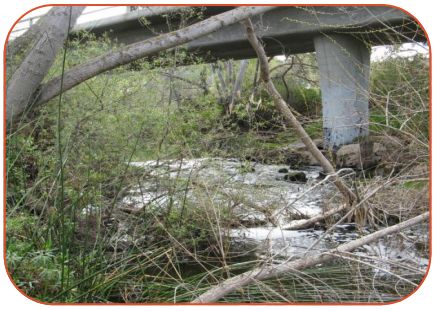
# Causal Assessment Evaluation and Guidance for California – San Diego River Case Study

## What is it?

Causal assessment is a component of bioassessment with the goal of diagnosing the underlying cause(s) of any observed impairment to a biological community being measured. Four causal assessment case studies (including the lower San Diego River) were conducted in California as part of the State's proposed biological objectives policy. The goals of these case studies were to (1) test the utility of the most commonly used causal assessment tools and (2) preliminarily determine the causes of impairment in four different case studies. The causal assessments were performed using the U.S. Environmental Protection Agency's Causal Analysis/Diagnostic Decision Information System (CADDIS) framework, which had not been systematically tested in California streams.



San Diego River in San Diego County

The causal assessment in the San Diego River was conducted as a partnership of the Southern California Coastal Water Research Project, the City of San Diego, the County of San Diego, and the San Diego Water Board with funding from the State Water Board. This causal assessment focused on five candidate causes potentially responsible for biological impairment in the San Diego River. Of the five candidate causes, elevated conductivity and pesticides (specifically pyrethroids) were evaluated as likely stressors, dissolved metals were evaluated as unlikely stressors, and increased nutrients and altered habitat were evaluated as indeterminate stressors.

## Why is it important?

The primary role of the CADDIS framework is stressor identification. The results from the causal assessment will support further efforts to identify the sources of the stressors and abate the

stressors in order to improve the biological integrity in the river. SWAMP provides the necessary monitoring information for CADDIS studies.

## How will this information be used?

The San Diego Stakeholder group realized that the diversity of results produced by the San Diego River case study could serve as an excellent opportunity to explore the feasibility of a variety of post-CADDIS actions. The goal is to use the San Diego River causal assessment case study as a springboard to develop a new case study for post-causal assessment actions. These actions will range from increasing the confidence in certain stressors to source identification. The ultimate goal is to abate the stressors and improve the biological integrity in the San Diego River.

The evaluation and guidance for causal assessments in California and the results from the four case studies are summarized in the following report:

- Schiff, K., Gillett, D., Rehn, A., Paul, M. 2013: Causal Assessment Evaluation and Guidance for California. SCCWRP Technical Report No. 750.

For more information, contact Lilian Busse (Lilian.Busse@waterboards.ca.gov or 858-736-7332)