

LOWER ALAMEDA CREEK FISH PASSAGE IMPROVEMENTS PROGRAM

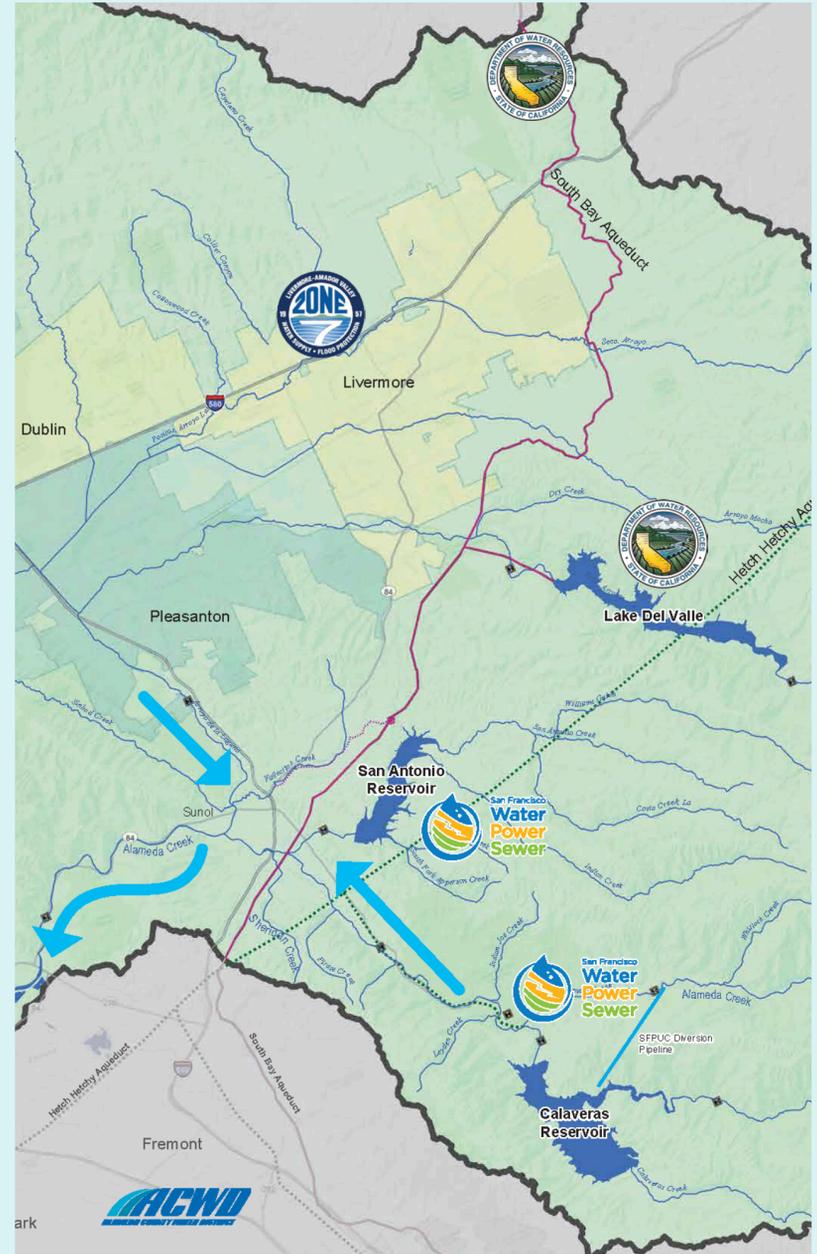


ALAMEDA CREEK WATERSHED SUPPORTS WATER SUPPLY & WILDLIFE

The Alameda County Water District provides drinking water to more than 350,000 residents and businesses in Fremont, Newark and Union City. With a diverse water supply to meet the demands of a thriving community, ACWD receives nearly 40% of its water supply from the Alameda Creek watershed.

The Alameda Creek watershed is the largest drainage area in the southern San Francisco Bay region, encompassing almost 700 square miles and draining roughly the southern two-thirds of the East Bay. Its tributaries historically supported anadromous fish runs of Central California Coast Steelhead, listed by the National Marine Fisheries Service as a threatened species. Despite extensive urbanization, flood control projects, and dams throughout the watershed, the upper portion of Alameda Creek still supports one of the best assemblages of native fish in the San Francisco Region including native steelhead descendants. The lower portion of Alameda Creek currently flows through the Alameda Creek Flood Control Channel before reaching San Francisco Bay. The Flood Control Channel extends inland from the San Francisco Bay approximately 12 miles, ending in the vicinity of Niles Canyon, a historic part of the City of Fremont. The Flood Control Channel was constructed by the US Army Corps of Engineers in 1972 and is currently owned and operated by the Alameda County Flood Control and Water Conservation District.

