

CASE STUDY REPORT #82
LAKE MORENA
COTTONWOOD CREEK

I. Project Description

Lake Morena is located on Cottonwood Creek which drains into the Tijuana River Basin. The watershed above the dam consists of 120 square miles and the average rainfall in this region is 23 inches per year.

The dam was first worked on in 1895 at a site 62 miles south-east of San Diego. Southern California Mountain Water Company completed the dam in 1912 then two years later it was purchased by the City of San Diego. The city enlarged the dam to its present height in a series of 4 enlargements, completed prior to 1930.

The reservoir presently stores a maximum of 50,206 acre-feet covering 1475 acres and is operated by the city in conjunction with Barrett Reservoir (8 miles downstream) for purposes of flood control and municipal and industrial water supply. Water is released from Morena Dam into the stream channel when additional stored water is needed at Barrett Dam where the water is diverted from Cottonwood Creek.

II. Pre-Project Condition

There is very little information on conditions in Cottonwood Creek prior to 1895. There is no data to suggest what fish populations or streamflows may have been present at this time.

III. Project Development

The DFG has no record of instream flow reservations terms or agreements that were attempted during the course of the project. Presently there are no minimum release requirements at Morena Dam.

IV. Post-Project

Water is only released when required for maintaining storage in Barrett Reservoir. For the period 1961 to 1965, there is no record of any release being made from the dam; however, the dam does leak and an average monthly flow of .04 cfs is recorded as leakage and spillage in the available USGS records (1961 to 1965).

There is no record of any fish populations present in Cottonwood Creek below the dam. However, the reservoir supports a significant population of black crappie. The black crappie trapped at Morena were used to stock other nearby reservoirs in the late 1950's. Leakage from the dam probably maintains a nongame species population of an undescribed nature.

V. Conclusions

Lake Morena was developed at a very early date for municipal water supply and there was never any consideration given to fish or wildlife during the project's history. Studies to determine fish and wildlife instream flow needs in the project area were not conducted because fish and wildlife conservation was not a project objective.

BIBLIOGRAPHY

Personal Communications

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