

CASE STUDY REPORT #76
LAKE HENSHAW
SAN LUIS REY RIVER

I. Project Description

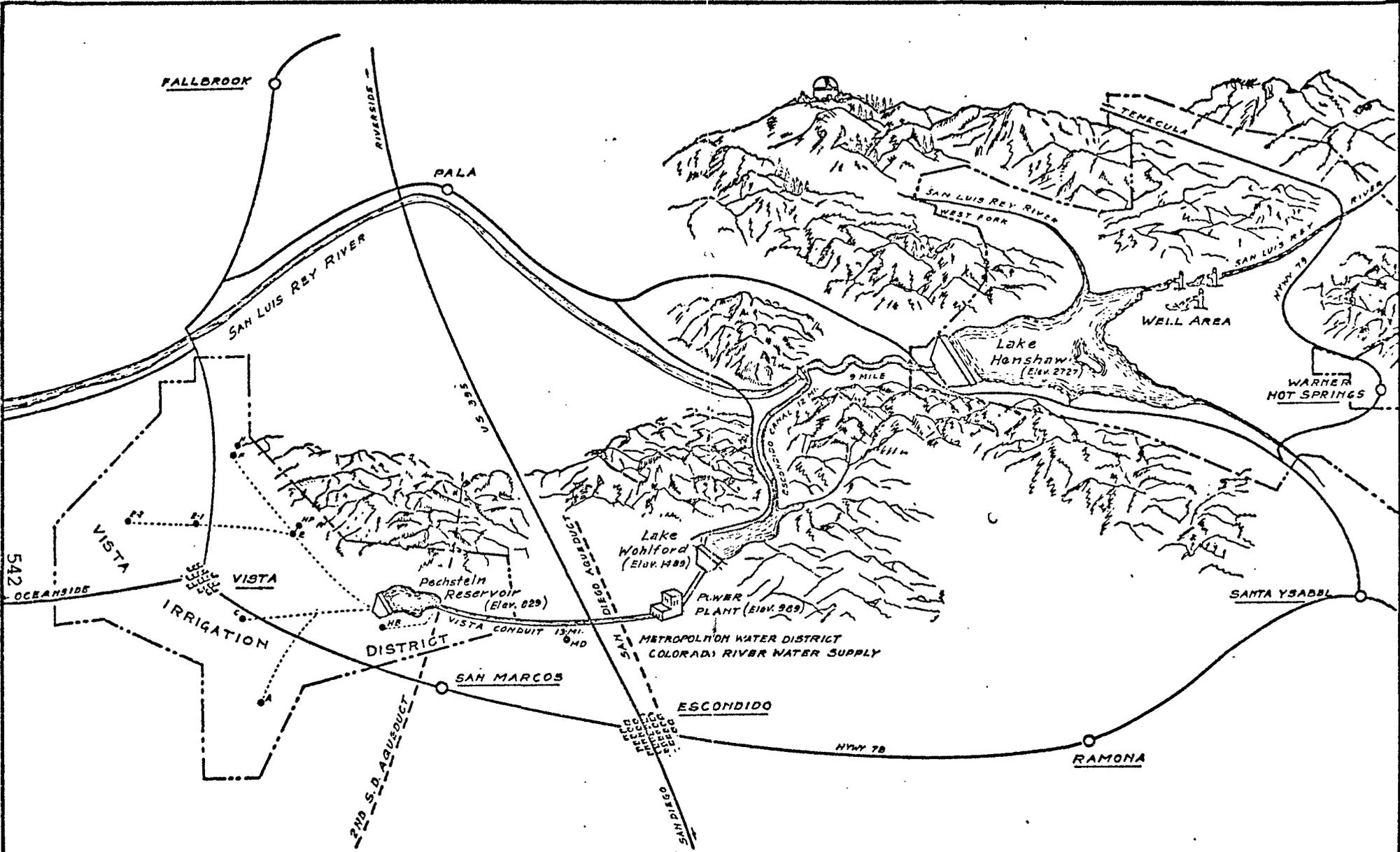
Lake Henshaw Dam was constructed in 1922 by the Vista Irrigation District to provide water for domestic and agricultural uses. The lake holds 203,581 acre-feet with a surface area of 6020 acres. It controls all of the runoff such that no spills have occurred since the dam was constructed in 1922.

