

CASE STUDY REPORT #74
CASITAS DAM
VENTURA RIVER

I. Project Description

Casitas Reservoir is a part of the U. S. Bureau of Reclamation's (USBR) Ventura River development project (see Figure 1). In addition to Casitas Reservoir, the project includes Robles Diversion Dam, Robles Casitas Canal and a conduit system. Casitas Dam, completed in 1958, is in Coyote Creek, a tributary to the Ventura River. The storage capacity is 250,000 acre-feet covering 2,700 acres and it receives inflow from both the Ventura River and Coyote Creek watersheds.

Robles Diversion Dam diverts water from the Ventura River into Casitas during the rainy season (December through February). A conduit system conveys Casitas water for 36 miles to populated areas in Ventura County.

Casitas is operated by the Ventura River Municipal Water District under a permanent contract with the U.S. Bureau of Reclamation.

II. Pre-Project Condition

Natural streamflow on Coyote Creek fluctuated greatly by season and water year. An average peak stream discharge of 45 cfs occurred in March near the end of the rainy season. During the dry season streamflows averaged less than 2 cfs (see Figure 2).

Prior to the exceptionally dry years in 1946 and 1948 the Ventura River supported steelhead trout with the size of the runs

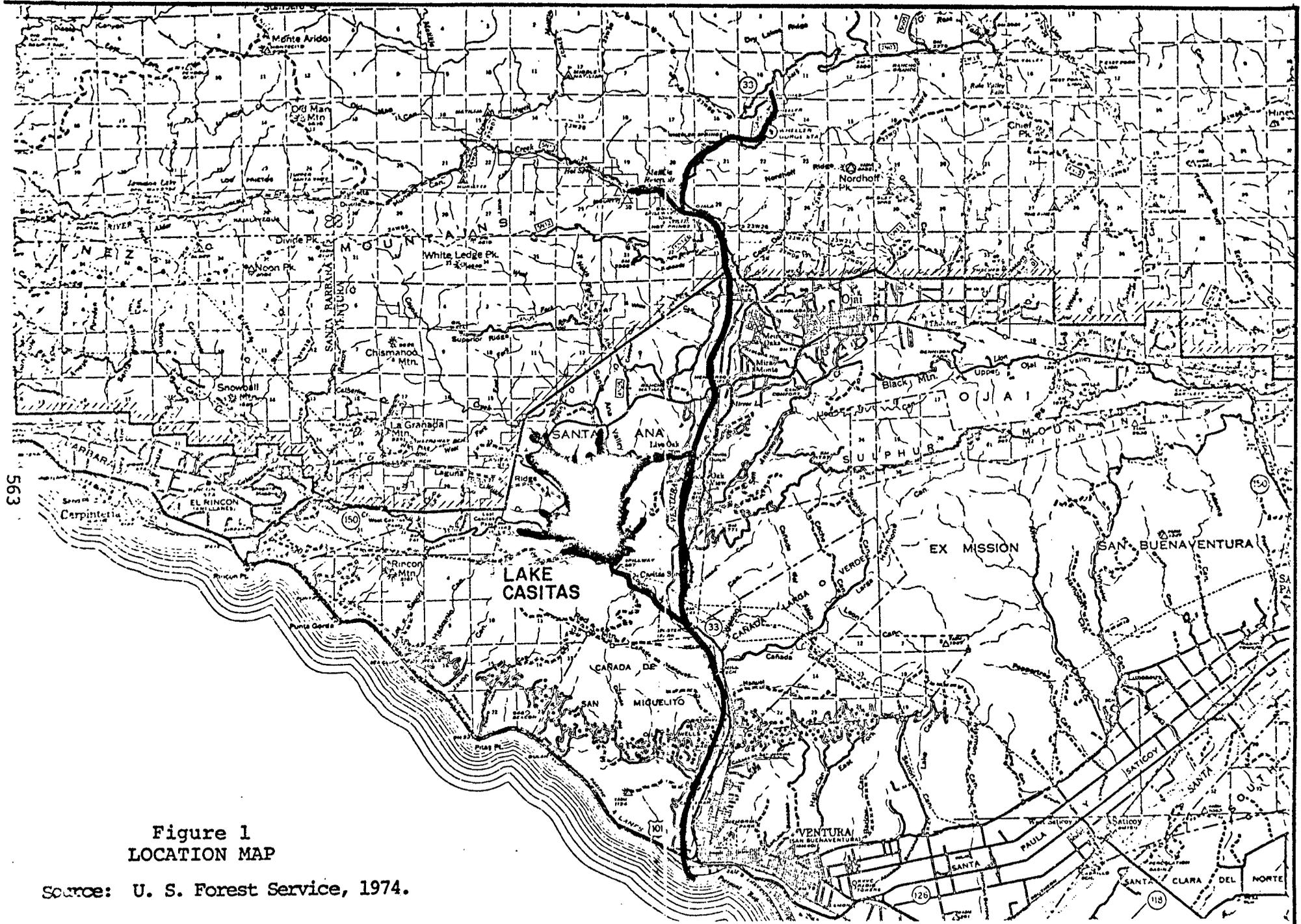


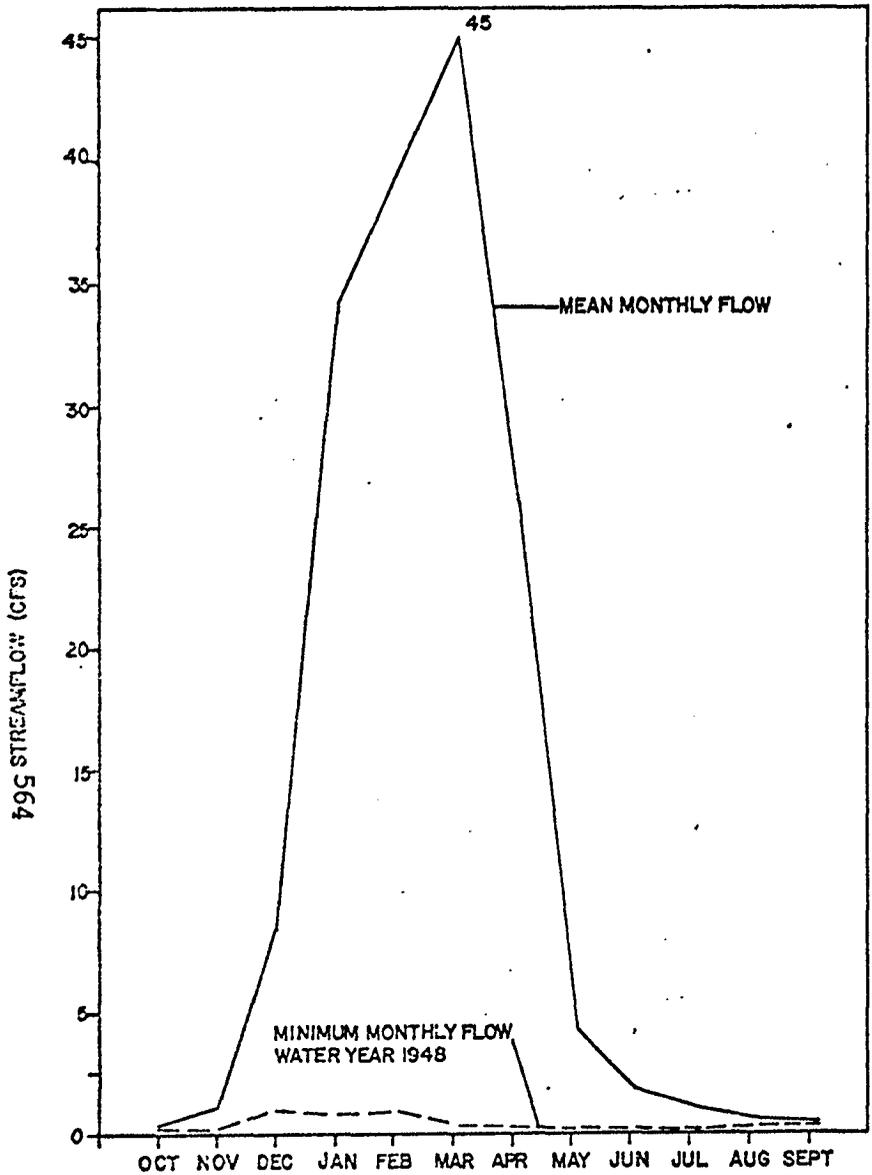
Figure 1
LOCATION MAP

Source: U. S. Forest Service, 1974.

