

# New Melones Lake



## a fact sheet

PUBLIC AFFAIRS OFFICE  
U.S. ARMY CORPS OF ENGINEERS  
SACRAMENTO DISTRICT  
650 CAPITOL MALL  
Sacramento, California 95814  
(916) 440-2183/2292

### STATUS AS OF JULY 1978

The New Melones Lake project is located on the Stanislaus River near Jamestown and Sonora, about 35 miles northeast of Modesto, California. The 625-foot-high (measured from the streambed) earth and rockfill dam will create a lake with a 2.4 million acre-foot capacity. It is presently under construction about three-quarters of a mile downstream from Melones Dam, built in 1926 by the Oakdale and South San Joaquin Irrigation Districts for irrigation and power generation purposes.

Construction of the new dam began in 1966; approximately \$250 million have been spent on the project to date. The major phases of the project already completed include: access roads (1968), \$1.9 million; scaling (1968), \$1.8 million; a 3,800-foot-long diversion tunnel (1973), \$27 million; State Highway 49 (Archie Stevenot) Bridge and highway relocation (1975), \$15 million.

The ongoing contracts include: main dam and appurtenances (Atkinson-Ball-Arundel Corporation), \$110 million; power plant and appurtenances (Atkinson-Ball-Arundel Corp.), \$40 million; Parrotts Ferry Bridge and road relocation (S. J. Groves and Sons Company), \$10.2 million; Camp Nine Bridge and road relocation (Roy E. Ladd, Inc.), \$2.8 million; turbines (Allis-Chalmers), \$5.3 million; generators (General Electric), \$6.2 million; transformers, \$1.5 million; miscellaneous smaller contracts, \$2 million.

Of the total 16 million cubic yards of earth and rock that will comprise the main dam, about 13 million cubic yards have been placed to date. Most of the construction materials for the dam are excavated from the spillway, about 1½ miles west of the dam. The power plant structure is essentially complete. Most of the remaining work, such as installing the two turbines and generators and electrical items, is inside the structure. The 230-foot-high piers of the Parrotts Ferry Bridge are complete. The 640-foot-long center span will be the longest of its type (segmented prestressed concrete box girder) when it is finished in March 1979. The Camp Nine Bridge, located at the northern extreme of the reservoir, will be completed this year. The federal government has purchased most of the lands for the lake, including a wildlife management area and a portion of the recreation lands along the lower Stanislaus River. Easements are being acquired along the 59 miles of the lower Stanislaus River to provide for project design releases and to preserve and enhance fish and wildlife resources.

A low bid of \$83.2 million was received for construction of the main dam in October 1972, but award of a contract was withheld pending the outcome of a suit filed by the Environmental Defense Fund, Inc., eleven commercial rafting companies, the Sierra Club, and others. The complaint alleged that the Corps' Environmental Impact Statement (EIS) was inadequate. After the EIS was reviewed and a supplement provided, the U.S. District Court, on 16 March 1973, found the statement adequate. The plaintiffs appealed this decision to the Ninth Circuit Court of Appeals; subsequently, the Circuit Court upheld the findings and decision of the District Court, whereupon the plaintiffs took their plea to the U.S. Supreme Court. On 29 April 1974, the

Supreme Court refused to hear the appeal, thereby letting stand the ruling by the Ninth Circuit Court of Appeals that the New Melones EIS meets the requirements of the National Environmental Policy Act of 1969. (A supplement to the EIS describing the impacts of the Camp Nine Road relocation was completed in March 1977 and filed with the Council on Environmental Quality.)

In the meantime, however, the successful low bidder for the main dam withdrew his bid because of changing economic conditions. The Corps readvertised for bids in December 1973, and on 26 February 1974 received a low bid of \$109.7 million, an increase of \$26.5 million over the original low bid. Atkinson-Ball-Arundel, a joint venture corporation, started work on the main dam on 6 March 1974.

### **AUTHORIZATION AND PLANNING**

Congress in 1944 authorized construction of the New Melones Reservoir to help alleviate serious flooding problems along the Stanislaus and lower San Joaquin Rivers. With the approval of the Governor of California, Congress modified the authorization in the 1962 Flood Control Act to provide additional benefits from the project.

Further modifications in the plan since 1962 include provisions for the dam to be operated to improve the quality of water in the lower Stanislaus and San Joaquin Rivers, for expansion of environmental mitigation features, and for an increase in the capacity of the power plant from 150 to 300 megawatts. These improvements resulted from in-depth analyses of the economic, social, and environmental values consistent with current priorities. The functions of the project now include flood control, irrigation water supply, power, fishery enhancement, water quality improvement, and recreation.

