Causal Assessment in California

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Abstract
The State Water Resources Control Board is well on its way to creating a biointegrity plan or policy, whereby stream bioassessment will be used to judge impairment of biological resources. If the biointegrity regulation is adopted, there will ultimately be some percentage of streams determined to have impaired biological resources. The question then arises, "What are the causes behind the observed impairment?" Causal assessment is the process of trying to answer that question. Unfortunately, the use of causal assessment has been very limited in California, and it is currently unknown how regulated parties might respond to impaired streams emanating from the SWRCB's upcoming Biointegrity regulations. In response, SCCWRP scientists were asked to evaluate the US EPA's Causal Assessment Decision/Diagnosis Information System (CADDIS) framework and provide guidance for its suitability for application in California. The CADDIS framework was applied in four case studies across the state. The case studies cover a wide variety of stressor categories and geography across the state including agriculture (Salinas River), silviculture (Garcia River), urban runoff (San Diego River), and wastewater discharges (Santa Clara Rivers). All of the cases studies were successfully completed, with at least one potential cause identified as likely and at least one potential cause identified as unlikely leading to the observed biological impairments. This half-day workshop will cover three main topics: 1) an overview of the CADDIS framework, 2) detailed illustrations and examples from each of the case studies pointing out the important considerations when implementing CADDIS, and 3) recommendations for improvements to CADDIS for adaptation to California, including what steps have been taken so far to improve this causal assessment framework. .