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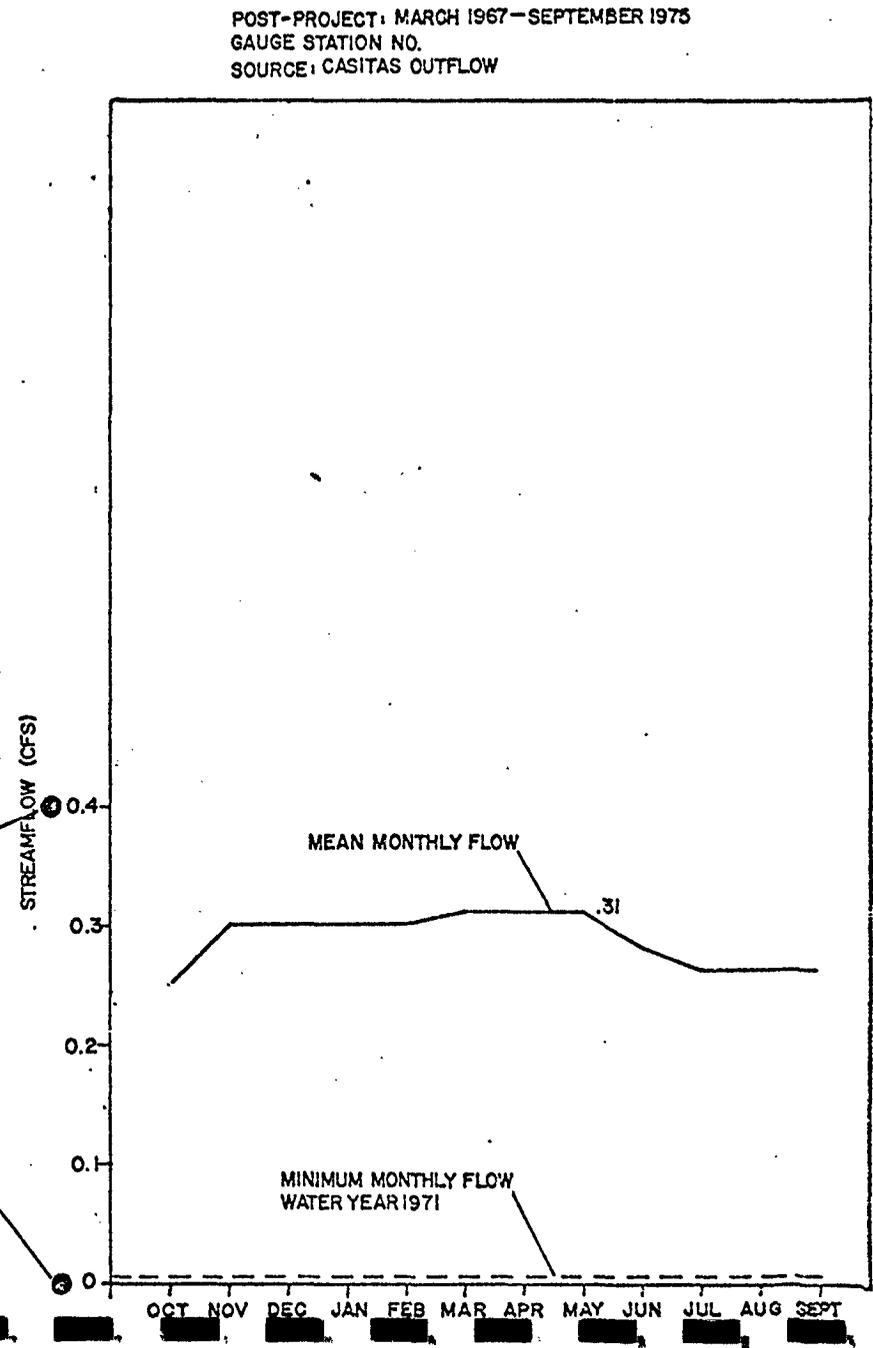
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PRE-PROJECT: OCTOBER 1928—SEPTEMBER 1959 (Except Water Year 1933)
 GAUGE STATION NO. 1180
 SOURCE: USGS WATER SUPPLY PAPERS 1315-B, 1735