### **FLOOD PROTECTION**

One of the most urgently needed functions of the project is flood control. New Melones will reduce large flood flows to 8,000 cubic feet per second, a flow which can be contained within the channel and levees downstream. Flowage easements on the Stanislaus River will be purchased to maintain a channel sufficient to permit the safe release of this controlled amount. Some 35,000 acres of highly developed agricultural land and

suburban areas along the Stanislaus River will be protected from flooding. Together with other projects on the lower San Joaquin River and tributaries, New Melones will aid materially in reducing floods along the lower San Joaquin River and in the Sacramento-San Joaquin Delta, thereby helping to protect an additional 235,000 acres of intensively developed agricultural lands, military installations, and industrial and suburban areas.

### **IRRIGATION**

The project will provide an irrigation supply of about 210,000 acre-feet (68 billion gallons) of new water each year to relieve current and predicted water shortages. If any of this new water is surplus to local needs, it will be available to serve other water-deficient areas of the San Joaquin Valley. Most of the water released for irrigation and other project purposes will also be used for power generation.

### **HYDROELECTRIC POWER**

The project's 300 megawatt hydroelectric power plant will generate over 400 million kilowatt-hours of energy each year, enough to satisfy the domestic electrical requirements of about 200,000 persons. It would take about 30 million gallons of oil each year to produce equivalent energy in an oil-burning plant. Furthermore, New Melones power, generated by falling water, will produce no air or water pollution.

According to the Public Utilities Commission, all electric power plants in California had a generating capability of 37,963 megawatts as of December 1974. Of this total, about 24 percent — 9,024 megawatts — was in hydroelectric plants. New Melones would increase this clean hydroelectric capability by more than 3 percent.

### **WATER QUALITY**

Operation of New Melones lake for flood control, irrigation, power and recreation demands, and to achieve specific water quality and fishery objectives, will alter the existing flow characteristics of the Stanislaus River and, to a lesser extent, the San Joaquin River. High peak winter flows, which presently have a flushing action, will be reduced. However, more consistent, year-round sustained flows will result, which will assist in improving water quality.

At present, agricultural and other pollutants are causing water quality problems during low flow periods. Water released during such periods for the purpose of water quality enhancement will substantially correct deficiencies in dissolved oxygen and high levels of dissolved solids that presently occur at times in the Stanislaus and San Joaquin Rivers, and will result in benefits to the fishery resources and agricultural uses.

The water quality objectives are to maintain a dissolved oxygen level in the Stanislaus River of at least 5 parts per million, and to hold total dissolved solids in the San Joaquin River at Vernalis to a maximum of 500 parts per million.

### **FISHERY ENHANCEMENT**

The Stanislaus River was once an important salmon stream. In 1953, a run of 35,000 spawning salmon was recorded and much larger runs are believed to have occurred within historic times. During the period 1960 to 1970, the average run was 6,000 annually, dropping to only a few hundred in some years. The decline is the result of several factors, including spawning gravel removal, low stream flows, and, at times, poor water quality. During the 1960-'70 period, 35 percent of the salmon spawning beds were lost by removal of gravel and the growth of vegetation. Flows in the lower river in recent years have been greatly depleted by upstream diversions. New Melones Lake will restore a substantial part of the declining fishery by improving environmental conditions. Spawning gravels will be protected and preserved, and releases will be made from the reservoir during critically dry periods to maintain high quality flows of suitable temperature in the lower Stanislaus River all year. In this manner, the existing fall fish runs will be increased and a long-vanished spring run can be reestablished. An interest in riverside lands will be acquired to protect and preserve gravel beds and other habitat important to fish and wildlife.

Another significant fishery enhancement will be the new lake fishery. The characteristics of New Melones Lake will be favorable for establishment of both cold and warm water fish species.

### **RECREATION**

Annual public use of the lake for recreation is expected to exceed 800,000 recreation days within three years after completion of the project.

Visitors will enjoy the use of 3,000 acres of landscaped recreation areas, including camping and picnicking areas, with restrooms and showers, access roads, and parking lots, boat launching ramps and related facilities, in settings designed to preserve and emphasize the scenic resources of the project area. Important activities will include public enjoyment of the fish and wildlife resources of the new lake and the special wildlife management area.

Public use is expected to increase steadily to about 3 million recreation days each year, based on current population growth and the experience gained from observations of recreation use at other projects.

