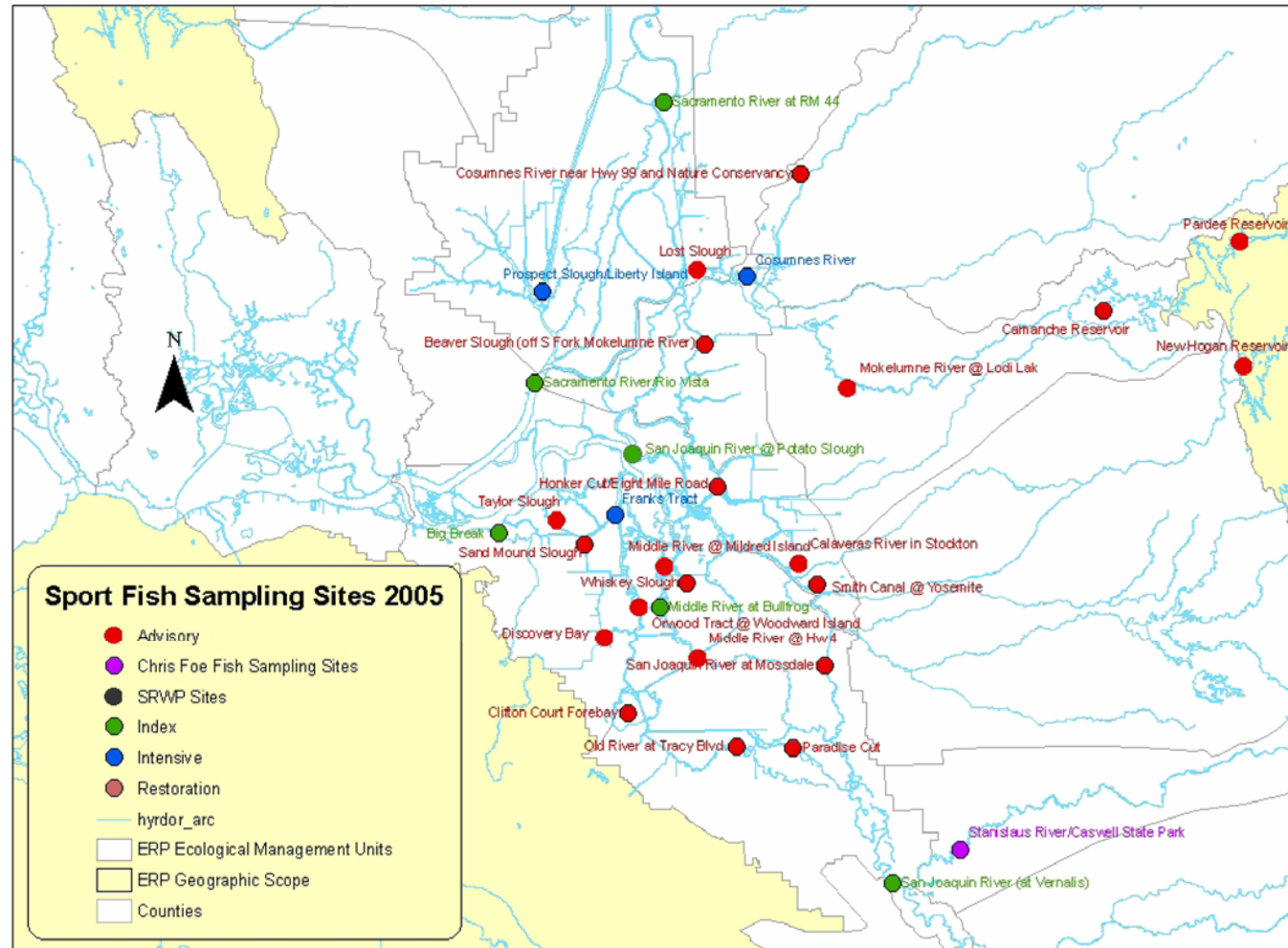


Fish Sampling for Mercury

The map below depicts some of the locations where sport fish sampling took place in 2005 for the California Bay-Delta Authority-funded Fish Mercury Project. (Read more about this project on page 3.) The geographic scope of the project corresponds with the boundaries of the Ecosystem Restoration Program (ERP) of CBDA. Sampling sites have several different purposes to help elucidate the spatial and temporal variation of mercury, and to enable the creation of new health advisories, if mercury levels are high. In 2006 and 2007, additional fish will be sampled in new sites throughout the greater watershed and in some of the same sites shown below to make year-to-year comparisons. For additional fish sampling maps and information about the Fish Mercury Project, visit the FMP online at www.sfei.org/cmr/fishmercury/.