FIGURE 2
 STREAMFLOW CONDITIONS, COYOTE CREEK
 CASITAS RESERVOIR



responding somewhat to the amount of discharge. However, after the dry water years (1946-1948) the steelhead population was further inhibited from instream flow regulation by Matilija Reservoir, constructed in 1949 near the headwaters of the Ventura River. Immediately prior to construction of Casitas, there was no record of steelhead migrations into the Ventura River or Coyote Creek. Fishery resources in the project area were limited in size and distribution.

III. Project Development

After project authorization in 1956 and before construction of Casitas, the DFG was informed of the project and both the DFG and the USGWS conducted fisheries studies in the project area.

The DFG correspondence indicates that steelhead was the only fishery of importance, but because the spawning runs had already declined to near extinction there were no mitigative features to be taken. However, the DFG requested that the Robles-Casitas Diversion Dam be located at a site that could accommodate a fishway.

Recently the USBR has considered expanding the Ventura River project. This would include construction of a new Matilija Dam which would augment the yield of Ventura River flow to the river channel. This would help some of the wastewater management problems in the lower river, and provide more capability to provide instream flow for steelhead trout. This planned addition to the instream flow received strong support from a

local group, Friends of the Ventura River.

In 1975 the DFG reviewed all the alternatives proposed for rehabilitating the steelhead run, including a fish ladder, a hatchery and control of the temperature regime.

IV. Post-Project

Casitas Dam almost dewatered the Coyote Creek channel (see Figure 2). The operation of the Robles Dam on the Ventura River, in conjunction with Casitas, has depleted the instream flow in the lower Ventura River.

In general a minimum streamflow of 20 cfs is bypassed at the Robles Dam to satisfy downstream riparian uses and groundwater recharge when surface flows are present within one mile of the ocean. The releases at the dam are decreased to prevent any streamflow from reaching the ocean. Only during wet season is there a flow into the ocean. During wet years steelhead continue to enter the Ventura River. The majority of the diversion for off stream storage occurs during critical low flow periods, reducing the opportunity for restoration of steelhead trout spawning runs on the Ventura River.

Instream flow in the Ventura River improves during above-normal water years (1972 to 1975). Successive years of above average precipitation combined with the elimination of some major sources of pollution resulted in a good quality streamflow and marginal runs of steelhead. In late 1974 the Friends of the Ventura River stocked 6,000 fingerling rainbow trout in the

river which survived and grew well. In an effort to reestablish steelhead runs the DFG has planned to stock steelhead trout from the Mad River hatchery in San Antonio Creek, a tributary to the lower Ventura River (Richardson, pers. comm.).

V. Conclusions

The operation of Casitas Dam in conjunction with the Robles Diversion Dam has caused periodic dewatering of the lower Ventura River and has eliminated the instream flow of Coyote Creek. Presently none of the storage in Casitas Reservoir is allocated for fish and wildlife conservation and as a result the drastically altered streamflows have precluded the reestablishment of any steelhead trout populations in the Ventura River. Because there was no record of steelhead migration immediately prior to the construction of the Casitas project no mitigative features or instream flow considerations were included in the project development. Currently the Ventura River water project area is being considered for enlargement, which would provide for the reestablishment of a live stream on the lower Ventura River and permit recreation of steelhead spawning migrations on the river.

Because the enlargement project has not been undertaken an analysis of the methods used to plan for the maintenance of steelhead in the Coyote Creek area is not possible at this time.

BIBLIOGRAPHY

Personal Communications

Richardson, William. 1976. Fisheries Management Supervisor,
California Department of Fish and Game, Region 5, Long
Beach.

References

U. S. Fish and Wildlife Service. 1960. Follow-up report for
Ventura River project 1960. 22 pp.