

Alameda Creek Steelhead Recovery

By Jeff Miller

— Alameda Creek Alliance —

Author Jeff Miller is director of the Alameda Creek Alliance. Based in Canyon City, California this organization has been on the forefront of wild steelhead recovery in the San Francisco Bay area.

An eleven-pound steelhead has a way of commanding your attention, respect and awe, especially when you have just netted it from a seemingly unlikely location, say the somewhat sterile flood control channel of your local urban creek. The powerful 31-inch steelie thrashing about in my net, an impressive male we later named “Brutus”, was one of dozens of wild steelhead spotted by our volunteers this winter in the lower Alameda Creek flood control channel in Fremont, California, attempting to migrate upstream to spawn. Brutus and five other adult steelhead blocked by a migration barrier ten miles from San Francisco Bay were caught in March and moved upstream (under state and federal permits) to more suitable spawning and rearing habitat in the Niles Canyon reach of the creek. A largely symbolic gesture dramatizing the need for fish passage at this barrier, these fish rescues have taken place in lower Alameda Creek for the past nine winters, documenting at least 100 to 150 wild adult steelhead since 1998, but only resulting in 27 fish successfully caught and moved upstream. Nevertheless, the presence and persistence of these fish offer a glimmer of hope and have galvanized public support for restoring Alameda Creek and its native fishes.

When Central California Coast steelhead were listed as a threatened species under the Endangered Species Act in 1997, I cast about for a local stream where steelhead could be restored, and the obvious choice of Alameda Creek slapped me in the face like a wet fish tail. Alameda Creek is a

remarkable gem, an urban creek in its lower reaches and above the Sunol Valley a remote foothill stream that offers probably the best opportunity for restoring anadromous fish in the San Francisco Bay Area. The 680-square-mile watershed drains two-thirds of the East Bay, from the southern slopes of Mount Diablo to the occasionally snow-dusted peaks of Mount Hamilton, east to Altamont Pass. Though the creek is not perennial and water is reduced to isolated pools in the scorching heat of the Diablo Range during summer and fall, impressive



“Brutus” the eleven-pound Alameda Creek steelhead was captured by researchers in March 2006. Photo courtesy Alameda Creek Alliance.

flows can rip through after winter storms; 18,000 cubic feet/second of runoff came through the flood control channel during the epic New Year’s storm this winter.

The lower creek is highly modified and constrained in a flood control channel surrounded by urban Fremont, Union City and Newark. Upper Alameda Creek holds the promise for coldwater fish, since it contains long reaches of relatively intact stream and riparian habitat surrounded by protected land in public ownership or remote ranch lands. The San Francisco Public Utilities Commission (SFPUC) manages 36,000 acres of upper Alameda Creek watershed lands for drinking water supply, and the East

Bay Regional Park District protects land within Sunol and Ohlone Regional Wilderness. Alameda Creek still harbors at least a dozen kinds of native warm water and coldwater fish, including resident rainbow trout and the anadromous and under-appreciated Pacific lamprey. More importantly, the SFPUC’s Calaveras and San Antonio reservoirs southeast of Sunol both contain landlocked populations of steelhead trout above the dams, descendants of the creek’s original steelhead run. The good news is these landlocked trout appear to still be anadromous; recent fish trapping studies show that some fish are smolting and appear capable of migrating to saltwater to complete their life cycle as steelhead. These fish are the potential gene pool for supplementing a restored native steelhead population below the dams.

Historical photos, reports and reminiscences from local fishermen offer evidence that steelhead were once plentiful in the watershed and that Alameda Creek also had a population of coho salmon. The completion of Calaveras Dam in 1916 cut off access for migratory fish to the best habitat and altered the hydrology of Alameda Creek. San Antonio and Del Valle reservoirs followed, capturing the entire runoff of the sub-watersheds and also blocking access to ocean-run fish. The usual litany of stream abuses, including other barriers, numerous water diversions, urban development with its attendant stream channelization, pollution, and urban runoff took their toll on native fish, particularly steelhead and salmon. Although the California Department of Fish and Game informally concluded that the steelhead fishery in Alameda Creek was no longer viable in the 1950s, remnant annual steelhead and silver (coho) salmon runs persisted at least until 1964.

