

Bioaccumulation Monitoring Program – Statewide Coastal Study



What is it?

The Bioaccumulation Monitoring Program is a long-term, statewide effort to monitor the bioaccumulation of contaminants in fish tissue. This SWAMP-funded program is advised by a panel of scientists known as the Bioaccumulation Oversight Group or BOG. Initial efforts were focused on a two-year survey of bioaccumulation in sport fish in lakes and reservoirs. (See the Lakes Survey Achievement Report in the “Assessment” Section [link].) Coastal waters were selected as the next priority, due to their importance for sport fishing and a relative lack of past monitoring.

The Coastal Bioaccumulation Study is a two-year screening study to evaluate bioaccumulation in sports fish in California’s coastal waters. In Year-one (2009), sampling focused on the Southern California Bight and the San Francisco Bay plus adjacent coastal areas. Sampling in Year-two (2010) covered the North Coast and Central Coast. Sampling focused on near-shore areas, including bays and estuaries, in waters not exceeding 200 meter in depth and mostly less than 60 meters deep. These coastal waters are where most fishing occurs.

Three management questions have been formed to guide the 2009-2010 survey of the status of bioaccumulation of toxic chemicals in sport fish:

- 1) What percentage of popular fishing areas (for popular fish species) have low enough concentrations of contaminants that fish can be safely consumed?
- 2) What is the distribution of contaminant concentrations in fish within regions?
- 3) Should additional sampling of bioaccumulation in sport fish (e.g., more species or larger sample size in an area) be conducted for the purpose of developing comprehensive consumption guideline?

The Coastal Bioaccumulation Study optimizes cost efficiency by collaborating with existing monitoring groups. Year-one samples, collected in Southern California and the San Francisco Bay Area, were augmented by existing monitoring data from other sources in these urban areas. Year-

two samples were collected along the North and Central Coast Coasts in coordination with the Regional Monitoring Program for Water Quality in the San Francisco Estuary. All the data-sets will be combined to create a more comprehensive understanding of the condition of the State's coastal waters.

Why is it important to the State?

Bioaccumulation monitoring is a very effective and essential tool for assessing current conditions and is often the most cost effective tool for evaluating trends. Monitoring status and trends via bioaccumulation in sport fish will provide information on contaminant sources and pathways, and the effectiveness of management actions, on a broad geographic scale. The State is required to report on the status of its waters and to identify and report on impaired water bodies. This project will collect data that contribute to our knowledge base and provide a greater foundation for water quality assessments and decision making on water resource issues.

Why is it important to me?

The findings from this report will improve efforts to inform the public of potential health hazards related to the consumption of sport fish in California's coastal waters.

How will this information be used?

This comprehensive data set will be used to support water quality decisions made by the local Regional Boards and the State Water Resources Control Board. For example, in the past these types of data have provided the basis for hundreds of "listings" of impairment under Section 303(d) of the Clean Water Act. Additionally, water quality data are used to support NPDES permit revisions for both point source discharges and stormwater programs. Furthermore, water quality data support watershed planning and outreach efforts, and guide staff in making decisions related to grant fund allocations. Finally, these data will be used by the Office of Health Hazards Assessment in the development of fish advisories.

Partners: Bight '08, SWAMP, San Francisco Estuary Regional Monitoring Program, California Department of Fish and Game, Office of Environmental Health Hazard Assessment, SFEI

To learn more about this project click here: