



A TALE OF TWO CREEKS: BUTTE CREEK AND ALAMEDA CREEK

Can urban streams, many partially channelized for flood control or buried in city culverts, ever again offer viable fish habitat? Can their rural riparian cousins provide anything better, with their dams, pumps and streamside cultivation, grazing and timber-cutting? Both once offered clear and bubbling spawning grounds for big runs of chinook, coho and steelhead, and their would-be-restorers believe they could do so once again. When it comes to restoration, rural and urban creeks surprisingly face many of the same issues: physical obstacles such as dams and weirs, as well as legal and political battles over instream flows.

Butte Creek

Herculean efforts to improve passage for fish on Butte Creek - including the installation of a gigantic inverted siphon 30 feet beneath the creekbed - are underway on this Sacramento River tributary that flows through rice country far upstream in the Estuary watershed. Dams are coming down and fish ladders going up, in the hope of enabling fish - particularly spring-run chinook salmon- to reach better upstream habitat.

Butte and two neighboring creeks to the northwest, Deer and Mill, are key habitat for the remaining wild, genetically pure spring-run chinook, once possibly the Central Valley's most abundant salmon. In recent decades, runs of these chrome-colored fish have seriously declined, and the dozen or so water diversions to rice and farm fields along Butte Creek made many people think that restoring the salmon here was a lost cause. One of the worst problems was a large unscreened diversion that, with the help of two dams, moved diverted Lake Oroville water through the creek to irrigate rice fields (see map). The dams also altered flows and presented an obstacle for adult fish trying to swim upstream to spawn. And during low flows, the large diversion sucked juveniles out of the creek and onto rice fields.

Eventually, rice farmers in the Western Canal Water District (which owned the dams) began talking about what might be done to help salmon. They knew that if spring-run chinook were listed as endangered (see Species Spot), their diversions might be shut down just when they most needed the water. "Our primary motivation was the fish and the potential listing of the spring-run,"

says Lance Tennis, Western Canal's President. "We needed to get water across the creek without the dams, somehow. After considering all of our options, we decided on the siphon because we knew it would work. We weren't sure if a fish screen would work on that diversion, plus it would have needed high maintenance."

The new siphon pulls the diverted Lake Oroville water 30 feet beneath the bed of Butte Creek in three 850-foot long parallel tubes (each ten feet in diameter) and across to the creek's west side. Designed by CH2M Hill, the siphon eliminated the need for the fish-unfriendly diversion and the two dams. Upstream, three new fish ladders and four screening projects are also under construction.

The \$9.5 million for the siphon, new delivery canals and the demolition of four dams is coming from Western Canal, the CVPIA, CALFED's Category III and Tracy Pumps Mitigation funds. All parties involved hope their efforts will lead to a sustainable spring and fall run of chinook. Cal Fish & Game's Paul Ward thinks fish may soon stand a chance in Butte Creek: "This project opens up 18.5 miles of creek to the fish and allows the stream bed to return to more natural conditions."

Alameda Creek

Like its country cousin, Alameda Creek's biggest obstacles for fish are dams and insufficient flows. The creek - which drains over 700 square miles of the South Bay region - is the target of efforts to save a different migratory species - the threatened steelhead trout. Last December, a Fremont boy discovered a dying steelhead trying to swim up the creek. Two weeks earlier, a 20-pound chinook was found trying to climb a concrete weir under the BART tracks - the same spot where 25 chinook were found struggling a year ago.

These sightings motivated Jeff Miller to form the Alameda Creek Alliance, a community group interested in restoring the creek's natural ecosystems and native fish. The Alliance is focusing on steelhead but, as Miller explains, "Any benefits to the steelhead will also benefit other salmon." After yet another obstacle-weary steelhead turned up this March, Miller convened a group of engineers, hydrologists and biologists from Cal Fish & Game, the National Marine Fisheries Service and the East Bay Regional Parks District at the creek. While they were there, a group of steelhead serendipitously appeared, just below the BART weir (see map). "Their timing was impeccable," says Miller.

The 12-foot sloping weir (built to protect railroad and BART piers and owned by the Alameda County Flood Control District) is the second barrier fish face as they begin their swim upstream. The first is one of three inflatable dams used by the Alameda County Water District to impound and divert water for groundwater recharge in nearby gravel pits. Farther upstream in Niles Canyon, two old dams owned by the San Francisco Water Department impede fish migration too, particularly during low flows. As neither dam has been operated for some time, creek supporters hope they can be taken down.

Much farther upstream, dams at Calaveras, Del Valle, and San Antonio Reservoirs impede flows and de-water the lower stretches of the creek, preventing juvenile steelhead from reaching the Bay on their out-migration. A complaint filed by CalTrout requires the San Francisco Water Department to release water for rainbow trout (the steelhead's nonmigratory "cousin") and other native stream-dwellers in a 4-6 mile stretch just below Calaveras Reservoir, which would also benefit steelhead - but just in that stretch. However, the water department has plans to recapture that water just a few miles downstream and pump it back into Calaveras Reservoir for municipal supplies.

The Creek Alliance believes that with the steelhead now federally listed as a threatened species, upstream dam owners are obligated to guarantee flows throughout the creek so the fish can move, unimpeded, between their spawning habitat and the Bay (and ocean). San Francisco City Attorney Josh Milstein hopes that "something can be done for the steelhead" within the context of the City's new Water Supply Master Plan, but says it will take time.

The Alliance, meanwhile, is "negotiating with everyone" and hoping for help from seemingly unlikely sources. One possible solution might be for the Army Corps, under a Section 1135 planning grant (that allows environmental restoration on previously built flood control projects), to help build a fish ladder on the BART weir and excavate a passageway for fish within the old flood control channel that carries the creek for its last 11 miles into the Bay. This year, a few steelhead even tried to spawn in the shallow channel itself. "They dug out their redd in gravel that had been deposited in the channel, but moved on when they saw concrete just a few inches below," says East Bay Park's Pete Alexander ("redd" refers to a shallow nest for their eggs). "We are looking at these lower creek channels only as migration corridors to get the fish to ancestral spawning habitat upstream." Until better solutions emerge, Alameda's water district has agreed to keep alive any fish it finds below the concrete weir or in the channel.

Alexander believes a restored Alameda Creek could support runs of steelhead and possibly chinook, especially since good habitat exists in the creek's upper reaches. "A large percentage of the watershed is still relatively natural," he explains but admits that issues like pollution from runoff and illegal dumping still need to be addressed.

"We're focusing on lower watershed access issues right now," says the Alliance's Miller. "But we're working our way upstream, like the fish. The habitat is there. It's just a question of getting the fish to it."

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