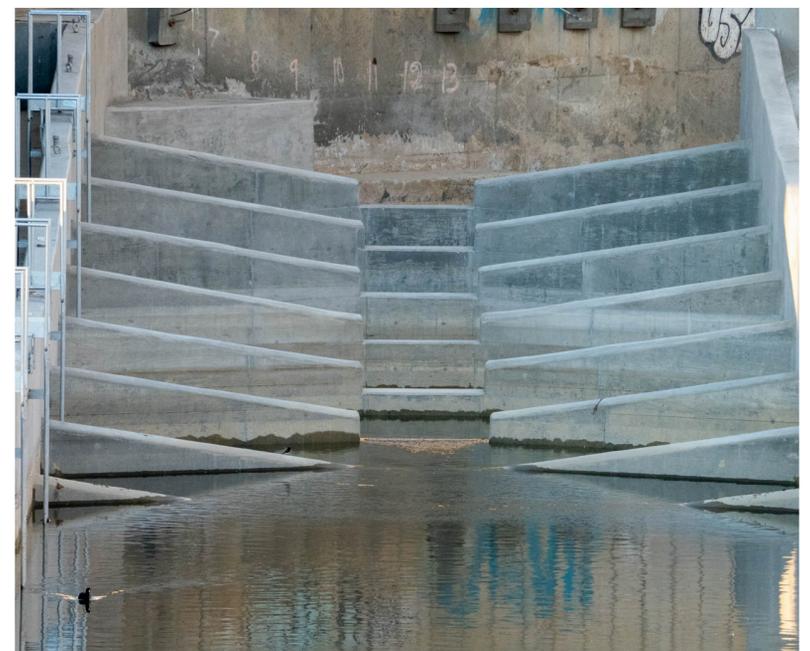
Within the same timeframe as the construction of the Flood Control Channel, ACWD constructed a series of rubber dams within the Flood Control Channel, as well as diversion pipelines to divert water into the Niles Cone Groundwater Basin groundwater recharge facilities. Water diverted from Alameda Creek and percolated into the underlying groundwater basin.



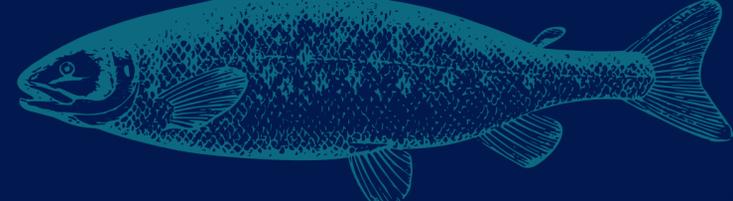
Map of Alameda Creek Watershed



Rubber Dam No. 3 Fish Ladder



Rubber Dam No. 1 Fish Ladder



OBSTACLES FOR FISH PASSAGE

Alameda Creek was channelized for flood control by the Army Corps of Engineering in the 1960s and 1970s. At the time, the agencies involved believed that anadromous fish no longer existed in Alameda Creek; therefore, no provisions for fish passage were included in the designs.

Shortly after channelization, ACWD built 3 dams to help capture the runoff for groundwater recharge.

The need for a fish ladder arose because after the dams were constructed, Steelhead were listed as threatened under the Endangered Species Act. The fish are not capable of passing two 13-foot tall dams.

PROGRAM BY THE NUMBERS

- Number of phases: **5**
- Number of projects: **7**
- Years to complete: **20+**
- Dollars invested: **\$80 million**
- Partners and stakeholders: **24**
- Grants and reimbursements: **\$33 million***



CREATING A MORE FISH-FRIENDLY WATERWAY

ACWD constructed a multi-year project which included installing fish passage structures along Alameda Creek to restore volitional passage for the safe upstream migration of steelhead, Coho, and Chinook salmon to once again access 26 miles of high-quality habitat in Upper Alameda Creek.

The fish ladders allow fish migration while ACWD can continue groundwater recharge operations.