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With regulatory agencies not requiring fish passage for instream projects, flood control and water supply projects in the 1960s and 1970s put the final nail in the coffin for the creek's steelhead and salmon runs. The 12-foot-high sloping cement drop structure that blocked Brutus and other steelhead from heading upstream is known locally as the "BART weir", a grade stabilization structure that protects Bay Area Rapid Transit and railroad tracks crossing the creek and an absolute migration barrier for steelhead. It was installed as part of a U.S. Army Corps of Engineers flood control project completed in 1972 that straightened and channelized lower Alameda Creek. Three inflatable rubber dams were also installed in the channel in the 1970s and 1980s by the Alameda County Water District (ACWD) to divert water into adjacent quarry pits for groundwater recharge. Interest in the fishery never died, with local fishermen organized in the 1980s as "friends of Alameda Creek" occasionally moving fish past barriers in the lower creek and advocating for steelhead restoration. In 1980 the California Department of Water Resources identified Alameda Creek as the top priority stream in the state for urban stream restoration, due to its popularity for recreation, the threat of future development, and potential resources for stream flow augmentation to enhance habitat.

After years of inaction, I formed the Alameda Creek Alliance (ACA) in 1997, with the goal of restoring viable runs of steelhead and salmon to Alameda Creek. The first task was confirming the fish stories told by local flyfishers that steelhead were trying to spawn in the creek, and proving that they were native to the area, if not the creek. Wild adult steelhead have been photographed or captured at the BART weir during attempted spawning migrations every winter for the past nine years. Genetic tests of fin clips taken from these fish demonstrated they are wild steelhead and part of the federally listed threatened population. A multi-agency assessment completed in 2000 estimated that up to 25 miles of suitable spawning and rearing habitat in the watershed could be made available to steelhead if fish passage barriers

were removed or modified.

Finally, years of organizing within the watershed and advocacy with the water agencies have paid off. The Alameda Creek Alliance now has more than 750 members and 70-plus local and regional fishing and conservation groups supporting our steelhead restoration goals. Restoration of Alameda Creek's fisheries is gaining steam with more than a dozen local, state and federal agencies working cooperatively on planned fish passage projects and a draft restoration plan. Our first dam removals began in 2001 with two small swim dams removed from upper Alameda Creek in Sunol Regional Wilderness. Three more dams are scheduled to come down this year, including one of the ACWD rubber dams and two abandoned SFPUC dams in Niles Canyon. A stakeholder group is pursuing funding for several other fish passage projects, including

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fish ladders at the BART weir and the ACWD's upper rubber dam and installation of fish screens at all water diversions. The Northern California Council of the Federation of Fly Fishers and the Golden West Women's Fly Fishers are pursuing modification of a barrier at a U.S. Geological Survey gauging station. Our first two fish ladders were built in 2003 in the Arroyo Mocho tributary in Livermore by Zone 7 Water Agency. Zone 7 is contemplating removal or modification of a dozen smaller instream barriers and structures in Pleasanton and Livermore, restoration of stream channels, and replanting of native riparian vegetation as part of stream management plan, to allow steelhead the potential to migrate to habitat in the Arroyo Mocho Gorge southeast of Livermore.



Workmen building Calaveras Dam in the 1920s pose with steelhead caught during a lunch break. Photo courtesy SFPUC.

Recent National Marine Fisheries Service status assessments concluded that Alameda Creek has the potential to contribute significantly to restoring steelhead populations in South Bay streams and in the greater Central California Coast region. The future for fish in Fremont would look downright rosy were it not for one of the West's most contentious issues: water. The biggest unanswered question in the restoration is whether sufficient water will be kept in the stream or made available to provide suitable habitat, water temperatures, and out-migration flows to sustain a viable steelhead run. Adequate stream flows are required by law and are needed to allow steelhead to again thrive in the creek, particularly late-summer cold water rearing flows and flows for out-migration of steelhead smolts to reach the bay. Eighty-six percent of the stream flows of upper Alameda Creek above the Sunol Valley are currently diverted for water supply demand, and neither of the SFPUC reservoirs releases any minimum flows for fish and other aquatic wildlife. With efforts to provide fish passage underway, much of the hope for restoring Alameda Creek's anadromous fish runs now hinges on the City of San Francisco's project to replace the seismically challenged Calaveras Dam.

