

## Relationship of Monitoring Council and SWAMP

The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) and the California Water Quality Monitoring Council have common goals of coordinating California's water quality monitoring and assessment activities and making monitoring and assessment information easily accessible to the public. The Monitoring Council is in the process of developing a state-wide comprehensive monitoring strategy. SWAMP needs to update its ten-year monitoring and assessment strategy. There are several efforts that the Monitoring Council and SWAMP can coordinate in developing and implementing their respective monitoring strategies. In general these revolve around 1) the coordination of monitoring and assessment activities, 2) the development and maintenance of monitoring infrastructure, and 3) the development of mechanisms for providing public access to the monitoring information.

- 1. Monitoring and assessment activities.** SWAMP monitoring is focused in three major areas: fish bioaccumulation, stream bioassessment, and assessing trends in contaminant conditions at the bottom of key watersheds.
  - a. The SWAMP fish bioaccumulation program is designed as a long-term comprehensive monitoring program to address the level of chemical contamination in edible fish tissue. The program sampled lakes in 2008 and 2009, and is in the planning phase of sampling coastal waters in 2010 and 2011. In 2012 the program plans to assess rivers. The program intends is to cycle through these three key waterbody types on a 5-year cycle. The first year lakes report will be available in Spring 2009. Data from the SWAMP fish bioaccumulation program are used by the Office of Environmental Health Hazard Assessment (OEHHA) to issue fish consumption advisories. These efforts support the Monitoring Council's "Are the fish safe to eat?" theme.
  - b. The SWAMP bioassessment program directly measures the health of aquatic organisms and communities of organisms. SWAMP program activities in this area fit into the Monitoring Council's "Are Our Aquatic Ecosystem Healthy?" theme. Currently, SWAMP bioassessment monitoring is conducted only in wadeable perennial streams. The program is known as the Perennial Stream Assessment or PSA. The PSA program is involved in both monitoring and development of sampling and analytical tools to acquire, assess and manage bioassessment data. SWAMP has developed statewide Standard Operating Procedures (SOPs) for field sampling of benthic macroinvertebrates and physical habitat. SWAMP has also fostered the development of assessment tools for scoring sites that can be applied statewide. Monitoring is done through the Perennial Stream Survey which utilizes a probabilistic survey design to assess the condition of wadeable streams statewide. The results of these surveys have formed the basis for Clean Water Act Section 305(b) condition reports in 2006 and 2008. SWAMP has also developed a "Bioassessment Reference Site Plan" that describes the implementation of a large network of reference sites to allow comparisons of degraded sites with natural conditions.

While the SWAMP bioassessment program has focused mainly on macroinvertebrates, SWAMP is also supporting developing and testing the applicability of additional bio-

indicators, such as algae and wetland indicators for use in state water quality programs. Algae and the California Rapid Assessment Method (CRAM) are being tested as indicators in the PSA.

State Water Board management, the Scientific Planning and Review Committee (SPARC) and USEPA strongly recommended that California develop tools and thresholds for defining biological objectives (bio-objectives). SWAMP has already developed consistent field and lab methods for conducting bioassessment using benthic macroinvertebrates (BMIs). To help develop bio-objectives, SWAMP is working on refining the field and lab methods and has taken a lead in forming a Bio-objectives Committee to actively spearhead the development of bio-objectives for California.

- c. The Watershed Integrator Sites program is an essential component of the statewide monitoring framework to assess stressors affecting aquatic life. It provides data to assess whether human activities on a watershed scale are leading to increases or decreases in the loading of toxic pollutants to California streams. The overall goal of this long-term trends statewide stream assessment is to detect meaningful changes in the concentrations of stream-borne contaminants and their effects on large watersheds at time scales appropriate to management decision making. The SWAMP Integrator Sites programs fits into the “Stressors and Processes that Affect Water Quality” theme of the Monitoring Council.

- 2. Monitoring infrastructure.** SWAMP has invested significant resources in the development of common tools, procedures, QA/QC recommendations, and information management techniques to ensure data comparability. These efforts are becoming the standard for monitoring and assessment efforts performed by and for the State and Regional Water Boards. However, these standards have not been fully embraced by other state agencies. SWAMP also recognizes the need for additional outreach to regional monitoring programs. The Monitoring Council could become a forum for vetting these methods with other state agencies and regional-based monitoring programs.
- 3. Public dissemination of data.** All SWAMP data should be made available to the public in a timely and publicly accessible manner. Currently, written reports are available to the public on the SWAMP area of the State Water Resources Control Board’s website. It is SWAMP’s vision that the water quality monitoring data and data analysis tools will be made available through the California Environmental Data Exchange Network (CEDEN). SWAMP has supported the development of Regional Data Centers to make this a reality. SWAMP intends to coordinate with the Monitoring Council to make monitoring and assessment information available to the public through the theme-based web portals. This would include information from the SWAMP bioaccumulation surveys to support the theme “Is it safe to eat the fish?” and information from the bioassessment perennial stream surveys to support the theme “Are our aquatic ecosystems healthy?” SWAMP monitoring results from the integrator sites and data from targeted Regional Board monitoring could also be used in the Stressors and Processes theme of the Monitoring Council.