



SURFACE WATER AMBIENT MONITORING PROGRAM (SWAMP)

BIOACCUMULATION

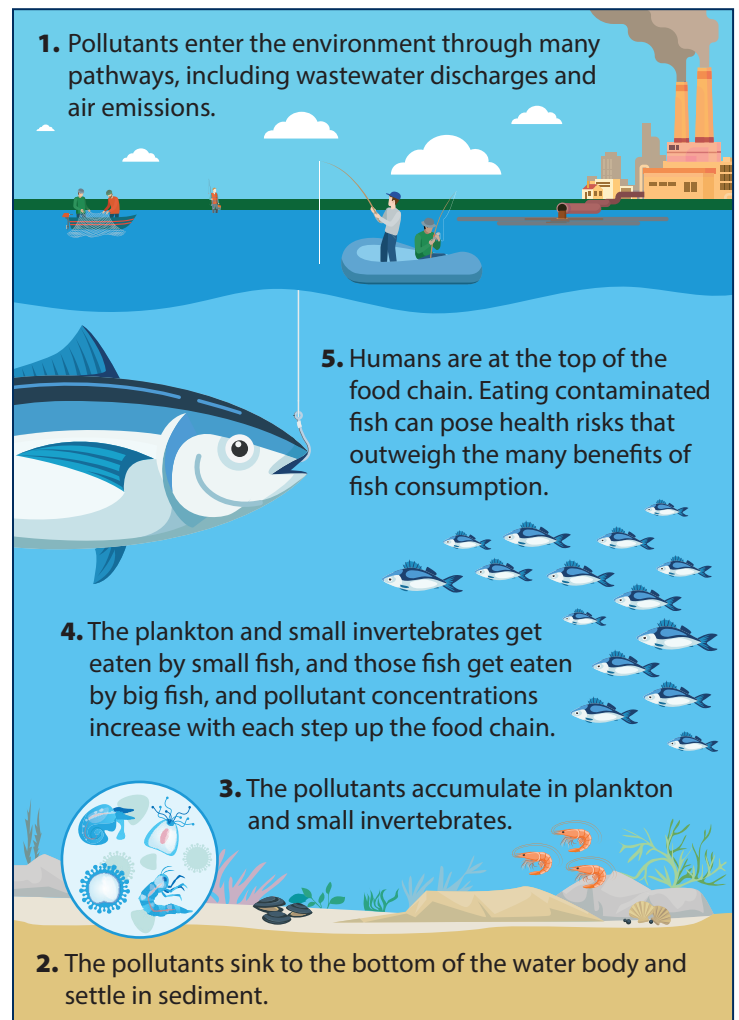
MONITORING PROGRAM & SAFE TO EAT WORKGROUP

What is Bioaccumulation?

The word bioaccumulation is used to describe the gradual buildup of pollutants in animals, including fish or shellfish. Bioaccumulation occurs when an animal absorbs the pollutants from their environment or through their diet. Pollutants that bioaccumulate include heavy metals like mercury, polychlorinated biphenyls (PCBs), and other chemicals. As animals higher on the food chain eat those that are lower on the food chain, they accumulate more pollutants in their bodies. Humans are at the top of the food chain and when we eat animals that contain a lot of pollutants, we can experience several adverse health effects. Some of these health impacts can include deterioration of the nervous system, reproductive and developmental problems, immune system suppression, and cancer.

What is the Bioaccumulation Monitoring Program?

California's Bioaccumulation Monitoring Program (Program) was established in 2006 to monitor water bodies statewide and measure the concentrations of pollutants in fish and shellfish tissue to assess waterbody conditions and whether fish/shellfish are safe to eat. Concentrations of pollutants in fish and shellfish collected from many California water bodies are high enough to cause concern for possible effects on human health but have also helped identify water bodies and species that are safe to eat.





What is the Safe to Eat Workgroup?

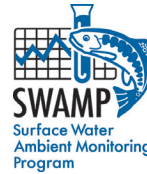
The Safe to Eat Workgroup (Workgroup) helps guide Program implementation, and brings together state and federal agencies, academia, and non-governmental organizations with an interest in bioaccumulation related research, fish advisory development, and statewide monitoring.

How do the Program and Workgroup work together?

The Program and the Workgroup work collaboratively to address questions related to the condition of a waterbody (status), how it changes over time (trends), causes and sources of pollutants and how effective programs are at reducing bioaccumulation in California's water bodies.

Program activities are supported and guided by the Safe to Eat Workgroup, to ensure the data collected through statewide monitoring address these questions and support development of fish advisories.

Accomplishing the objectives of the Program requires consistent collaboration among:



WHAT HAPPENS DURING THE MONITORING PROCESS?



Field crews collect fish in select California lakes, reservoirs, rivers, streams, and coastal areas



Samples of fish tissue are analyzed for mercury, PCBs, selenium, and legacy pesticides



Analyzed data are added to the California Environmental Data Exchange Network (CEDEN) database



CEDEN data are combined with other data sources needed to develop fish consumption advisories and water body condition assessments



Advisories are posted at water bodies



Data and information are made accessible on the Safe to Eat Portal

COLLABORATION WITH PARTNERS!



Photo by Jay Davis



Photo by Jon Goetzl

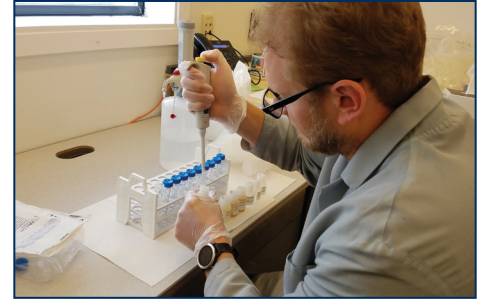


Photo by Autumn Bonnema

How does the Program help anglers in California?

The data collected by the Program are used by the California Office of Environmental Health Hazard Assessment (OEHHA) to develop fish consumption advisories. OEHHA's advisories recommend how often individuals can safely eat fish caught from water bodies in California.

The Program provides access to data and advisory information for specific water bodies via the Safe to Eat Portal. On this website you can find out whether a specific advisory has been developed for your favorite lake, river, or coastal fishing location, and see what data have been collected there. For locations without specific advice, the website provides access to advice that applies generally to lakes or coastal locations statewide.

Data from the Program are also used to assess the levels of pollutants within California's water bodies. If a water body is found to be impaired, it sets into motion a series of corrective actions. One example of such action is the development of Total Maximum Daily Loads (TMDLs) for the water body, which identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards and establishes a plan for restoring the impaired waters.

How can anglers help the Program?

To develop useful advisories and water body condition assessments, it is helpful to know where people fish, what they fish for, and how they consume what they catch.

By filling out a brief survey, you will be providing much-needed information that will help us ensure the species and water bodies that get monitored include those that are important to you.

Scan the QR Code or click on the survey link to tell us what is important to you!

Additional Resources

- Bioaccumulation Monitoring Program Website: http://bit.ly/Bioaccumulation_Monitoring
- OEHHA's California Fish Advisory Map: <https://oehha.ca.gov/fish/ca-fishmap>
- California Fish Consumption Survey: <http://bit.ly/CAConsumptionSurvey>
- Safe to Eat Workgroup Website: <http://bit.ly/Safe2EatGroup>
- Safe to Eat Portal: <http://bit.ly/Safe2Eat>