Last year 68 Bay Area conservation groups, joined by fishing groups such as California Sport Fishing Protection Alliance, CalTrout, Northern California Council of the Federation of Fly Fishers, Trout Unlimited and five local flyfishing clubs, called on the SFPUC to restore steelhead in Alameda Creek by providing instream

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flows below their reservoirs, restoring stream and riparian habitat, and removing the Alameda Diversion Dam, a 32-foot concrete plug and final upstream barrier that, if removed in conjunction with other fish passage efforts, would open Alameda Creek for fish migration from the Bay to its headwaters. The SFPUC intends to replace Calaveras Dam by 2011, providing an opportunity to release minimum flows throughout important fisheries reaches of upper Alameda Creek and to reconnect fish populations in the reservoirs with steelhead below the dams. The ACA, other conservation groups, and state and federal regulatory agencies are calling for restoration of a self-sustaining steelhead run below the dam as part of the mitigations for the project.

Discussions and negotiations have begun over required water flows and potential habitat restoration and enhancement projects in the watershed. All of the watershed stakeholders recently agreed to jointly fund and conduct flow studies to estimate the range, magnitude, timing, duration, frequency and location of flows necessary to restore steelhead, while also considering other native fishes and riparian communities in the Alameda Creek watershed. Water for fish rearing and out-migration flows will have to be balanced with the water supply operations of three water agencies within the watershed, and will likely consist of water releases that vary during normal, dry and critically dry years.

The potential for Alameda Creek steelhead restoration has captured the imagination of East Bay residents, involved hundreds of people in watershed protection and restoration efforts, and changed agency attitudes about Alameda Creek. With your help, Alameda Creek can become one of the success stories in urban stream restoration. Volunteers are needed to monitor fish populations, rescue steelhead and participate in small scale habitat restoration projects.

For more information visit the Alameda Creek Alliance web site at www.alamedacreek.org, or contact the ACA: phone (510) 499-1985, e-mail alamedacreek@hotmail.com.



Northern California Council Federation of Fly Fishers Fish Passage Project on Alameda Creek

By Norm Ploss

Northern California Council Federation of Fly Fishers

In 2003 the Northern California Council Federation of Fly Fishers (NCCFFF) Steelhead Committee began participating extensively in fish passage barrier removal in California. The Committee received an initial grant from the national Federation of Fly Fishers. Central to the grant is development of a "model project" for fish passage and finding partners and additional funds to complete the project. Later grants include one from the Golden West Women's Fly Fishers and another from the NCCFFF. Other components of the grants include engaging in discussion and commentary of the California State Coastal Conservancy Fish Passage Data Base Project.

The model project is located on Alameda Creek in Alameda County, California in the San Francisco Bay region. The project includes a land survey by a civil engineer, fish passage assessment, development of an AutoCAD base map, and preparation of a concept plan to resolve the high, moderate and low flow passage of steelhead at the concrete weir on Alameda Creek.

The main impediments to restoring steelhead and salmon runs in Alameda Creek are fish passage barriers that prevent adult fish from moving upstream to suitable spawning habitat in the upper watershed. Some of these barriers also pose problems for juvenile fish attempting to complete their life cycle by moving from freshwater rearing habitat downstream to San Francisco Bay.

The concrete apron drop structure near the U.S. Geological Survey Gauging Station A is the sixth upstream barrier on Alameda Creek. Upstream and downstream barriers have been identified by the Alameda Creek Fisheries Restoration Workgroup, comprised of 15 governmental agencies and stakeholder groups, as higher priority largely because the owner is a public entity and the high cost of modification or removal. Gauging Station A is the last barrier, and therefore needed a "champion" to pursue its modification. The concrete weir and apron near the gauging station was initially considered to be a barrier to juvenile and adult steelhead migration at moderate and low flows. A fish passage assessment indicated the weir is a barrier at all flows. It is a project that is perfect for a non-governmental organization to demonstrate its capabilities.



U.S. Geological Survey Gauging Station A on Alameda Creek. Photo courtesy Northern California Council FFF.