

Water Quality Monitoring Expands

by Sandy Guldman

Our collective memory has nearly forgotten that oysters and clams were once abundant in our estuary, attested to by records of numerous Indian shell mounds in the lower part of the valley. In the later decades of the nineteenth century enterprises shipped Corte Madera Creek clams from Larkspur to San Francisco, and this continued until 1906, when sewage levels in the creek made them unsafe to eat. Undoubtedly siltation of the shellfish beds was also a problem.

We are fortunate that Corte Madera Creek no longer receives pollution from industrial or agricultural operations. However, the creeks are chronically polluted by stormwater runoff from paved areas, landscaping that is over fertilized and/or over-irrigated, a leaky sewer system and pet waste. Washing cars carelessly, dumping leftover paint into storm drains, and draining swimming pools into the street are other practices that harm the creek. Another pollutant, high water temperature, is caused by low summer flows and lack of riparian vegetation. Quantifying pollutants from all these sources would require a sampling program well beyond our resources.

We know there are high bacterial counts, and that in the summer, the temperature tends to be too high and dissolved oxygen too low for steelhead. Our water quality testing has evolved to reflect our resources. We no longer conduct tests for bacteria, because the Ross Valley Sanitary District has a regular monitoring program to monitor bacteria in the streams at five locations. We focus our efforts on parameters that are most important for steelhead trout: temperature and dissolved oxygen. Last summer we added tests for iron and manganese in Ross Creek, as levels high enough to be harmful to steelhead were found in the upstream section of the creek. This spring, in collaboration with the Phoenix Lake Retrofit Project, we have added two temperature loggers (recorders), one in Corte Madera Creek downstream of the confluence with Ross Creek and one in San Anselmo Creek just upstream of the Ross Creek confluence. (This peculiar nomenclature reflects the convention that Corte Madera Creek begins where Ross Creek joins with San Anselmo Creek.). We have also placed temperature loggers in Fairfax Creek, San Anselmo Creek in Fairfax, and Sleepy Hollow Creek, to update temperature information first gathered in 1999. Each time we download a temperature logger, we also measure dissolved oxygen.



Friends of Corte Madera Creek maintains equipment that measures water quality parameters affecting aquatic life in many of our creeks and in Phoenix Lake. Here, Parker Pringle installs a temperature recorder in Ross Creek. Photo by Sandy Guldman

Also in collaboration with the Phoenix Lake Retrofit Project, samples taken from Phoenix Lake will be analyzed for chlorophyll-a, a measure of algal growth, and for iron and manganese. Also, a “Secchi disk” will be used to measure water transparency. The disk is mounted on a pole or line, and lowered slowly down in the water. The depth at which the pattern on the disk is no longer discernable is taken as a measure of the transparency of the water. This measure is known as the Secchi depth and relates to how much algae and sediment impair water clarity. We will post the results of our 2012 water quality monitoring on our website in December.

The Phoenix Lake Retrofit Project—in addition to its main purpose of providing a flood-water detention basin—will be designed to improve water quality in the lake and creeks downstream of the lake. So measurements taken this summer will provide a baseline for comparison to conditions in Phoenix Lake, Ross Creek, and Corte Madera Creek after Phoenix Lake is modified.

The Phoenix Lake Retrofit Project—in addition to its main purpose of providing a flood-water detention basin—will be designed to improve water quality in the lake and creeks downstream of the lake. So measurements taken this summer will provide a baseline for comparison to conditions in Phoenix Lake, Ross Creek, and Corte Madera Creek after Phoenix Lake is modified.

So if you see someone stooping over the water of Ross Creek this summer, or pushing out in a boat onto Phoenix Lake, it may well be Parker Pringle or Sandy Guldman from Friends testing the waters for a variety of conditions.

Any use of text or photographs for other than personal purposes is prohibited without permission from Friends of Corte Madera Creek Watershed

Friends of Corte Madera Creek Watershed P.O. Box 415, Larkspur, California 94977
info@friendsofcortemaderacreek.org