

WHAT IS THE BOG?

The Surface Water Ambient Monitoring Program (SWAMP) Roundtable has formed a subcommittee, the Bioaccumulation Oversight Group (BOG) that develops plans for and guides implementation of SWAMP bioaccumulation monitoring. The BOG is composed of State Water Resources Control Board and Regional Water Quality Control Board staff and representatives from other agencies and organizations including USEPA, the Office of Environmental Health Hazard Assessment (OEHHA), the Department of Fish and Game (CDFG), and the San Francisco Estuary Institute (SFEI).

The BOG has also convened a Bioaccumulation Peer Review Panel that is providing evaluation and peer review of the bioaccumulation program. The members of the Panel are internationally-recognized authorities on bioaccumulation monitoring.

BOG ACTIVITIES/PRODUCTS

Review of Past Monitoring

The first major task undertaken by the BOG was to perform a thorough review of past bioaccumulation monitoring in California. This review assessed the status of bioaccumulation in waters of the state and set the stage for improved monitoring in the future. The report found that concentrations of some bioaccumulative pollutants (e.g., PCBs and DDTs) declined greatly since the 1970s in response to management actions. However, recent concentrations of pollutants in fish collected from many California water bodies remained high enough to cause concern for possible effects on human health. Consumption advisories exist for only a fraction of the water bodies likely to need them. A technical report and fact sheet on this work were released in 2008.

SWAMP Bioaccumulation Monitoring

The BOG has developed and begun implementing a program to evaluate bioaccumulation impacts on the fishing beneficial use in all California water bodies. Sampling of lakes and reservoirs has been conducted in the first two years (2007 and 2008). In 2009 and 2010, the California coast, including bays and estuaries, will be sampled. Rivers and streams will be sampled in 2011. In 2012 the plan is to again begin a two year effort on lakes and begin another five-year cycle of sampling all of these water body types.

Contaminants in Fish from California Lakes and Reservoirs

In the first year of this screening study (2007), over 6000 fish from 18 species were collected from 152 lakes and reservoirs in California. Targeted sampling of “popular” lakes comprised the bulk of the year 1 effort (102 of 152), with the remainder comprising a random sampling to provide for an unbiased statewide assessment. Another 131 targeted lakes were sampled in 2008 (results to come in early 2010). Only 15% of the lakes sampled in 2007 were found to have concentrations of pollutants below all OEHHA thresholds. Mercury was the pollutant primarily responsible for the remaining 85% of

lakes having at least one species with an average concentration above thresholds. Approximately 26% of the 152 lakes surveyed had a species with an average mercury concentration high enough that OEHHA would consider recommending no consumption of the contaminated species (greater than 0.44 ppm). Although mercury concentrations were generally not as high in southern California, the mercury problem is not confined to northern California and its well-known mining regions. PCBs reached concentrations posing the second most widespread health risks to consumers of fish caught from California lakes, with 37% of lakes above the lowest OEHHA threshold. Concentrations of dieldrin, DDT, chlordane, and selenium were generally low, and infrequently exceeded thresholds. A technical report and fact sheet on year one of the Lakes Survey will be released in late April. In 2010, a final report on the Lakes Survey will be released that will cover both years of sampling and a more detailed exploration of factors influencing patterns in bioaccumulation.

Contaminants in Fish from California Coastal Waters

A two-year screening study of contaminants in fish from California coastal waters will begin this spring. The BOG has developed a sampling design for this survey and obtained peer review comments on it. The first year of sampling will focus on the Southern California Bight and the area near San Francisco Bay. The effort will be closely coordinated with Bight '08, the Regional Monitoring Program for San Francisco Bay, and additional monitoring by the Los Angeles Regional Board. Overall, these collaborations represent \$575,000 in matching funds to provide for a thorough assessment of bioaccumulation on the coast.

OEHHA'S ROLE IN SWAMP BIOACCUMULATION MONITORING

OEHHA plays a central role on the BOG, providing guidance on all phases of the design and implementation of the monitoring program. Assessment thresholds developed by OEHHA are being used in presenting the monitoring results in a manner that is informative to the public and to agency staff making decisions on 303(d) listing determinations. The studies performed to date by SWAMP are screening studies – due to budget and logistical limitations they are not gathering sufficient data to support the development of safe eating guidelines for individual water bodies. However, the BOG data will be useful to OEHHA in establishing priorities for development of safe eating guidelines for additional water bodies. BOG data have also been useful to OEHHA in updating existing advisories for selected water bodies.