CALIFORNIA DEPARTMENT OF HEALTH SERVICES
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CALIFORNIA DEPARTMENT OF HEALTH SERVICES
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December 2005



FISH CONTAMINATION IN THE DELTA WATERSHED

Community-Based Organizations Spread the Word about Eating Fish Safely

Community-based organizations make it possible for people to learn about health advisories through their regular activities. Imagine finding out about safe fish-eating practices while getting your hair done. Or hearing current advisory information on your favorite radio program. In some communities, you can get this information even if you don't understand English. All thanks to dedicated community leaders who used mini-grants to carry out creative outreach projects.



Bunna Hang and Sophy Sen, from United Cambodian Families, hand out materials at Kentfield Park in Stockton.

beauty parlors; radio shows in Russian and Spanish; and colorful posters in Cambodian displayed in Asian supermarkets throughout Stockton. All awardees also conducted outreach at health fairs and festivals. These methods increased the public's access to information that is typically only available in written English.

Ecovillage Farm Learning Center trained 10th and 11th grade Richmond High School students to conduct outreach in the African American community around Richmond. The Center's director, Shyaam Shabaka, states, "The community is very appreciative and supportive of the project. They are both impressed and gratified to see the youth productively engaged in *(continued next page)*

The Delta Watershed Fish Project is an inter-organizational effort to reduce exposure to mercury and other chemicals among populations that consume fish from the Delta watershed. The Environmental Health Investigations Branch (EHIB) of the California Department of Health Services (DHS), working in collaboration with federal, state, and local agencies, and community-based organizations, is undertaking a number of activities to address this issue including:

- Convening a stakeholder advisory group to involve community groups and local agencies in outreach and education activities.
- Convening a technical advisory group to guide research efforts and review educational materials.
- Developing multi-lingual educational materials to raise community awareness about fish contamination.
- Conducting trainings about fish contamination to build local capacity.
- Researching fish consuming populations and their fish consumption patterns.

This project is supported by grants from the California Bay-Delta Authority, the Delta Tributaries Mercury Council/Sacramento River Watershed Program.

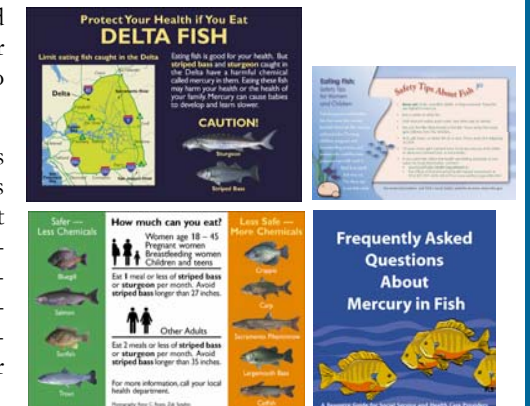
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Free health education materials

Federal, state, and local agencies have issued health advisories that recommend limiting or avoiding consumption of certain fish known to be high in mercury and other chemicals.

The California Department of Health Services has created various health education materials such as posters, postcards, and brochures to get a balanced message out to the public about eating fish safely. These are available in large quantities at no cost. To order these and other educational materials, call May Lynn Tan at 510-620-3627 or email mtan@dhs.ca.gov for an order form.



Only 31% of women had specific advisory awareness.

DHS Survey Demonstrates Need for More Education and Outreach

To improve our understanding of fish consumption practices of women, the California Department of Health Services interviewed 500 women at a Women, Infants, and Children (WIC) clinic in the Delta. WIC provides supplemental nutrition and counseling to low-income women and families with young children.

The survey was conducted in October 2004 in English, Spanish, Hmong, Cambodian, and Vietnamese with the assistance of multilingual WIC staff. The women were asked questions about their intake of commercial and sport fish, and their awareness of fish health advisories.

