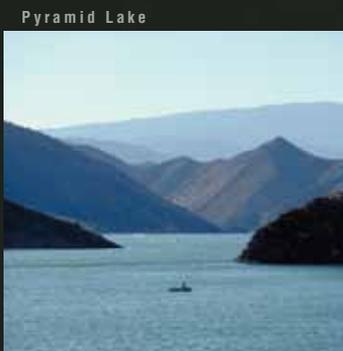
William R. Gianelli Pumping-Generating Plant Gallery



Ira Chrisman Pumping Plant



Barker Slough Pumping Plant



Pyramid Lake

CALIFORNIA STATE WATER PROJECT AT A GLANCE

OVERVIEW

The California State Water Project (SWP) is the largest state-built and operated multipurpose water and power system in the United States. The 701 miles of canals and pipelines provide drinking water for 25 million people and irrigation for 750,000 acres of farmland. The SWP also provides power generation, year-round recreation, flood protection, and helps maintain Delta water quality.

HISTORY

California's history, landscape and economy have been shaped by water. To address nature's water imbalance and allow for growth, water has to be transferred from where it is plentiful to where it is needed. Californians provided the solution with passage of the 1960 California Water Resources Development Bond Act, which authorized \$1.75 billion for construction of the SWP.



Lake Oroville

HYDROELECTRIC POWER

Project hydroelectric plants help keep water delivery rates to SWP contractors affordable by producing much of the electricity needed to pump water. Costs are also defrayed by pumping during

off-peak hours when electricity is less expensive and generating power for sale during periods of high demand when power is more expensive.

THE SWP

The project was constructed in stages from north to south. Oroville Dam, built from 1961 to 1967, is the tallest dam in the United States (770 feet) and one of the main sources of hydropower on the project.

Construction of the Delta pumping facilities, South Bay facilities, San Luis Reservoir (built by the U.S. Bureau of Reclamation and operated by DWR) and the California Aqueduct was completed in the late 1960s. The next phase delivered water over the Tehachapi Mountains at Edmonston Pumping Plant. Edmonston was completed in 1973 and has the highest lift per volume in the world with a single lift of 1,926 vertical feet and a maximum volume of 4,480 cubic feet per second. The newest facility of the SWP – the Cherry Valley Pumping Station on the East Branch Extension – was completed in 2003.

The SWP has been recognized by the American Society of Civil Engineers as one of the outstanding engineering achievements of the 20th Century.

SWP FACTS and FIGURES

GENERAL INFORMATION

Total Length of Canals and Pipelines	701 miles (1,128 kilometers)
Number of Storage Facilities	34
Lakes/Reservoirs (primary)	21
Total Reservoir Storage	5.8 million acre-feet (7.2 cubic kilometers)
Largest Reservoir Capacity	3.5 million acre-feet (4.3 cubic kilometers)
Largest Reservoir Surface Area	15,810 acres (6,398 hectares)
Longest Reservoir Shoreline	167 miles (269 kilometers)
Highest Dam Structure	770 feet (235 meters)
Largest Dam Structure	80 million cubic yards (61 million cubic meters)
Longest Dam Crest	42,000 feet (12,802 meters)
Highest Dam Crest Elevation	5,785 feet (1,763 meters)

CALIFORNIA AQUEDUCT

Starting Maximum Pumping/Canal Volumes	10,670 CFS/10,300 CFS
Highest Pump Lift/Volume	1,926 feet (587 meters) / 4,480 CFS
Largest Pumping Capacity	15,450 CFS
Largest Canal Capacity	13,100 CFS
Widest Part of Canal	110 feet (33.5 meters)
Deepest Part of Canal	32.8 feet (10 meters)

HYDROELECTRIC POWER GENERATION

Highest Single Year Generation	8.6 billion kWh
* Average System Generation	6.67 billion kWh
* Average System Purchases	2.66 billion kWh
* Average Pumping Load	6.51 billion kWh

**Average based on 1988-2007*

WATER DELIVERIES

Average Yearly Delivery (1990-2009)	2.4 million Acre-Feet
Highest Delivery (2006)	3.7 million Acre-Feet
Lowest Delivery (1977)	0.97 million Acre-Feet

(After full deliveries were started in 1973)



- ▲ Power Plant (P)
- Pumping Plant (PP)
- Pump Generation Powerplant (PGP)
- Pump Station (PS)