In addition, the project installed fish screens at the diversion locations to stop the entrainment of steelhead and other fish into the diversion and allow them to continue migrating between San Francisco Bay and the spawning and rearing habitat in the Upper Alameda Creek.



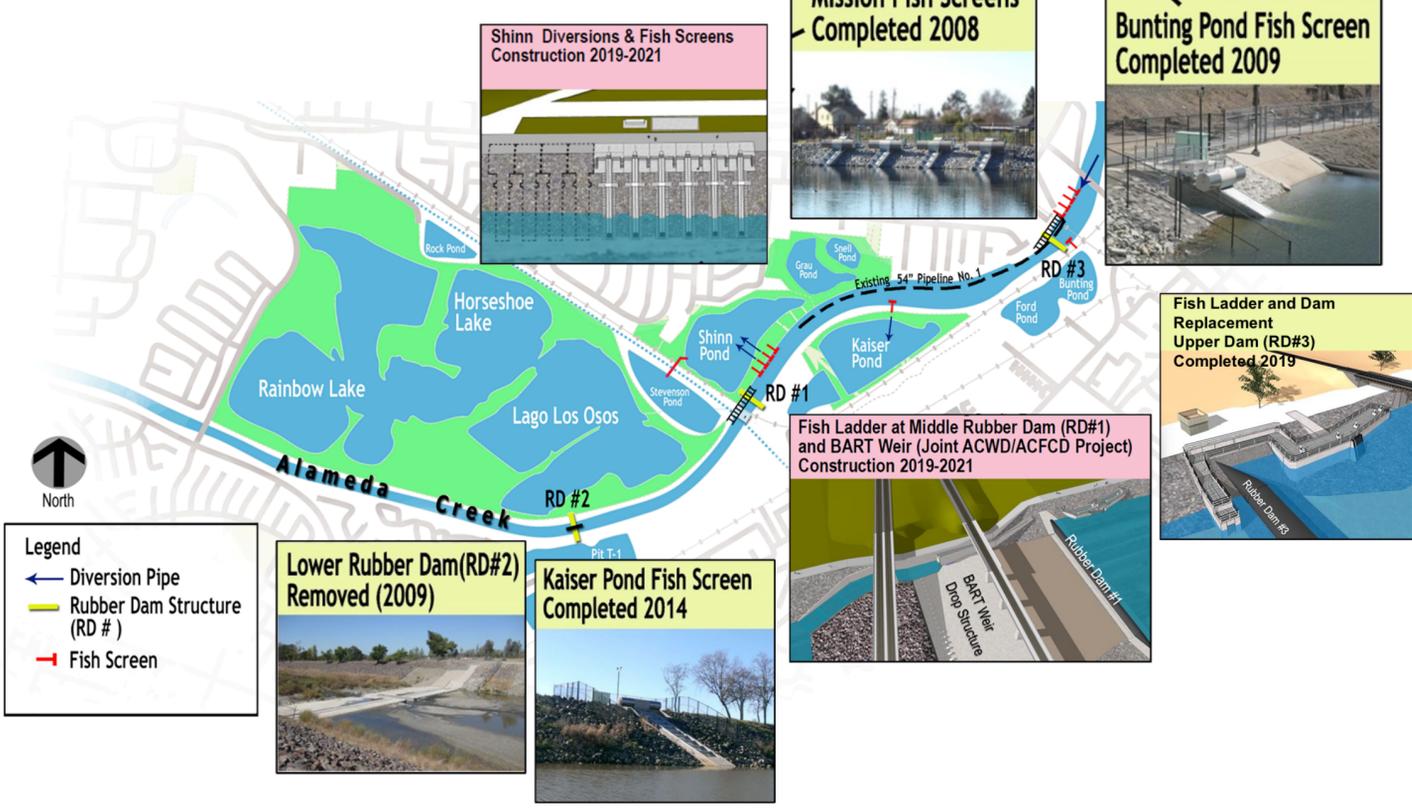
Shinn Pond Fish Screen



Shinn Pond Fish Screens



FISH PASSAGE PROJECTS



Rubber Dam No. 3 Groundbreaking Event

PARTNERSHIPS WORKING TOWARD SUCCESS

BUDGET AND FUNDING

\$80M total cost
\$33M* in grants & reimbursements
 *Excludes additional grant funding expected



Before Rubber Dam No. 3 Fishway Construction



After Rubber Dam No. 3 Fishway Construction