Perennial Streams Monitoring Program for Southern California through the Stormwater Monitoring Coalition (SMC)

What is it?

This effort (a subset of a larger statewide perennial streams monitoring effort) is intended to create a comprehensive monitoring program for southern California's coastal streams and rivers that integrates many elements of individual stormwater monitoring programs, individual Regional Water Board monitoring programs, and other existing water quality monitoring programs. This program is facilitated by the Stormwater Monitoring Coalition (SMC), which is a coalition of stormwater management agencies, the State Water Board, and the Los Angeles, Santa Ana, and San Diego Regional Water Boards from Ventura to San Diego. This monitoring program, known as the SMC program, is designed to be collaborative, so that each individual agency can both assess conditions in their own jurisdiction, and contribute to assessment of conditions throughout southern California as a whole. Important components of the SMC program include the use of consistent field and laboratory methods, setting performance-based quality assurance guidelines, and use of an information management system to enable sharing of data.

The SMC program addresses three important basic questions:

1. What is the condition of streams and rivers in southern California?
2. What are the major stressors to aquatic life?
3. Are conditions in locations of special interest getting better or worse?

Each of these questions will be answered by a different component of the monitoring program. The first question, which has to do with the magnitude and spatial extent of impacts, will be addressed using a probabilistic sampling design (randomized site selection) across three different land uses categories: urban, agricultural, and open. The second question will be addressed by building on the stressor and response data collected for the first question to develop a relative risk. The third question will be addressed using a targeted sampling design that focuses on sites for long-term monitoring.

Sampling for the SMC program started in 2009, and the following indicators were collected on 122 sites throughout southern California: (1) Bioassessment (benthic macroinvertebrates and algae); (2) Riparian wetlands; (3) Water chemistry; (4) Water toxicity, and (5) Physical habitat. Sampling for the program will continue for the next four years with new sites sampled every year.

Why is it important to the State?

In the past, the health of southern California's rivers and streams could not be determined because monitoring efforts in southern California were not coordinated and did not use consistent methods. In addition, the monitoring was mostly based on targeted and site-specific designs, and therefore only a small portion of the region's streams and rivers were monitored. The new program will lead to a true assessment of the streams and rivers in southern California. The assessment also will contribute to development of future policies and regulations. In addition, the State will use the data produced by this study for the development of biological objectives.

Why is it important to me?

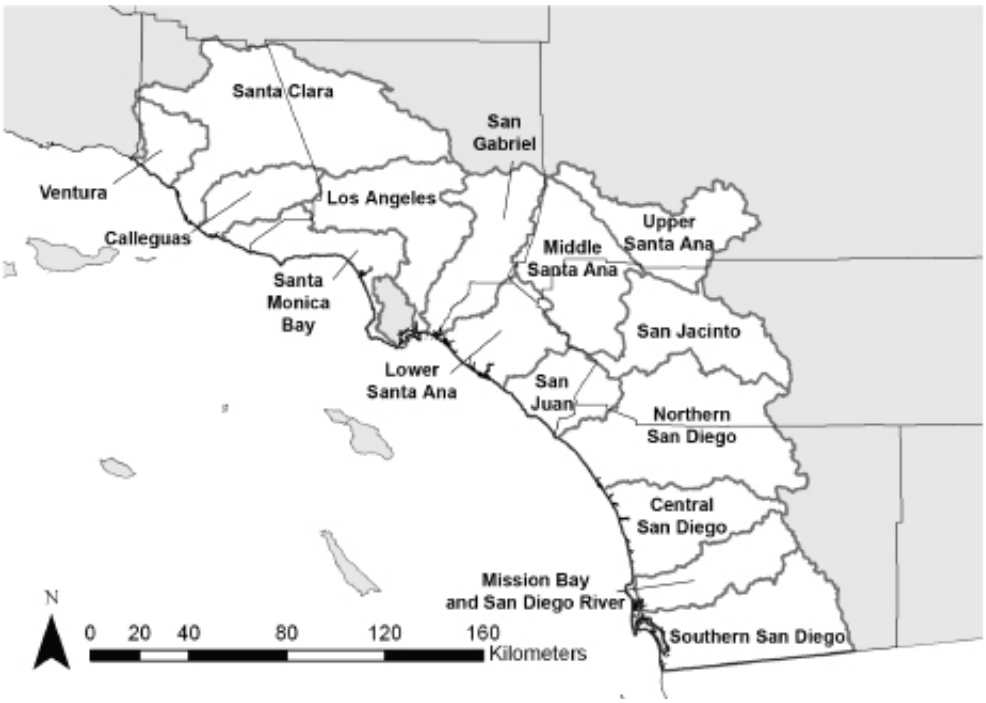
The SMC program is more efficient and cost effective than past monitoring programs conducted in the same waters. This program will produce information for stakeholders and decision makers about conditions in rivers and streams in southern California. It also will enable integrated, collaborative watershed management. Additionally, this program uses methods that are comparable with those used within southern California and elsewhere in the State, so the data collected can be combined and compared with data from other areas. This allows for assessments at local, regional, and statewide perspectives.

How will this information be used?

Since it uses a probabilistic design, the SMC program will produce an unbiased assessment of the health of streams and rivers in southern California. Information from this program will be used to prepare future water quality assessment reports that federal law requires the State to prepare (i.e., 305b/303d integrated reports). In addition, information from this program will be used to develop biological objectives for streams and rivers.

Partners: California Department of Fish and Game; Los Angeles RWQCB, Santa Ana RWQCB, San Diego RWQCB; Los Angeles and San Gabriel Rivers Watershed Council; the cities of Long Beach and Los Angeles; the counties of Orange, San Diego, Los Angeles, Riverside, San Bernardino, and Ventura; State Water Resources Control Board, Stormwater Monitoring Coalition; Southern California Coastal Water Research Project; and U.S. Environmental Protection Agency

To learn more about this project click here.



Map shows watersheds included in the regional watershed monitoring program.