

Welcome to this issue of the SWAMP Newsletter. Every few months we plan to bring you the latest surface water ambient monitoring news from the State Water Resources Control Board. We welcome your feedback at [swamp@waterboards.ca.gov](mailto:swamp@waterboards.ca.gov).

## Diving Deep into the First Annual #CAWaterDataDive Data Innovation Challenge



by [Jarma Bennett](#)

Data is big right now. There is data, data about data, and data about data about data, everywhere. To show that the State Water Board is not immune to this craze, it hosted a Data Dive. A series of events, including an Open House – Data Fair – and a Data Innovation Challenge, which wrapped up on April 22, with presentations, and judging of the entries. The Data Innovation Challenge aimed to highlight the importance of data when making science-based decisions, promote the data that the Water Boards have to offer, and recognize that there are many “solutions” that the Water Boards have yet to develop, or even think of. ⇒ [Learn More](#)

## Toxicity Testing

### An Integral Component of Water Quality Monitoring

by [Brian Ogg](#)

Toxicity tests have been used to determine the effects of pollutants in water bodies for well over a century. These simple, yet effective tests, are conducted by exposing organisms to a water sample, or sediment sample for a set amount of time, and comparing the resulting effects to a laboratory control.

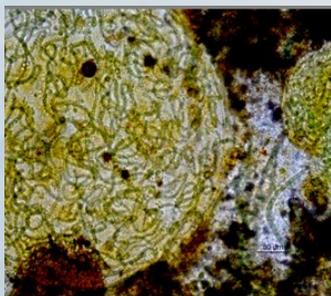


The Water Boards’ wastewater, stormwater, and ambient monitoring programs, frequently utilize these versatile tests to detect instream threats to aquatic life. ⇒ [Learn More](#)

## Benthic Cyanotoxins Widespread In California Streams

by [Betty Fetscher](#)

Historically, by far most monitoring for cyanobacteria and the toxins they produce has focused on water-column samples from lakes, reservoirs, and large rivers. However, ongoing algae-based bioassessment efforts by SWAMP, and the Southern California Stormwater Monitoring Coalition, have shown that “benthic” cyanobacteria (i.e., those living on or in the bottom of a water body) are widespread throughout California’s wadeable streams. This discovery has raised concerns about whether such cyanobacteria might also produce toxins, and what this might mean for the health of the streams themselves, and the receiving waters they feed. Hundreds of benthic algae samples have been collected in recent years by SWAMP and others, and analyzed for a suite of cyanotoxins. Results indicate that multiple toxin types are produced in stream bottoms—particularly microcystins, which were found in a third of sites tested. All regions of the state are affected. This is an important finding due to potential effects of cyanotoxins on multiple beneficial uses, both locally within streams, and in downstream receiving waters. ⇒ [Learn More](#)



## SWAMP CyanoHABs Program is Blooming!

by [Karen Worcester](#)  
and [Bev Anderson-Abbs](#)

With heat and lengthening days, the bloom season is almost upon us. The first SWAMP newsletter



introduced the serious issue of harmful algal blooms (HABs) originating from cyanobacteria (or “blue green algae”) in freshwater systems throughout California. In this issue, we will provide more information about what the SWAMP program is doing to address this widespread problem. ⇒ [Learn More](#)

## Statewide Monitoring Pilot Study for Contaminants of Emerging Concern

By [Dawit Tadesse](#) of SWAMP and [Keith Maruya](#) of SCCWRP

There are thousands of chemicals in commerce today and many have the potential to be released into the environment. But only a handful of them have numeric water quality standards and most are not monitored in California’s waters. Contaminants of Emerging Concern (CECs) are unregulated chemicals that originate from a variety of point and non-point source waste discharges. The presence of CECs in our waterways and their potential hazards to human health and aquatic life are receiving special attention from the State and Regional Water Boards. Public concerns and newly adopted policies and regulations prompted the Water Boards to monitor for the occurrence of CECs and to investigate their potential to cause toxicity to both aquatic life and humans. A pilot study is intended to provide baseline information for Water Boards programs and the public. ⇒ [Learn More](#)

**Flame retardants**  
**Pesticides**  
**Pharmaceuticals**  
**Cosmetics**  
**Fragrances**  
**Sunscreens**  
**Detergents**  
**Synthetic hormones**  
**Paints and coatings**

## SWAMP Establishes Long-Term Statewide Monitoring Plan for Mercury In Bass Lakes

by [Jay Davis](#)

In 2015 SWAMP established and began implementing a [plan for sampling and analysis of sport fish](#) in a long-term program to track status and trends in concentrations of mercury and other contaminants in the many California lakes where bass species are present. Bass species (including largemouth, smallmouth, and others) are at the top of the food chain and consequently tend to accumulate high concentrations of mercury. Past SWAMP sampling showed that many lakes have mercury concentrations in bass that are above thresholds for concern. The plan calls for sampling 190 bass lakes throughout the state on a 10-year cycle. The sampling is being done in five rounds (“panel groups” indicated on the map), with 38 lakes in each round and the rounds occurring every other year. This plan will address the critical need of managers and the public for updated, high-quality information on the status of contaminant bioaccumulation in these important water bodies. The plan is designed in a way that will also allow tracking of long-term statewide and regional trends in mercury contamination of lake food webs as they respond to factors such as increasing global atmospheric emissions and climate change. Understanding these background trends is critically important in evaluating the effectiveness of statewide and regional mercury control plans (TMDLs). ⇒ [View Map of Priority Bass Lakes](#)



## SWAMP Calendar

### SWAMP’s 1<sup>st</sup> Annual Water Quality Science Symposium

This is an annual event that aims to daylight surface water quality data and insights and interests on California surface water quality topics; better connect data, information, and knowledge to water quality stakeholders and decision makers; and create a networking community to enhance better communication throughout the year.

Wednesday, June 29, 2016  
from 9:00 AM to 4:30 PM

Coastal Hearing Room,  
CalEPA  
1001 I Street, Sacramento

⇒ [Learn More and Register](#)

