

## Stubborn steelhead convince a gaggle of agencies to restore endangered habitat

By Gina Covina

Steelhead trout are dream fish—a vision of wild California that we thought had been extinguished. Like the grizzlies that once prowled Emeryville, or the waterbirds so numerous they blackened the sky when they flew overhead, the sight of a winter stream crowded with the plunging silver fish—closely related to salmon—is something we can almost, but not quite, imagine. Since the lifespans of steelhead are played out across the entire Bay Area—hatching in tiny inland creeks, sheltering for several years in shady cool water, moving down to the bay and out to sea for a couple more years, then returning with the high flows of winter to spawn and complete the cycle—their survival seems impossible in our highly urbanized landscape. Indeed, the East Bay's largest former steelhead habitat, the 700-square-mile watershed of Alameda Creek, was officially written off as no longer viable for steelhead back in the late 1950s. Everybody but the fish gave up.

Over the intervening years, a few young steelhead have managed to slip down to the ocean in storm conditions, sliding over the top of the various barriers erected across Alameda Creek. (Another of the species' mysteries is that it is genetically identical to rainbow trout; landlocked steelhead continue to live in the upper reaches of their range, passing as the much smaller freshwater fish.) A few of these escapees still return in wet winter months to fling themselves upstream along the shallow "flood control channel" the Army Corps of Engineers made of the creek in the '50s. If the two-foot-long returning adults make it past Alameda County Water District's inflatable dams, they hurl their flashing silver bodies against the sloping concrete wall that supports the BART and railroad crossing in downtown Fremont. That's as far as they can go.

But the steelheads' perseverance has attracted human support—first from passionately enthusiastic local fisherpeople, who waded hip-deep into the storm waters to catch the fish and carry them upstream past the barriers. Gradually, the multitude of government bodies responsible for the barriers and water levels in the creek got involved, oh-so-warily expanding their missions to include restoration of the steelhead. Finally even the National Marine Fisheries Service—the federal agency that listed steelhead as a threatened species in the first place and is charged with protecting the fish—has been dragged kicking and screaming (it took a lawsuit) into carrying out its mandate to provide regulations for the species' protection. And most recently, in one of the first truly cooperative planning processes for fishery restoration, nine government agencies with wildly divergent agendas, plus some fisherpeople and other fish advocates now represented by the Alameda Creek Alliance, together have determined that steelhead restoration in Alameda Creek is still possible. The various interests have committed, cautiously, to the cause, and have come up with a plan.

It all started in December 1997 when an eleven-year-old Fremont boy noticed a thrashing fish stranded in a puddle that was all that remained of Alameda Creek after the Alameda County Water District (ACWD) inflated its rubber dams to catch water upstream. The National Marine Fisheries Service (NMFS) was considering listing central California steelhead as threatened under the Endangered Species Act, a move that would require responsible parties to remove or alter barriers to the fish in any potentially viable steelhead run. But no one, aside from the rabidly enthusiastic fish supporters, thought Alameda Creek could be a viable run. The controversial fish in question was indeed a steelhead, and died shortly after the attempted rescue. Department of Fish and Game officials immediately claimed that the fish must have been a confused hatchery

steelhead who had wandered up the wrong creek. But fish geneticist Jennifer Nielson took a fin clip—a one-inch bit of dorsal fin—from the dead fish to analyze later. Local steelhead supporters quickly coalesced into the Alameda Creek Alliance (ACA) and set up patrols to search for stranded fish along Fremont's channelized stretch of creek below the BART barrier.

The following March a pair of steelhead was spotted in a Hayward flood control channel—formerly an Alameda Creek tributary—attempting to lay eggs in the concrete-lined, garbage-strewn ditch. They were whisked away to a more hospitable upstream location. When Jeff Miller of the Alameda Creek Alliance (ACA) brought engineers from NMFS and the Department of Fish and Game to see the BART barrier, hoping to interest them in designing a fish ladder, steelhead arrived as if on cue to hurl themselves futilely against the concrete wall. The engineers became so interested they waded in and caught ten fish, transporting them in wet burlap sacks past the obstacles. And fin clips from all these steelhead were duly sent off to Jennifer Nielson.

In the same month, NMFS came out with its threatened listing for local steelhead. The game had changed—but Alameda Creek still was not considered a viable steelhead habitat. Even if it were, until NMFS followed up its listing with a set of regulations governing steelhead protection, no party responsible for a barrier or habitat-damaging water diversion would be required to do a thing. Municipal water and flood control agencies could honestly insist that until the rules were announced they wouldn't know what was going to be required of them. As you may have predicted by now, the ardent fish lovers of the Alameda Creek Alliance were not about to wait around for the federal government while the last of the Alameda Creek steelhead might be desperately trying to reach their ancestral spawning grounds. Led by strategist Jeff Miller, ACA invited each of the agencies with tangled interests in Alameda Creek to be part of a "proactive solution," an opportunity for each agency to shape restoration in a way that also took care of its own interests. Quite a list of players responded.

