



Rainbow Trout in Oakland's Sausal Creek Watershed

- Rainbow trout and steelhead are the same species, *Oncorhynchus mykiss*. The anadromous (sea run) form of *O. mykiss* are called steelhead and the resident or non-anadromous form are called rainbow trout. Both forms can live and reproduce in the same stream although all wild rainbow trout originate from steelhead.



Photo by Glen Tepke

- Historically, Sausal Creek supported spawning migrations of steelhead. After hatching, juvenile steelhead reared in the creek for 2-3 years before migrating into San Francisco Bay and the Pacific Ocean where they continued to grow for several years before returning as large adults to spawn again in Sausal Creek. Some juvenile steelhead likely never migrated to sea but they remained in Sausal Creek to live their lives as resident rainbow trout.
- Urbanization created barriers (*e.g.*, culverts, drop structures, road crossings) effectively blocking steelhead-spawning migrations into Sausal Creek. While urbanization degraded or destroyed much of the historically suitable habitat for fish, small numbers of rainbow trout are able to persist and reproduce within several relatively short, less disturbed stream reaches (*e.g.*, Sausal Creek in Dimond Park and Dimond Canyon Park, Sausal Creek tributary Palo Seco Creek in Joaquin Miller Park).
- Scientists have found Sausal Creek rainbow trout to be genetically “wild” (*i.e.*, did not originate from a fish hatchery) descendants of steelhead ancestors. As such, these rainbow trout are a unique and rare resource that persists within the City of Oakland.
- Currently Sausal Creek has only limited habitat supporting rainbow trout and therefore their population is relatively small. Consequently, the trout are especially vulnerable to pollutants either dumped directly into the creek or entering through the storm drain system. Over the last decade there have been several fish kills totaling dozens of rainbow trout attributable to solvents and other pollutants entering the creek. Fish are also very sensitive to discharges from breaks in or leaks in sewer and drinking water pipes. For example, chemicals called chloramines that are added to drinking water as a disinfectant are toxic to rainbow trout and in the past have been known to kill fish in Sausal Creek.
- Late summer and early fall, especially during conditions of extreme drought, are critical seasons for the survival of rainbow trout in Sausal Creek. During the summer and fall flows in Sausal Creek decrease and fish are often restricted to only a few pools that remain before the onset of the rainy season. These remaining undisturbed pools are habitat refuges critical to trout survival. Water in quiet pools becomes thermally stratified with cooler water near the bottom and warmer water near the surface. Trout will seek out these zones of cooler water near the pool bottoms. Also, rainbow trout rely on their keen eyesight in clear pools in order to locate and to capture prey. Disturbances that mix the water in otherwise tranquil pools degrade trout habitat by: eliminating areas of cooler water; reducing clear water needed for efficient feeding; and suspending fine sediment that may impair the ability of fish to breathe.

- Oakland residents and park users can play an important stewardship role in helping protect Sausal Creek’s unique rainbow trout by:
 - Reporting dumping in progress immediately to 911.
 - Reporting water main or fire hydrant breaks immediately to EBMUD at (866) 403-2683.
 - Reporting sewer leaks immediately; if you smell strong odors or see discolored water in the creek, call the Oakland Public Works Call Center at (510) 615-5566.
 - Keeping dogs from swimming in creek pools, especially in the late spring to fall months.
 - Picking up and properly disposing of pet waste, even in your own backyard, to keep harmful bacteria from flowing into storm drains and creeks.
 - Reporting fishing in Sausal Creek to California Department of Fish and Wildlife at 1-888-334-CalTIP (888-334-2258). **Fishing is prohibited in Sausal Creek and its tributaries under California Code of Regulations Title 14, Section 7.50(b)(172.7).**
 - Washing your car at a car wash where the water is filtered and recycled, not in the street or your driveway.
 - Preventing your car’s oil, grease, and antifreeze from leaking on the pavement.
 - Washing paint brushes in your sink—not outside—so paint doesn’t flow into the storm drains.
 - Making your garden a pesticide- and herbicide-free zone, or using organic pesticides and fertilizers.
 - Picking up trash so it doesn’t wash down the storm drain and into the creek. You can join the Adopt a Drain program at www.oaklandadoptaspot.org.
 - Managing the vegetation on your property to prevent erosion and keep silt from entering the creek. The Oakland Creek Protection Ordinance prohibits removal of all creekside vegetation. View the guidelines at www.oaklandcreeks.org.
 - Volunteering with the Friends of Sausal Creek (FOSC) and other local groups for restoration and creek cleanup activities.
 - Reporting sightings of trout to FOSC at coordinator@sausalcreek.org or (510) 501-3672.



Sausal Creek rainbow trout recovered after fish kill on February 7, 2008. The likely cause of the fish kill was paints and solvents dumped into a storm drain immediately upstream. Photo by Dr. Robert Leidy



Pair of rainbow trout making a redd (nest for eggs) in Sausal Creek in March 2013. Photo by Carl Carter