Water is released from the dam into the natural stream channel for 10 miles and then is diverted into a canal and conveyed to the cities of Escondido and Vista (see Figure 1). In addition about 600 wells along the river channel pump water from the ground water basins for local (La Jolla Indian Reservation) agricultural and municipal uses.

II. Pre-Project Condition

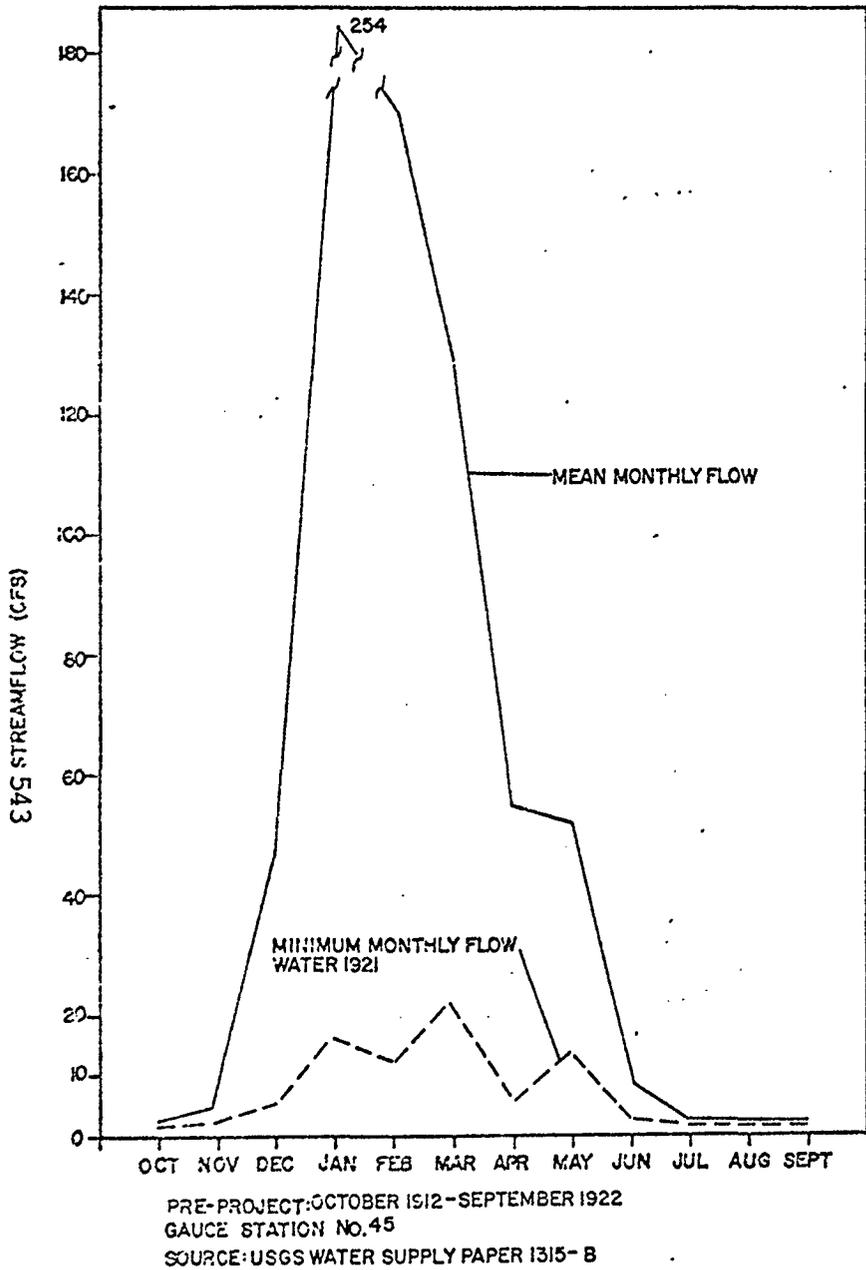
The San Luis Rey River at Henshaw Dam was perennial with mean minimum flows above 1.4 cfs (Figure 2).

