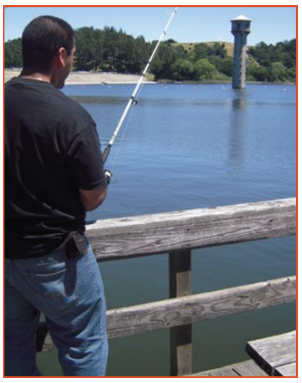
SWAMP Survey of Lakes and Reservoirs with Low Concentrations of Contaminants in Sport Fish

What is it?



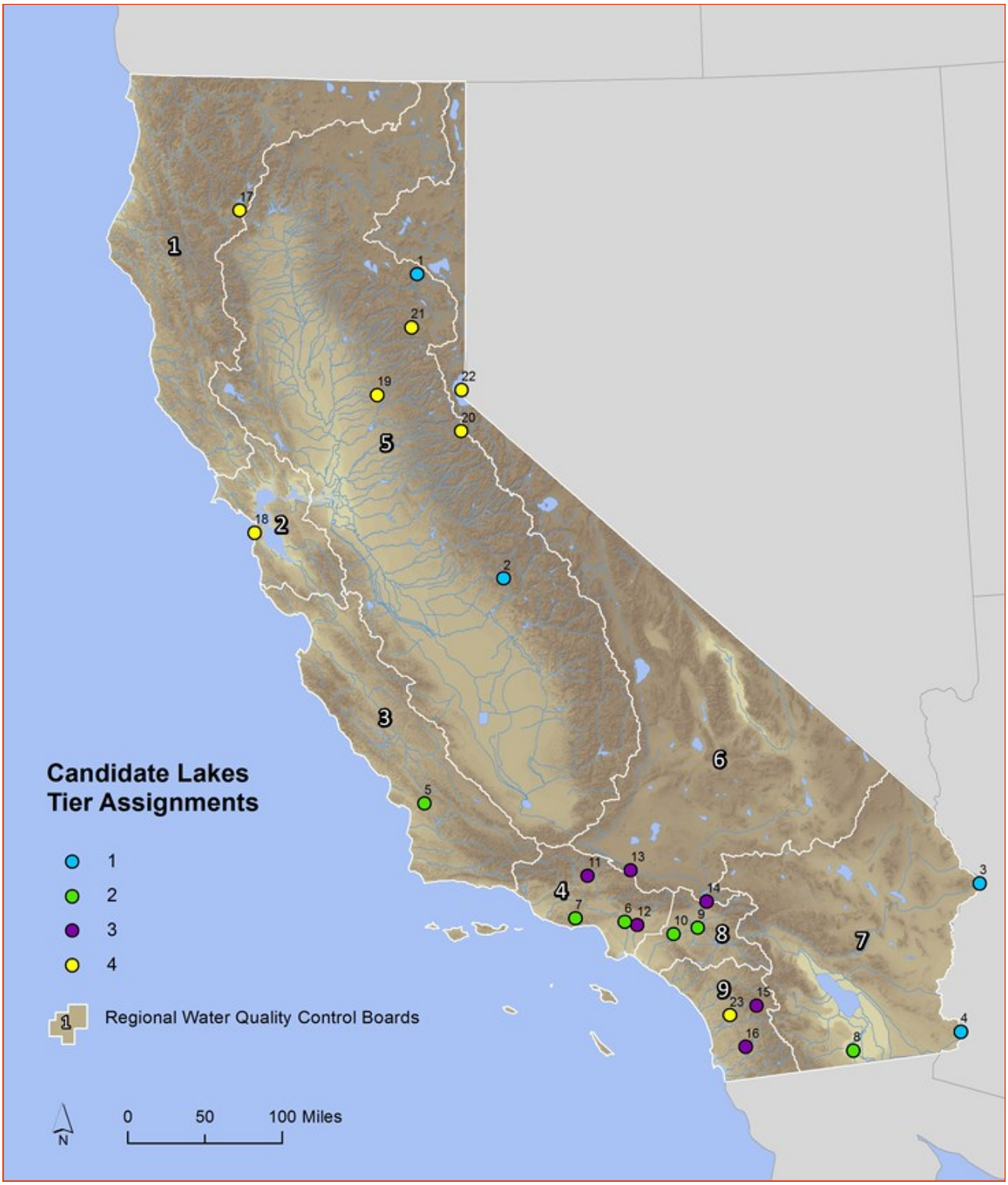
In 2014, SWAMP conducted sampling for a one-year study to refine how the status of lakes and reservoirs are characterized with regard to bioaccumulation impairment. SWAMP bioaccumulation surveys to date have focused on identifying water bodies with elevated concentrations of bioaccumulative contaminants so that managers can develop strategies for addressing problem areas. In contrast, this survey will provide information on another facet of status: identification of lakes and reservoirs with relatively low levels of contamination.

Three management questions (one primary and two secondary questions) guide the design of this study.

1. Which popular lakes in California can be confirmed to have relatively low concentrations of contaminants in sport fish?
2. Why do some lakes have relatively low concentrations of methylmercury in sport fish?
3. Did the 2007-8 survey accurately characterize the status of lakes in which only rainbow trout were collected?

Why is it important?

This survey will address the critical need of managers and the public to know which water bodies can be considered relatively clean. A statewide control program for methylmercury in reservoirs is being developed by the State Water Resources Control Board. Understanding the conditions associated with low concentrations of food web methylmercury is valuable to managers in their efforts to reduce concentrations in waters that are impaired. Supplemental measurements are



Locations of lakes sampled in this survey.

being made in partnership with the U.S. Geological Survey that may provide valuable information on factors that drive methylmercury accumulation in lake food webs.

In addition, with the information generated from this survey, the fishing public can be directed to water bodies where they can enjoy the benefits of fishing and fish consumption with reduced exposure to contaminants.

Lastly, this study will improve the characterization of lakes that were sampled only for rainbow trout in the 2007-8 SWAMP survey. It is possible that in only looking at rainbow trout, the 2007-8 study missed other resident species with a potential to have higher concentrations of contaminants, such as resident populations of trout, small populations of warm water predators like black bass, or bottom feeders like sucker. The information obtained from this study will be used to evaluate the accuracy of the 2007-8 assessment for lakes where only one species was sampled.

How will this information be used?

This information will be useful to managers in their efforts to protect these relatively high quality ecosystems and replicate their conditions in other water bodies. The information will also be valuable to the fishing public, drawing attention to water bodies where beneficial uses can be enjoyed with reduced exposure to bioaccumulative contaminants.

For more information:

- Visit the BOG web page.
- Contact Jay Davis, San Francisco Estuary Institute (jay@sfei.org).