Friant Division Facts

FRIANT DAM

Type	Concrete gravity
Location	San Joaquin River above Friant, 17 miles northeast of downtown Fresno
Groundbreaking Ceremony	November 5, 1939
Basic Construction Period	1939-42 *(Outlet gates installed in 1944; spillway drum gates installed in 1947)*
Outlets	To the San Joaquin River, Madera Canal and Friant-Kern Canal
Power Plants	Operated by the Friant Power Authority (on the river and canal outlets), and by the Orange Cove Irrigation District (on a water line supplying the Friant fish hatchery)
Named For	The nearby town of Friant, recalling pioneer lumberman Thomas Friant

Dimensions

Structural Height	319 feet (97.23 meters)
Hydraulic Height	296 feet (90.2 meters)
Top Width	20 feet (6.1 meters)
Maximum Base Width	267 feet (81.4 meters)
Crest Length	3,488 feet (1,063 meters)
Crest Elevation	581.3 feet (177.2 meters) above sea level
Total Concrete Volume	2,135,000 cubic yards (1,632,325 cubic meters)
Spillway	Overflow section at dam's center controlled by three 18- by 100-foot gates, including two new rubberized air-filled bladder gates and one drum gate
Elevation, Top of Gates	578.0 feet (176.2 meters)
Spillway Crest Elevation	560.0 feet (170.7 meters)
Maximum Release To River	59,770 cubic feet per second, on January 3, 1997

MILLERTON LAKE

Total Capacity	520,500 acre feet *(elevation 578 feet)*
Record Maximum Storage	530,452 acre feet, on January 3, 1997*(elevation 580.01 feet)*
"Dead" Storage	135,000 acre feet *(capacity below canal outlets)*
"Active" Storage	385,500 acre feet *(maximum available for beneficial Friant Division use)*
Surface Area At Capacity	4,900 acres (1,983 hectares)
Maximum Length	15 miles (24.1 kilometers)
First Water in Reservoir	October 20, 1941 *(after temporary river outlets were closed)*
First Controlled Storage	February 21, 1944 *(after outlet gate valves were installed)*
Named For	The town of Millerton, county seat of Fresno County from 1856-74, the site of which is inundated by the reservoir. Millerton took its name from an earlier nearby military post, Fort Miller, which was named for Army Major Albert S. Miller.

FRIANT-KERN CANAL

Length	151.8 miles, from Friant Dam to the Kern River in Bakersfield, Kern County
Construction Period	1945-51
First Water Release From Friant Dam	July 9, 1949
Capacity	5,300 cubic feet per second in the upper reaches, gradually decreasing to 2,500 c.f.s. at the canal's terminus
Length Lined With Concrete	Approximately 127 miles
Service Area	863,662 acres in Fresno, Tulare and Kern counties

MADERA CANAL

Length	35.9 miles, from Friant Dam to Ash Slough near the Chowchilla River
Construction Period	1940-45
First Water Release From Friant Dam	June 4, 1944
Capacity	1,275 cubic feet per second in the upper reaches, gradually decreasing to 750 c.f.s. at the canal's terminus
Service Area	180,676 acres in Madera and southern Merced counties

Sources: *U.S. Bureau of Reclamation and Friant Water Authority*

The Friant Division

The Friant Division is a centerpiece of the original Central Valley Project plan. It irrigates more than a million acres along the valley's east side between Arvin and Chowchilla through the Friant-Kern and Madera canals with San Joaquin River water diverted at Friant Dam.

FRIANT DAM & MILLERTON LAKE

Friant Dam and Millerton Lake, 16 miles northeast of downtown Fresno, provide the water that supplies the Friant-Kern and Madera canals. The 319-foot-high straight concrete gravity-type dam was completed in 1944. The lake is fairly small. Reservoir capacity is 520,500 acre-feet (although 135,000 acre-feet of that amount is “dead storage,” below the canals' intakes and not available for irrigation use). The region served from Friant Dam and Millerton Lake originally had limited surface water supplies or none at all.

FRIANT-KERN & MADERA CANALS

The Friant-Kern Canal flows 152 miles between Friant Dam and the Kern River in Bakersfield. The canal serves a highly productive farming region and communities along the valley's east side as far as Arvin in Kern County. The canal's initial capacity is 5,300 cubic feet per second and gradually diminishes to 2,500 c.f.s..