State Water Project Facilities

- 1 Hyatt PGP
- 2 Thermalito Diversion Dam P
- 3 Thermalito PGP
- 4 Barker Slough PP
- 5 Cordelia PP
- 6 Banks PP
- 7 South Bay PP
- 8 Del Valle PP
- 9 Gianelli PGP
- 10 Dos Amigos PP
- 11 Las Perillas PP
- 12 Badger Hill PP
- 13 Devil's Den PP
- 14 Bluestone PP
- 15 Polonio Pass PP
- 16 Buena Vista PP
- 17 Teerink PP
- 18 Chrisman PP
- 19 Edmonston PP
- 20 Alamo P
- 21 Oso PP
- 22 Warne P
- 23 Castaic PGP
- 24 Pearblossom PP
- 25 Mojave Siphon P
- 26 Devil Canyon P
- 27 Greenspot PS
- 28 Crafton Hills PS
- 29 Cherry Valley PS

PROJECT FUNDING

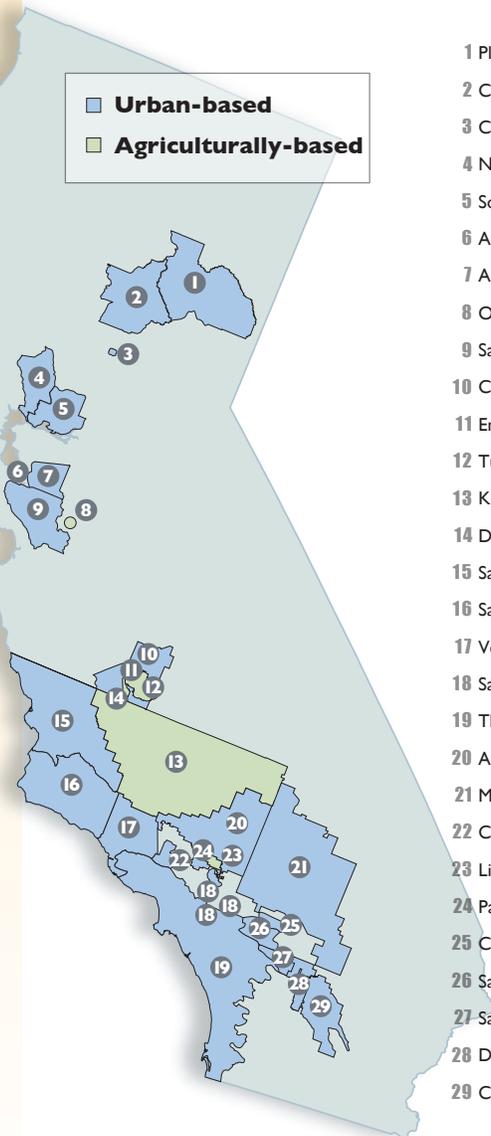
SWP water deliveries go to 29 contracting agencies that have contracts for annual deliveries of water. Through these contracts, the public agencies are repaying the \$1.75 billion general obligation bonds, plus interest, and additional bonds issued for added facilities. SWP contractors also pay for operations and maintenance costs, such as labor and equipment, and environmental projects that help mitigate for any impacts from the Project's water operations. The contractors have made cumulative payments totaling more than \$9 billion.



A.D. Edmonston Pumping Plant

State Water Project Contractor Service Areas

- **Urban-based**
- **Agriculturally-based**



- 1 Plumas County Flood Control & Water Conservation District
- 2 County of Butte
- 3 City of Yuba City
- 4 Napa County Flood Control & Water Conservation District
- 5 Solano County Water Agency
- 6 Alameda County Water District
- 7 Alameda County FCWCD: Zone 7
- 8 Oak Flat Water District
- 9 Santa Clara Valley Water District
- 10 County of Kings
- 11 Empire West Side Irrigation District
- 12 Tulare Lake Basin Water Storage District
- 13 Kern County Water Agency
- 14 Dudley Ridge Water District
- 15 San Luis Obispo County Flood Control & Water Conservation District
- 16 Santa Barbara County Flood Control & Water Conservation District
- 17 Ventura County Flood Control District
- 18 San Gabriel Valley Municipal Water District
- 19 The Metropolitan Water District of Southern California
- 20 Antelope Valley-East Kern Water Agency
- 21 Mojave Water Agency
- 22 Castaic Lake Water Agency (Devil's Den)
- 23 Littlerock Creek Irrigation District
- 24 Palmdale Water District
- 25 Crestline-Lake Arrowhead Water Agency
- 26 San Bernardino Valley Municipal Water District
- 27 San Geronio Pass Water Agency
- 28 Desert Water Agency
- 29 Coachella Valley Water District



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