

**Testimony by Jay Davis, San Francisco Estuary Institute**

**Joint Informational Hearing of the  
Assembly Water, Parks & Wildlife Committee  
Assembly Environmental Safety and Toxic Materials Committee  
Assembly Natural Resources Committee  
on  
Public Land and Water Contamination Issues  
Related to Historic Gold Mining in California**

**March 4, 2008**

I am the principal investigator of the Fish Mercury Project, a project funded by CALFED to implement one of the principal recommendations of CALFED's Mercury Strategy.

I have prepared a handout, with one page for each point I make. This presentation draws on information presented in a report we recently published, which summarizes the many facets of the Fish Mercury Project in an understandable, nontechnical manner. We also published an accompanying Fact Sheet.

**Point #1. Gold and mercury mining in California have left a legacy of widespread mercury contamination of aquatic ecosystems that poses serious environmental and public health concerns.**

The map on page 1 is based on a compilation of recent data on mercury in sport fish. The dots indicate locations that were sampled, and the color corresponds to the degree of mercury contamination, with red dots indicating the highest concentrations, followed by orange, yellow, and green.

Statewide, 76% of locations sampled were red, orange, or yellow, indicating very high to moderate concern.

In the Bay-Delta watershed, the area that was most heavily impacted by gold and mercury mining, the contamination is among the most extensive in the state.

**Point #2. Solutions to the mercury problem require a foundation of adequate monitoring.**

The ultimate solution is to control sources and clean up contaminated sites to reduce mercury concentrations in the environment. This solution will reduce exposure to both sensitive wildlife species and humans. Monitoring will be an essential part of strategies to achieve this goal. However, even with serious cleanup actions, concentrations may remain elevated for many decades.

Fish monitoring can also provide a foundation for a rapid, interim approach to reducing human exposure. This approach involves thorough monitoring, development of consumption advice, and communicating the advice to the public. "Safe Eating Guidelines" have been issued by the Office of Environmental Health Hazard Assessment (OEHHA) for many of the State's water bodies. However, many other water bodies are also known or likely to have high concentrations. With adequate monitoring information, guidelines can be developed that help the public to enjoy the health benefits of consuming fish with low mercury concentrations.

**Point #3. The Fish Mercury Project has demonstrated an effective model for a mercury monitoring and exposure reduction program.**

The FMP is a \$4.5 million, 3-year project that is nearing completion at the end of 2008.

The FMP consists of five closely coordinated elements.

The first is sport fish monitoring. The FMP is conducting the most extensive monitoring ever of mercury in sport fish in the Delta region.

OEHHA has used these sport fish data to develop new safe eating guidelines for the San Joaquin River and South Delta and three other Delta tributaries, and draft guidelines for the Sacramento River and North Delta will be released next month. Some good news is that mercury levels in fish from the South Delta were quite low, making this region a relatively safe alternative to other more contaminated locations.

With coordination by the Department of Public Health (DPH), stakeholders including community members and county health agencies have provided an unprecedented amount of input into FMP activities, making this the first major water quality monitoring effort in California to incorporate environmental justice principles. Profiles of some of the participating community groups are provided in the FMP Report.

DPH has also been the lead on many risk communication activities. DPH worked closely with stakeholders to develop and distribute signs and educational materials in multiple languages and a variety of literacy levels. DPH also established a very cost-effective program providing small grants to community groups to conduct outreach and education activities.

The close linkage of sport fish monitoring, safe eating guidelines, risk communication, and stakeholder involvement, is a powerful approach that we call “integrated monitoring”.

Darell Slotton of UC Davis is conducting extensive monitoring of small fish to precisely track the entry of mercury into the food web. This approach is advancing our understanding of mercury dynamics to help environmental managers reduce mercury accumulation, especially in relation to habitat restoration projects. One of the highlights so far is that one major restoration project was associated with reduced, rather than increased, mercury accumulation.

**Point #4. After the Fish Mercury Project ends, the present outlook is for much more limited fish monitoring, risk evaluation, and risk communication.**

The State Water Board initiated a major statewide bioaccumulation monitoring program in 2007 as one component of their Surface Water Ambient Monitoring Program (or SWAMP). SWAMP is a critical source of the information needed to assess and manage the State's waters. SWAMP is allocating a significant proportion of its budget toward sport fish monitoring, and getting as much as possible for this investment. However, the SWAMP budget for fish monitoring is small in comparison to the FMP, and not sufficient for an integrated monitoring approach.

The supplemental funding that OEHHA received from FMP will end. OEHHA will continue to develop safe eating guidelines using existing information where it is available, but is facing a huge job with a small staff.

The other elements of the FMP that were well-funded and valuable have limited prospects for funding after FMP. The funds in SWAMP are too limited to include these elements.

An aggressive program for reducing mercury exposure in California would follow the model of the FMP with integrated monitoring and small fish monitoring. In a 10 year period, an integrated monitoring program could achieve a significant reduction of risks to the health of Californians from consumption of contaminated fish.