



Garcia River TMDL Implementation and Bioassessment Monitoring (North Coast Region)

What is it?

The Garcia River Watershed was historically home to abundant runs of steelhead trout, Chinook, Coho, and pink salmon. Over the past century and a half, land use activities within the Garcia watershed included three waves of logging, instream dams, forest conversion for grazing and agriculture, stream diversions, and gravel mining. These activities have caused the watershed to become polluted with excess sediment, elevating stream temperatures and impaired instream habitat conditions resulting in a spiraling decline in native salmonid populations.

In the mid-1990s, the Garcia River watershed was included on the Clean Water Act Section 303(d) list as impaired due to excess sediment and elevated temperatures. To address the sediment impairment, the Action Plan for the Garcia River Watershed Sediment Total Maximum Daily Load (Garcia River TMDL) was adopted into the Water Quality Control Plan for the North Coast Region in 2002.

The Garcia TMDL is a regulatory tool that seeks to address controllable human-caused sources of sediment and to improve land management activities across the landscape in order to prevent the creation of new sources of pollution.

Beginning in 2007, the North Coast Region (Region 1) partnered with The Nature Conservancy to begin implementation of an instream water quality monitoring program, using bioassessment and physical habitat measurements in the Garcia River Forest. This effort has been ongoing for two years and has gathered data across 70 separate monitoring reaches within each of the twelve sub-watersheds, in order to establish baseline conditions throughout the basin.

In 2010, the North Coast Region and the Nature Conservancy monitored 11 locations in the basin in an ongoing effort to document and establish seasonal variation in the watershed. The year 2011 will mark the 5th year of this project and we will be monitoring more than 60+ stations located throughout the watershed looking at and documenting changes in both individual sub-watersheds and the watershed as a whole.

Why is it important to the State?

Like the Garcia River, most of the watersheds in the North Coast Region are impaired due to excess sediment and elevated temperatures as a result of land use impacts. The successful implementation of a pollution control plan, such as Garcia River TMDL, in conjunction with other restoration activities, serves as an example that can be used to address these pollutants and restore beneficial uses in other sediment impaired watersheds. To determine whether instream conditions are improving over time, a robust bioassessment and physical habitat monitoring effort must be conducted to detect trends towards recovery.

Why is it important to me?

The purchase of the Garcia River Forest in 2004 by The Conservation Fund established the first large nonprofit-owned working forest in California. The development of a bioassessment module for north coast streams will enhance the Garcia River Forest consortium's ability to manage this landscape and its aquatic resources for ecosystem health.

How will the data be used?

The Garcia River watershed was the first of the sediment impaired waterbodies to have an implementation strategy approved to restore its beneficial uses. The monitoring of instream conditions within the Garcia River watershed is a critical component of the total maximum daily load (TMDL) implementation effort. Over time, we expect that the original USEPA funded Environmental Monitoring and Assessment Program (EMAP) and the SWAMP bioassessment monitoring programs will allow us to determine whether conditions are improving towards recovery. This in turn can help guide management decisions and restoration strategies in other similarly impaired watersheds in the region.

Additionally, data generated will enhance the State's ability to answer the general question: What is the status of California's surface water quality in the North Coast Region, and is it getting better or worse? Bioassessment data can be used in compliance with Sections 305(b) and 303(d) of the Clean Water Act to develop the Integrated Report. Data from this effort will also enhance Regional and statewide monitoring programs; aid in evaluating the success of TMDLs; and help to develop and understand the relationships linking human activities and stream pollution for non-point source programs.