

# OROVILLE THERMALITO COMPLEX



## LAKE OROVILLE

Lake Oroville is the largest reservoir of the State Water Project. The lake covers 15,810 acres and can store 3,537,580 acre-feet of water (one acre-foot equals about 325,800 gallons). When filled, that is enough water to supply about 40 percent of California's urban water needs for one year.

In addition to serving as a water storage facility, Lake Oroville provides flood control. As the lake level rises during heavy rains or spring snowmelt, water is carefully released downstream. During the 1997 exceptionally heavy rainfall, the January 1997 peak inflow was more than 300,000 cubic feet per second (a cubic foot is a little larger than a basketball), exceeding the previous record of 266,000 cfs recorded in 1986.

## OROVILLE DAM

Impounding the vast amount of water is Oroville Dam, the tallest and one of the largest dams in the United States. The dam, completed in 1968, stands 770 feet high with a crest (top of the dam) length of 6,920 feet. Over 80 million cubic yards of material were needed to build Oroville Dam – enough material to build a two-lane highway around the earth.

The dam's inner core is a vertical layer of clay material which resists seepage.

## LAKE OROVILLE AND OROVILLE DAM STATISTICS

Storage Capacity.....	3,537,580 Acre-Feet	Normal Maximum Surface Elevation.....	899 Feet
Surface Area.....	15,810 Acres	Dam Height.....	770 Feet
Shoreline.....	167 Miles	Crest Elevation.....	922 Feet
Maximum Depth.....	690 Feet	Crest Length.....	6,920 Feet
		Volume.....	80,000,000 Cubic Yards



### FOR MORE INFORMATION

Please visit the California Department of Water Resources' Web site at [www.water.ca.gov](http://www.water.ca.gov)

or the DWR Public Affairs Office at [www.publicaffairs.water.ca.gov](http://www.publicaffairs.water.ca.gov)

If you need this publication in an alternate form, please contact the Public Affairs Office at **1-800-272-8869**

## THE STATE WATER PROJECT

Planned, constructed and operated by the California Department of Water Resources, the State Water Project is the largest state-built, multipurpose water project in the U.S. The Project includes 34 storage facilities, 20 pumping plants, four pumping-generating plants, five hydroelectric power plants and approximately 700 miles of canals and pipelines. Its main purpose is water supply – that is, to divert and store water during wet periods and distribute it to areas of need in northern California, the San Francisco Bay area, the San Joaquin Valley, the Central Coast, and southern California. Other project purposes include flood control, power generation, recreation, fish and wildlife enhancement, and water quality improvements to the Sacramento-San Joaquin Delta.

Twenty-nine water contractors, the urban and agricultural water agencies that buy water from the State Water Project, have long-term supply contracts with the Department of Water Resources. Approximately 70 percent of SWP water goes to urban users and 30 percent to agricultural users.

## OROVILLE-THERMALITO COMPLEX

Located at the foot of the Sierra Nevada in Northern California, the Oroville-Thermalito Complex is a key water storage and electrical generation facility for the State Water Project. The project delivers water for agriculture, cities and industries and provides flood control, recreation, water quality improvement, fish and wildlife protection and enhancement and hydroelectric power.

The Oroville-Thermalito Complex includes Lake Oroville and Oroville Dam, Edward Hyatt Powerplant, Thermalito Pumping-Generating Plant, Thermalito Diversion Dam and Powerplant, Thermalito Forebay and Afterbay, and the Feather River Fish Hatchery, which includes a fish barrier dam.



The Oroville-Thermalito complex, located 70 miles north of Sacramento, is accessible from Oroville Dam Boulevard off Highway 162 or the Montgomery Street exit off Highway 70.

## HISTORY

Gold was discovered in 1848 at Bidwell Bar, now submerged in Lake Oroville, which was named after John Bidwell, one of California's leading citizens. The resulting rush of gold-seekers to the area created many tent towns along the Feather River. One such town, called Ophir, became the city of Oroville, county seat of Butte County.

Visible from the Lake Oroville Visitors Center is the new Bidwell Bar Bridge. The original bridge, the first suspension bridge west of the Mississippi River, was shipped around Cape Horn and erected across the Middle Fork of the Feather River. During the construction of Oroville Dam, it was relocated to the Bidwell Canyon Recreation Area.

## EDWARD HYATT POWERPLANT

In the bedrock beneath Oroville Dam, a cavern—large enough to hold almost two football fields – was blasted out to house Edward Hyatt Hydroelectric Powerplant.

Water released from Lake Oroville flows through Hyatt's turbines, which spin the powerplant's six generators that have a combined rated output of 714,500 kilowatts of electricity, the amount of energy needed to light the city of San Francisco.

## THE THERMALITO FACILITIES

Situated downstream from Oroville Dam are the Thermalito Facilities: Thermalito Diversion Dam, Diversion Dam Powerplant, Power Canal, Forebay, Pumping-Generating Plant, and Afterbay.

After passing through Hyatt's turbines, water from the lake is diverted by the Thermalito Diversion Dam into the Thermalito Power Canal, a concrete-lined canal about 10,000 feet long. The canal carries water in either direction between the Thermalito Diversion Dam and the Thermalito Forebay for pumping or power generation at the Edward Hyatt and Thermalito plants.

Thermalito Forebay and Afterbay store water used to regulate pumping and power generation. The Forebay can hold 11,770 acre-feet of water and the Afterbay 57,040 acre-feet.

Water released from the Forebay flows through Thermalito Pumping-Generating Plant's four turbines, which have a combined rated output of 126,000 kilowatts. Together, Hyatt and Thermalito powerplants produce an average of 2.2 billion kilowatt-hours of electricity each year.

## FEATHER RIVER FISH HATCHERY

Feather River Fish Hatchery was opened in 1967 to compensate for spawning areas lost when the river was blocked by the construction of Oroville Dam.

Each year, thousands of people tour the hatchery to watch the salmon runs in the fall and steelhead runs in the winter. Special windows below the water level give visitors a unique view of fish leaping their way up the ladder to the hatchery.

At the hatchery, salmon and steelhead are artificially spawned. Eggs are taken from the female and fertilized with milt (fluid containing sperm) from the male. After these eggs hatch, the young fish are raised in rearing raceways until they are large enough to be released.

Financed by the Department of Water Resources and operated by the Department of Fish and Game, the hatchery is open to the public from 8 a.m. to sundown daily.

## RECREATION

As a visitor, you will find that Lake Oroville's vast size and 167-mile shoreline offer ample opportunities to swim, fish, water-ski, camp and picnic. Thermalito Forebay and Afterbay also provide recreation areas for water sports, fishing and picnicking. Limited waterfowl hunting is permitted on the Afterbay only, and additional hunting opportunities await at the Oroville Wildlife Area.

## VISITORS CENTER

Located southeast of Oroville Dam, Lake Oroville Visitors Center sits atop Kelly Ridge. The Center's 47-foot-high viewing tower gives visitors a sweeping view of the Oroville-Thermalito Complex, the Bidwell Bar Bridge, part of the Sierra Nevada mountain range and the Sutter Buttes, one of the smallest distinct mountain ranges in the world.

The Visitors Center, which won a national award for its architectural design, houses wall displays, local artifacts, and several multi-media displays explaining the story of the State Water Project and the Oroville-Thermalito Complex. Jointly operated by the Department of Water Resources and the Department of Parks and Recreation, the Center is open 9 to 5 daily, except Thanksgiving, Christmas and New Year's Day. It is located at 917 Kelly Ridge Road. Staff is available to answer questions and admission is free.

For more information, call the Visitors Center at (530) 538-2219.

