Garcia River TMDL Implementation

What is it?

Land use activities within the Garcia River watershed have included multiple waves of logging, stream diversions, instream impoundments, forest conversion for grazing and agriculture, and gravel mining. Together, these activities caused the watershed to become polluted with excess sediment and elevated stream temperatures, devastating the condition of the instream habitat and resulting in a spiraling decline in the salmonid populations.

In the early 1990s, the Garcia River watershed was included into Section 303(d) list of the Clean Water Act as impaired due to excess sediment and elevated temperatures. Adopted into the Water Quality Control Plan for the North Coast Region in 2002, the Garcia Total Maximum Daily Load (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. Currently, private landowners - who together own more than two-thirds of the watershed - are working with staff from the North Coast Regional Water Board in an effort to comply with the Garcia TMDL; this in turn is reducing the amount of sediment pollution entering the watershed and its tributaries.

Why is monitoring of the Garcia River watershed important to the State?

The condition of the watershed and its tributaries are being monitored closely. Beginning in 2007, the North Coast Regional Water Board teamed up with The Nature Conservancy in a watershed-wide instream monitoring program to determine the current condition of the watershed and whether or not there are any detectable trends towards recovery. Currently, the Garcia River watershed includes one of the largest monitoring efforts based on the US EPA's Environmental Monitoring and Assessment Program (EMAP) Western-Pilot Study and SWAMP designs of any single watershed in the entire State.

Data collection includes a suite of physical, biological, and water quality parameters that are being collected throughout the watershed. The monitoring program includes a random probabilistic sampling design to provide for unbiased and comprehensive data collection. Since 2007, approximately 70 separate reaches have been monitored throughout the watershed based on these protocols.

Why is it important to me?

Like the Garcia River, most of the watersheds in the North Coast Region are impaired due to excess sediment and elevated temperatures. Although every watershed is unique, the causes of the impairment remain fairly consistent: logging, conversions, deforestation, and gravel mining. At the same time, the populations of pacific salmon that once filled these watersheds have plummeted with some species nearing extinction.

How will the monitoring information be used?

The Garcia River watershed was the first of the sediment impaired waterbodies to have an implementation strategy developed and approved in order to restore its impaired beneficial uses. To date, the North Coast Regional Water Board has successfully collaborated with approximately two-thirds of the entire watershed in order to address controllable sediment sources. That accomplishment is considered a success in itself.

The monitoring of instream conditions within the Garcia River watershed is a critical component of the TMDL implementation effort. Over time, we expect that the EMAP and SWAMP monitoring effort will allow us to determine whether conditions are improving towards recovery. This in turn can help guide the decision makers for other similarly impaired watersheds in the region.

Partners: The Nature Conservancy, US EPA, North Coast Regional Water Board, The Conservation Fund, The Mailliard Ranch, The Stornetta Brother's Ranch, The Mendocino Redwood Company, SWAMP

To learn more about this project, click here