

Bioaccumulation Oversight Group (BOG) - CHARTER

Mission

- » To assess the impacts of contaminants in fish and shellfish on beneficial uses in California water bodies through statewide monitoring under SWAMP and syntheses of information from other studies, and to develop an internet portal that presents this information to decision-makers and the public in a form that they can easily use.

Why Is This Workgroup Needed?

- » Prior to the formation of the BOG and the inception of statewide surveys of bioaccumulation in 2007 under the Surface Water Ambient Monitoring Program (SWAMP), there was a lack of information on the statewide impact of contaminant bioaccumulation on the fishing and aquatic life beneficial uses of California waters. SWAMP has addressed this need with the state's first systematic statewide surveys of contaminants in sport fish in California lakes, coastal waters, and rivers and streams. The BOG provides the oversight and peer review of the monitoring and synthesis conducted on this topic that is needed to ensure these efforts are technically sound and of optimum value to water quality managers.
- » The BOG provides the oversight needed for development and maintenance of the "[Is It Safe to Eat Fish and Shellfish?](#)" component of the California Water Quality Monitoring Council's "[My Water Quality](#)" website. This website presents information from SWAMP and other programs on contaminants in California fish and shellfish to the public in form that they can readily access and use to reduce their exposure to mercury and other contaminants of concern.
- » The BOG serves as a forum for coordination of bioaccumulation monitoring in California. BOG discussions have created partnerships between state and regional SWAMP monitoring efforts, and between SWAMP and other programs such as the [Regional Monitoring Program for Water Quality in the San Francisco Estuary](#) and the [Southern California Bight Regional Monitoring Program](#). These partnerships promote efficient use of monitoring resources and provide for more coherent assessment of condition across the state.
- » The BOG advises the California Water Quality Monitoring Council and other agencies on information needs relating to management efforts to reduce the impact of contaminants on the beneficial uses of California water bodies.

Background and Description

- » California has a long history of employing the technique of "bioaccumulation monitoring" – measuring the concentrations of pollutants in fish, bivalves, and other aquatic biota to assess impacts on beneficial uses. In the 1970s, the California State Water Resources Control Board initiated two major statewide bioaccumulation monitoring programs. The [Toxic Substances Monitoring Program](#) (TSMP), initiated in 1976, measured pollutants in fish and invertebrates in freshwater and estuarine habitats. The TSMP primarily targeted water bodies with known or suspected water quality impairments, and successfully identified and documented many hotspots of contamination. The [State Mussel Watch Program](#) (SMWP) was initiated in 1977 to provide information on long-term trends in water quality in coastal marine waters and to identify specific areas with elevated concentrations. In 1998, a third statewide bioaccumulation monitoring program, the [Coastal Fish Contamination Program](#) (CFCP), was established. This program was developed to assess the health risks of consumption of sport fish and shellfish from nearshore waters along the entire California coast. Over the years, these programs yielded a wealth of useful information on water quality in California. However, the datasets generated by these programs had several limitations with regard to answering questions that are high priorities for water quality managers: much of the sampling was biased toward characterization of polluted areas; many areas were not sampled adequately, including areas with significant fishing activity; most of the sampling, though focused on sport fish, was not tailored to the development of consumption

advice; the dataset was also not tailored to evaluation of risks to piscivorous wildlife through monitoring of prey species; and long-term time series for detecting trends in sport fish or other wildlife contamination were lacking.

- » In 2000, the State Water Board, responding to a bill passed by the California legislature, developed a plan to restructure their existing water quality monitoring programs (including TSMP, SMWP, and CFCP) and create a [Surface Water Ambient Monitoring Program](#) (SWAMP) for water quality that addresses all hydrologic units of the state using consistent and objective monitoring, sampling and analytical methods; consistent data quality assurance protocols; and centralized data management. Sampling under the three monitoring programs ended in 2003, as SWAMP began to take shape.
- » In 2005 SWAMP began establishing a foundation for a new monitoring program to provide a systematic statewide assessment of the condition of California water bodies with respect to bioaccumulation. The first step taken was to provide funds for a review of the data generated by the previous statewide programs and other efforts ([Davis et al. 2007](#)).
- » SWAMP formed the Bioaccumulation Oversight Group (BOG) in 2006 to provide oversight for the statewide assessment of the impact of bioaccumulation of contaminants on beneficial uses. In 2007 SWAMP also initiated a new bioaccumulation monitoring program to address the need for systematic statewide information on this topic. This effort marked the beginning of a new long-term, statewide, comprehensive bioaccumulation monitoring program for California surface waters.
- » The BOG has developed and begun implementing a plan to evaluate bioaccumulation impacts on the fishing beneficial use in all California water bodies. Sampling of sport fish in [lakes and reservoirs](#) has been conducted in the first two years (2007 and 2008). In 2009 and 2010, sport fish from the [California coast](#), including bays and estuaries, were sampled. Sport fish from rivers and streams will be sampled in 2011.
- » In 2009 the BOG expanded its role by becoming a workgroup of the California Water Quality Monitoring Council. In this role the BOG has assumed broader responsibilities in guiding development of the Council's "[Safe to Eat Fish and Shellfish](#)" portal and in coordinating and planning bioaccumulation monitoring across multiple agencies.

Membership and Representation

- » Membership on the BOG is open to all organizations that have an interest in regional-scale and statewide monitoring and assessment of contaminants in fish and shellfish from California waters or in communicating information from this monitoring to policy-makers, agency staff, and the public. The [current membership of the BOG](#) includes State and Regional Board staff and representatives from other agencies and organizations including USEPA, the Department of Fish and Game, the Office of Environmental Health Hazard Assessment, and the San Francisco Estuary Institute. The members of the BOG possess extensive experience with bioaccumulation monitoring. Meetings are open, informal, and consensus driven. To inquire about participation in BOG meetings please contact Jay Davis (jay@sfei.org).
- » The BOG has also convened a [Peer Review Panel](#) that is providing evaluation and review of the bioaccumulation monitoring program. The members of the Panel are internationally-recognized authorities on bioaccumulation monitoring.

Scope

- » The BOG will promote coordination of major bioaccumulation monitoring efforts across the state and dissemination of this information in a usable form to water quality managers, policy-makers, and the public.

Objectives

- » Conduct and promote comprehensive statewide bioaccumulation monitoring for the State of California, with SWAMP monitoring as a core element
- » Promote coordination of major bioaccumulation monitoring efforts across the state to ensure efficient use of monitoring resources and the generation of comparable data to provide for more comprehensive statewide assessment
- » Communicate bioaccumulation monitoring information to agency staff and decision makers at the federal, state, and local levels
- » To successfully meet these objectives, include appropriate representation by governmental and non-governmental organizations with a significant role in communicating information on contaminants in seafood to California citizens.