Recreation will not be confined to the lake itself, but will extend over some 60 miles of the lower Stanislaus River downstream from the dam. Here, where insufficient public access now limits recreational use, the Corps will improve accessibility. Plans have been approved to purchase and develop new park-campgrounds, designed to support the increased boating use that will come with higher river flows during the summer months. Two existing parks may be incorporated into the plan. In addition, the Corps is buying and will make available for public use a series of fishing access strips along the river. A trout fishery below Goodwin Dam will be established to take advantage of the release of colder waters and improved flows from New Melones Lake.

Under the adopted plan, the qualities of the Stanislaus River for fish and wildlife and public use would be protected and enhanced. A notable feature will be preservation of the trees and other riparian habitat along the stream, which are important to the river ecosystem and the aesthetics of the river.

The Corps plans to develop a four-mile course for kayakers in the lower river canyon upstream from Knights Ferry, a course with "excellent potential for the development of a white water training site," according to U.S. Olympic kayak team coach, Tom Johnson. This will partially compensate for the loss of the white water upstream of the dam. An upstream white water reach of 9 miles between Camp Nine and Parrotts Ferry Bridge, and a secondary reach of 5 miles between Parrotts Ferry Bridge and Highway 49 will

be inundated by the New Melones Lake. During the 1975 season, this white water area, which has been enhanced by water releases from upstream dams, was used by about 20,000 customers of about 18 commercial rafting companies, and up to 10,000 private individuals. It is recognized that loss of this rafting area is significant to white water enthusiasts, and that complete mitigation may not be possible. Nevertheless, studies are underway for additional mitigation of this loss.

### **ARCHAEOLOGICAL VALUES AND OTHER RESOURCES**

The Corps of Engineers, the Department of the Interior, and cooperating archaeologists have been exploring the New Melones Lake area for a number of years and have made many findings concerning California's gold mining history and the earlier Indian occupation and use of the project area. Detailed surveys of cultural resources in the project area and along the lower Stanislaus River have been completed and coordination with concerned state and federal agencies is continuing. Some of the 583 cultural sites recorded have been found significant and declared eligible by the Department of the Interior for inclusion in the National Register of Historic Places. The cultural resources study program includes recording, salvaging, protecting and preserving the important sites. It is planned that examples and explanations of these findings will be available for public viewing and enjoyment.

There are about 100 known caves in the vicinity of the New Melones Lake area. Many of these will be within the project lands now being acquired. The National Speleological Society assisted the Corps in developing a preliminary plan for acquisition and use of the caves at the lake. The U.S. Bureau of Land Management is now developing detailed operation and management plans for the caves. The plan will afford protection of the caves' important geological, archaeological, historical, and biological resources. Some of the caves qualify for the National Register of Historic Places. The plan will also consider recreational opportunities and safety precautions for the visitor, since some of the caves have vertical shafts up to 250 feet deep.

Many of the caves contain a variety of invertebrate animals, salamanders and bats. About 20

caves will be inundated by the new lake, and a few of these contain some of these animals. Studies have shown that there are two rare species of spiderlike harvestmen. Since one of these species is known to occur in only two caves, one of which will be inundated, the Corps has relocated some of the harvestmen to a mine shaft at a higher elevation and studies of harvestmen are continuing.

### **OPERATIONAL RESPONSIBILITIES**

When completed, the New Melones project will be transferred to the Department of the Interior. The Department's Bureau of Reclamation will assume the major operational responsibilities, such as operation and integration of the water supply and electrical energy into the Central Valley Project. The Bureau of Land Management will assume operation of some project features, such as the caves management program. In addition to use for fishery and water quality purposes, the Department will use the new water developed by the project in one or more of the following ways: (a) to serve irrigation districts along the Stanislaus River, (b) to serve adjacent areas both north and south of the Stanislaus River Basin, (c) to serve other San Joaquin Valley areas via the Delta-Mendota Canal, the California Aqueduct, or other Central Valley Project facilities, (d) to serve the San Felipe Service Area in Santa Clara, San Benito, Santa Cruz, and Monterey Counties, (e) to furnish supplemental water to the Montezuma Hills-Suisun Marsh area, or (f) to satisfy water quality requirements in the Sacramento-San Joaquin Delta.

The recreational facilities to be developed on the lower Stanislaus River below the New Melones Project, however, will be operated and maintained by the U.S. Army Corps of Engineers.

### **COST AND TIMETABLE**

The estimated cost of the New Melones Lake Project is \$337 million. The benefit-to-cost ratio is 1.9 to 1, which means that the project will earn \$1.90 in benefits for every dollar spent on its construction, operation and maintenance. The estimated completion date is June 1979.