The Madera Canal stretches northwesterly 36 miles, from Friant to Ash Slough near Chowchilla. Its initial capacity is 1,000 c.f.s. The canal is maintained by the Madera-Chowchilla Water and Power Authority.

HOW THE SYSTEM WORKS

The Friant system is made possible by a unique water exchange that was a centerpiece of the Central Valley Project's original plan.

Under normal conditions, 840,000 acre-feet of Northern California water is delivered to Mendota Pool through the Delta-Mendota Canal for use by four west side agencies with historic San Joaquin River water rights.

As a result, 800,000 acre-feet of water may be diverted for the firm Friant supply known as Class 1 water. Another 1,400,000 acre-feet of water for Class 2 Friant contractors develops after it becomes evident that Class 1 demands will be met by that year's water supply.

WATER SERVICE CONTRACTORS

There are 28 long-term Friant Division water service contractors. They include 23 agricultural water providers and five municipal and industrial contractors. Another eight agencies have Cross Valley Canal water exchange contracts capable of importing more than 128,000 acre-feet of additional water annually into the Friant service area from Northern California.

GROUNDWATER RECHARGE

Groundwater recharge is of great importance to the Friant Division and was one of the project's original objectives. Friant's two-class system of water deliveries is based upon the conjunctive use of surface water and groundwater.

In wet years, up to 1,400,000 acre-feet of Class 2 San Joaquin River water is delivered to many Friant districts. A great deal of Class 2 water is used to irrigate in lieu of pumping.

Several Friant districts use percolation basins and channels to recharge the groundwater reservoir by "banking" surface water. In dry years when little or no Class 2 water is available, the "banked" groundwater can be pumped for irrigation.

FRIANT WATER AUTHORITY

The Friant Water Authority is a public agency formed by its members under California law to operate and maintain the Friant-Kern Canal, and to serve the information and representation needs of its members. Current membership is composed of 19 irrigation, water, water storage and public utility districts. Each member has one seat on the Board of Directors.

The Central Valley Project

The Central Valley Project's Friant Division is critical to the well-being of nearly one million acres farmed mostly by small family growers along the southern San Joaquin Valley's east side. These summaries are to help you understand the CVP's importance and how the project and its Friant Division operate. To learn more, please contact your local irrigation or water district manager or telephone the Friant Water Users Authority in Lindsay at (559) 562-6305.

THE BIG CVP

The federally-operated Central Valley Project extends nearly 400 miles from the Trinity River and Lake Shasta (north of Redding) to the base of the Tehachapis in Kern County, making use of an complex system of dams, pumping plants, canals and local district distribution facilities. It is California's biggest water project. The CVP is managed by the U.S. Bureau of Reclamation, an agency within the Interior Department.

BACKGROUND

The CVP came about to help California meet its critical water needs. It was conceived by the State of California in the 1920s and early 1930s to protect the Central Valley from floods and water shortages. The plan called for utilizing the San Joaquin River and an exchange water supply from the Sacramento River to create a greater and more stable supply of water for the central and southern San Joaquin Valley and other areas.

A CVP bond issue of $170 million was approved by the state's voters in 1933 but, in midst of the great Depression, the bonds could not be sold. At California's request in 1935, the United States took over the CVP's development. The U.S. followed the state's basic water plan for the CVP in creating this Reclamation project.

Initial project features were constructed between 1937 and 1951. Friant Dam, one of the project's first features to be built, was essentially completed by 1944.

Other CVP features (including the San Luis Unit on the valley's west side in 1960) were added later.

STORAGE & POWER

The CVP's 20 reservoirs can store 12 million acre feet of water. There are eight CVP hydroelectric power generating plants and two pumping-generating plants.

THE CVP'S MANY BENEFITS

The CVP is a multiple-purpose project which has proven to have extensive benefits.

Along with irrigation water, the CVP provides flood control and improves Sacramento River and Delta navigation. The project supplies domestic and industrial water, generates electrical power, conserves and enhances fish and wildlife, creates recreational opportunities and greatly improves in-stream water quality in normally low-flow months. The CVP supplies irrigation water to more than 20,000 farms covering 3,757,000 acres, more than one-third of California's farmland. Also supplied by the CVP is approximately 13% of California's municipal and industrial water.