Alameda County Flood Control and Water Conservation District is responsible for the BART barrier and oversees the wasted eleven miles of former creek that cuts a straight 150-foot-wide swath from Fremont to San Francisco Bay. Alameda County Water District operates three inflatable rubber dams in Fremont, siphoning off water to fill nearby gravel pits for groundwater storage. The San Francisco Public Utility Commission (SFPUC) controls much of the upper watershed, piping water from its reservoirs to the city and altering downstream flows. Cattle grazing can damage the small tributaries steelhead need for spawning and rearing; both SFPUC and the East Bay Regional Park District use grazing for brush control on their lands in the upper watershed. Department of Fish and Game officials, now genuinely interested, remained involved, and the Army Corps of Engineers was invited back into the loop as well.

In 1988 the Army Corps' mission had been expanded by Congress to include restoration in areas it had worked in the past—in other words, it had a chance to undo its mistakes. At first, the Army Corps engineers didn't grasp the concept, but twelve years later they're very close to being with the program, helped along by the feds' pledge to pay 75 percent of the cost of restoration projects. In early 1999 all the organized entities already mentioned, plus the city of Fremont and the California Coastal Commission, formed a work group to decide once and for all on the feasibility of steelhead restoration on Alameda Creek.

Project manager Laura Kilgour of the Alameda County Flood Control and Water Conservation District considers that the carrot of Army Corps funding helped motivate the agencies toward restoration, along with the stick of the pending NMFS regulations. What has helped at least as much, though, according to Kilgour, has been the escalating enthusiasm and growing ranks of fish advocates. "When steelhead started appearing in 1997, and the public started getting involved," she says, "that made a big difference."

While the restoration work group steamed ahead, meeting monthly to discuss options,

commissioning technical studies from Applied Marine Sciences of Livermore and Hagar Environmental Science of Richmond, there was no corresponding stir of action from the National Marine Fisheries Service. In June of 1999 Alameda Creek Alliance joined with seven other fish-supporting organizations to sue NMFS for unreasonable delay. The suit successfully established deadlines for the ruling, with tentative regulations last December, then a six-month comment and revision period, and a final rule due this June. Four major aspects of the proposed regulations could require changes on Alameda Creek—the barriers to fish passage, water withdrawals that may not leave enough for fish survival, water diversions without fish screens like ACWD's quarry ponds, and trampling of redds (gravel spawning beds) by livestock in upper tributaries.

The work group's feasibility study was completed in January, and DNA evidence turned out to be crucial. Jennifer Nielson's genetic studies of fin clips provided proof that the steelhead caught trying to swim up Alameda Creek are indeed native stock returning to their home streams. Genome profiles also revealed the landlocked "rainbow trout" in upper tributaries and reservoirs as part of the threatened Alameda Creek steelhead population. According to Applied Marine Sciences' Vice-President Andy Gunther, senior author of the report, these wild fish "represent an irreplaceable genetic combination adapted to life here"—including the frequent dry years when passage between ocean and fresh water is impossible—and this "makes restoration much more feasible." The study also confirmed that suitable spawning and rearing habitat already exists within the upper watershed, if the fish could only get to it. The workgroup agreed that the barriers have to be altered as a first step, with fish ladders at the BART crossing, the PG&E pipeline in Sunol Valley, and perhaps at the largest of the inflatable dams. Outgoing young fish need screens to keep them from being sucked into the gravel ponds. These projects, which the Army Corps would undertake, must be applied for by the Alameda flood control and water districts; the districts plan to split the 25 percent of costs not covered by the federal government, with the Coastal Commission perhaps also participating. Total cost is estimated at \$4-6 million.

The biggest news here may be the genuinely cooperative nature of the planning process, described as "unprecedented" by several of the players. The water agencies in particular have made startling shifts. After all, as Andy Gunther pointed out, "water agencies are mandated by the public to maximize water supplies. They're not supposed to worry about fish." Alameda County Water District was most cautious coming in, always wanting solid facts. "We've been very pleased," general manager Paul Piraino said, "with the work group's willingness to do the technical studies that we felt were necessary before we could commit funds." Now that the studies are in place, even ACWD's sense of its mission is changing. Staff patrol the urban creek seven days a week for incoming steelhead; operation of the inflatable dams is timed so there is always a big enough pool remaining to shelter fish. "We need to realize that in some ways improvements in Alameda Creek that would enhance the fishery would enhance water quality as well," Piraino muses—"and we have a resource here that isn't only for humans."

The San Francisco Public Utility Commission has had a head start on shifting its mission since it was forced by a CalTrout lawsuit in 1997 to double the summer flows it releases from Calaveras Reservoir, for the benefit of rainbow trout (those landlocked steelhead) below the dam. Its plan to recapture the water with an inflatable dam in Sunol Valley is controversial and not yet approved, but just last week the utility passed a resolution to remove two other dams it no longer uses along its stretch of upper Alameda Creek, thus opening the way for steelhead to move all the way into the Little Yosemite area of Sunol Regional Wilderness.

The work group has far more to hammer out—young steelhead migrating out to the ocean in the late spring need more water flow in the creek than is usually available, and this may cause the water districts to rethink how water is delivered. It's possible that rather than being removed higher up, water intended for people can remain in the streambed longer, which would make

those sections much more viable for fish. In a move unprecedented when it comes to serving people, the districts may well agree to jointly manage some of their water supplies. The fish, by being so determined to live out their destinies, seem to have effected a new era of cooperation among entities not very used to generosity. Says San Francisco Public Utility Commission counsel Josh Millstein, "People are realizing what a jewel this is." A jewel, a dream, and perhaps the beginning of an area-wide effort to manage the resources we have left.