

Observing Fish in Corte Madera Creek

by Richard Slusher

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Last September I was allowed to participate in observing and identifying various species of fish in the creek under some unusual circumstances. In late September through the end of October, the Marin County Flood Control and Water Conservation districts supervised the removal of thousands of yards of sediment that had been accumulating during the last nine years in the lower reach of the concrete channel in Kentfield. The affected area stretched from the middle of the College of Marin campus downstream to a point about 75 yards below the concrete channel's terminus. In some places the sediment was six feet deep.

Cooper Crane & Rigging was contracted to do the sediment removal based on their experience and reputation for being sensitive to the surrounding environment. Their plan was to construct a dam across the downstream portion of the creek by driving interlocking metal sheets into the mud, construct a sandbag dam on the upstream location and then pump out all of the water in between. This would allow equipment to travel into the concrete channel. Obviously, the fish would have to be removed prior to pumping. County Creek Biologist Liz Lewis and her assistant, Jo Charleton, carried out this task.



A temporary dam holds bay waters away from the mouth of the concrete channel

Their first job was to stretch a net across the channel in the upstream section to prevent any downward migration of fish. Any fish congregating upstream of the net were hand-netted and transported downstream of both dams and released. I was able to observe this operation several times. All of the fish captured in this area were small, with smelt being the predominant species. There were significant numbers of gobies (also known as mud suckers). Surprisingly, striped bass in the three-inch range were also netted.

The fish of primary concern in the watershed are the salmonids (steelhead and salmon), whose numbers have been reduced drastically and have been listed as threatened and endangered. During the entire removal process no salmonids were netted. Given the low water flow and elevated water temperature their absence was not too surprising. What was surprising was the complete absence of carp, which have been observed in large numbers and size in the past.

I would like to interject that I am not a marine biologist, but I have had a passionate interest in fisheries all of my life and have observed most of the species inhabiting the watershed and the bay. Some species were identified after subsequent research and consultation. It was not possible to obtain a precise count of each species since it was necessary to transport them as quickly as possible. The time taken to count many small fish would have further stressed them and increased mortality, which was held to an insignificant percentage.

As the water was gradually pumped out of the area now more accurately described as the Corte Madera Lake, the remaining fish congregated in the downstream pools near the end of the concrete section. This time a fine-meshed net was stretched across the channel and dragged downstream to the shoreline where the fish were transferred to buckets and given free passage below the dam.

The number of species and their abundance was astonishing. The predominant species was shad (either threadfin or gizzard) and at least one American shad. There were schools of smelt, anchovies, gobies and sculpin and possibly herring. Also observed were grass shrimp and pile worms on the lower end of the food chain. Significant numbers of striped bass were netted, some as large as eight to ten inches. I was interested to find very small starry flounder being captured and even one tiny California halibut. The most interesting find were several bay pipefish, who look like tiny brown sticks in the water

until you see them swim away. The creek is not without its exotic species, either. We identified one Shimofuri goby about three inches long. Research indicated that these were introduced into the bay around 1989 by the illegal discharges of ballast from ships traveling from Japan to San Francisco. They have flourished in the delta and now appear to be setting up residence in Marin. Their impact on the environment is uncertain. There is a possibility that one or more mitten crabs were observed, but this can't be confirmed. Their potential intrusion would have a greater impact.

I came away from these observations encouraged by the health of the creek and the amount of life it supports. It seems to me that arguments that the creek is "too far gone" for restoration are not valid and that aquatic life would increase dramatically if provided with more habitat and unimpeded access to it. I would also like to commend Liz and Jo for the excellent work they did in netting and handling the fish. There is no way a project like this could have a zero environmental impact, but I saw great care taken by all those involved to keep it to a minimum. In the spirit of recycling, the sediment that was removed was transported to Novato to shore up their system of levees before the winter storms arrive. I would also like to thank Jason Nutt from the County Flood Control and Water Conservation District for allowing me to observe and for keeping me informed of the progress of the project.

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