No record of fish and wildlife existing in the river prior to the construction of Henshaw Dam was found in the California Department of Fish and Game files. Gary Shaw, a biologist with the California Department of Fish and Game, reported that riparian vegetation adjacent to the San Luis Rey River may historically have supported large populations of wildlife. The river in the canyon below the dam site probably supported minimal trout fishery.



LEGEND
 ● RESERVOIR

Figure 1
**VISTA IRRIGATION DISTRICT
 WATER SYSTEM**
 VISTA, CALIFORNIA



POST-PROJECT: OCTOBER 1961-SEPTEMBER 1967
 GAUGE STATION NO. 110350
 SOURCE: SURFACE WATER RECORDS VOL I

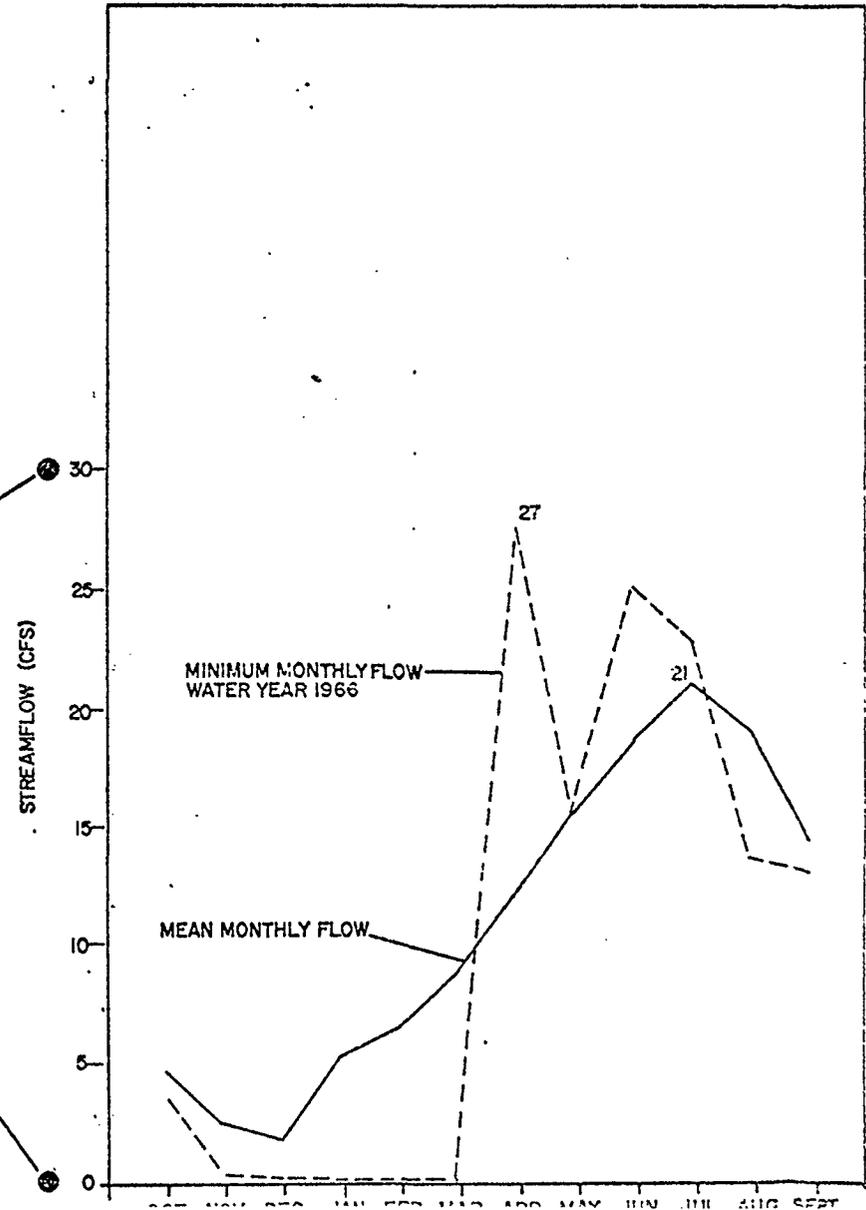


FIGURE 2
 STREAMFLOW CONDITIONS, SAN LUIS REY RIVER
 HENSHAW RESERVOIR

III. Project Development

The primary purpose at the time of dam construction was to provide water for downstream agricultural needs. Large-scale municipal uses are a more recent condition. Much of the downstream agricultural water use is on the La Jolla Indian Reservation which has retained vested water rights to the first 6 feet of water within Henshaw reservoir (Bronson, pers. comm.).

No record of an instream flow reservation for fish and wildlife was found. Water released from the lake into the San Luis Rey River is diverted 10 miles downstream into Escondido Canal. Water that is not diverted flows into the La Jolla Indian Reservation where a pay-to-fish trout fishery is operated by the local Indian tribes. The water to maintain this fishery is released from Henshaw Dam and is charged to the vested water rights of the Indians in Henshaw Reservoir. Indian water rights are presently in litigation. Although access is difficult there is trout fishing in the canyon below Lake Henshaw.

IV. Post-Project

Completion of Henshaw Dam in 1922 considerably altered the San Luis Rey River instream flow. A comparison of the pre- and post-project hydrographs (Figure 2) indicates a reduction in the peak flows associated with runoff. Reduction of these large flushing flows has resulted in the encroachment of vegetation into the streambed and a buildup of fine sediments.

