

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

EXECUTIVE OFFICER'S REPORT

September 9, 2009

PART B **SIGNIFICANT REGIONAL WATER QUALITY ISSUES**

7. Algae as Bioindicators for Streams (*Lilian Busse*)

Biological assessments are an integral component of the State's Water Quality Program and the Surface Water Ambient Monitoring Program (SWAMP) has focused most of its effort and resources on the development of benthic macroinvertebrate-based indicators but is now developing the capacity to also use algae because this will be necessary for biological assessment based on multiple lines of evidence, as recommended by USEPA. The goal is to develop tools to use algae as a second biological indicator for streams, and as biological endpoints in numeric nutrient criteria. Regional Board staff (Lilian Busse) is coordinating various state efforts for implementation of the algae bioindicators program.

Significant progress has been made during the last two years to include algae in the bioassessment program in California. A technical report by the Southern California Coastal Water Research Project (SCCWRP) was released in May 2008 with guidance on how to incorporate freshwater algae in the SWAMP program. During 2008 and 2009, algae were sampled for various statewide and regional programs. SWAMP funds were used by SCCWRP and the San Diego Regional Board to develop a Standard Operating Procedures (SOP) for field sampling of stream algae. Lilian Busse is leading the effort to establish a freshwater algae taxonomic group with the goal of standardizing algae taxonomy for the State. The taxonomy group will develop standard taxonomic efforts levels and an online taxonomic key and resources. Funds from two Proposition 50 grants are supporting the development of an index of biotic integrity (IBI) based on algae in Southern California and on the Central Coast. These grants were approved in March of 2007 but were suspended in December of 2008.

Lilian Busse will convene a SWAMP webinar entitled: "A New Tool for Water Quality Assessment - Algae as Bioindicators" on September 24, 2009. The webinar is available through the State Boards' WebEx Portal. The presentation will include an introduction on using stream algae as bioindicators and an overview of SWAMP's strategy for incorporating stream algae into California's bioassessment programs. The presentation will cover the following implementation areas: (1) SOP for sampling stream algae; (2) Laboratory analysis of stream algae; (3) Current programs that include algae as indicators; (4) Development of a California-wide stream algae taxonomic standards group; (5) SWAMP database modules for stream algae; (6) Quality Assurance Program

Plan; and (7) First results on the development of an index of biotic integrity based on stream algae.