Stream flows are quite reduced during the fall months of October, November and December. "Records indicate that the release from Henshaw Dam is shut off for several days at a time" (Bronson, pers. comm.).

The ten-mile stretch between Henshaw Dam and the Escondido Canal supports only a minimal fishery to a large extent due to access problems. No record of any fishery investigations was found during the examination of California DFG and U. S. Fish and Wildlife Service stream records.

The riparian vegetation adjacent to the San Luis Rey River below Henshaw Dam provides a considerable amount of wildlife habitat. No description or evaluation of this habitat was discovered.

Increased demands upon present water supplies in the San Luis Rey River Basin have created quantity and quality problems. To meet the increased demands Colorado River water has been imported. The availability of imported water has reduced the pressure on the water districts to further conserve water and reduce instream flow releases further.

V. Conclusions

A comparison of pre- and post-project San Luis Rey stream flows indicates a reduction in flows below Henshaw Dam (see Figure 2). During normal water years the releases from Henshaw Dam have remained above 2 cfs. However, during dry years the release often drops to zero cfs.

No instream flow release requirements have been established for Henshaw Dam. The release from the dam and some additional water from wells supports a trout fishery on the La Jolla Indian Reservation (see Figure 1). The instream release does not provide sufficient fishery habitat to maintain a self propagating fishery for the first 10 miles below the dam.

Historically the fluctuation of instream flows maintained a well defined stream channel although during dry years the stream bed dried up. After the dam was completed and impoundment of all flood flows began the riparian vegetation began encroaching into the stream channel. This encroachment along with the accumulation of sedimentation has resulted in a major reduction of fishery habitat. At the present time the river below Henshaw Dam supports very few fish and may not support any at all.

BIBLIOGRAPHY

Personal Communications

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