Study participants were 52% Hispanic, 19% Asian, 14% White, and 12% African American, which reflected the clinic demographics. Nearly all women (95%) ate fish from commercial sources. Twenty-five percent reported eating more than the FDA advisory level of two meals of fish per week.

Over 30% of women ate locally-caught fish. Asian and African American women had the highest sport fish consumption. Consumption of local sport fish was especially high in Asian and Pacific Islander (API) populations with 13% of



WIC staff, Violeta Rocha and Tamesha Valverde, role-play how to counsel women about eating fish safely while Maria Carrasco and Carmen Medina look on.

all API and one quarter of all Cambodian participants consuming above the EPA advisory of one meal a week for locally-caught fish. Only 31% of women had specific advisory awareness (meaning that they mentioned health-specific behavior consistent with the FDA/EPA advisory).

More information is needed by low-income women in the Delta about the risks of eating large quantities of sport fish

from the Delta as well as commercial fish. DHS will continue outreach efforts to women through organizations like WIC. WIC is a useful venue for risk communication because women are already offered nutritional and breastfeeding counseling and advice. Since learning the results of this survey, Delta Health Care WIC started an intensive campaign to disseminate sport fish and commercial fish consumption advice.

Results of this survey were presented at the State of the San Francisco Estuary Conference in Oakland in October 2005 and at the annual American Public Health Association meeting in Philadelphia in December 2005. Contact Elana Silver for more results at esilver@dhs.ca.gov, 510-620-3633.

Spreading the word

(continued from page 1) educating their communities."

Fish education materials were made available at the Cambodian New Year Festival in April. The event attracts thousands, and many stopped by for flyers and to chat with United Cambodian Families' executive director Sophat Sorn, a well-known figure in the close-knit community. "The message has been very well received because of its relevance," he says. "A lot of people are very concerned for the health of their children."

LULAC Todos Unidos provides services to the Latino community and is a member of the Healthy Aging Initiative in Contra Costa County. They have trained dozens of seniors, who typically prepare meals for their children and grand-



LULAC Todos Unidos member, Angelo Torres, distributes health education materials at Antioch Mall.

THE FISH MERCURY PROJECT

California Bay-Delta Authority is supporting a \$4.5 million multi-agency project to examine mercury in fish in the Bay-Delta watershed. The Fish Mercury Project (FMP) also aims to reduce human exposure to mercury by raising public awareness about fish contamination. Main objectives of the project include: characterizing patterns and trends of mercury in the watershed; looking at the effects of ecosystem restoration, contaminant clean-up, and other landscape changes on mercury in the food web; assessing health risks of eating contaminated fish; and communicating these risks to the public in diverse ways.

A Steering Committee and stakeholder advisory group will provide input into the monitoring plan as well as risk communication activities. DHS's Delta Watershed Fish Project has been facilitating the involvement of local stakeholders in the FMP. Leaders were recruited from community groups and non-profit organizations to contribute to the study design, for example sharing information about fishing locations and popular fish species, organizing focus groups, and providing suggestions for raising



Darell Slotton and Shaun Ayers, UC Davis, electro-shock small fish for mercury sampling to examine mercury patterns in the food web.

public awareness about the project.

DHS has also continued to work with a Local Stakeholder Advisory Group on risk communication activities that will augment the FMP. This group has been meeting for almost two years to help develop educational materials, conduct outreach to local communities, and design a training curriculum. Several groups presented their work at the "Forum on the Public Health Impact of Fish Contamination" hosted by DHS and the FMP in Sacramento on December 7, 2005.

Fish sampling for the first year of the project has been completed. As the sampling plan for the second year takes shape, input will be needed about common fishing locations and fish species caught and eaten in the north Delta and along the Sacramento River from the north Delta to Shasta Lake.

For information about fish sampling, contact Jay Davis at jay@sfei.org. Stakeholders interested in participating in the FMP or providing information about fishing in these regions, contact Alyce Ujihara at aujihara@dhs.ca.gov or attend the next meeting on January 25, 2005.

Please visit the Fish

Mercury Project

website at:

www.sfei.org/cmrf/

fishmercury/

The Future of Fish Advisories

Fish advisories in California are issued by the California Office of Environmental Health Hazard Assessment (OEHHA). OEHHA is playing a critical role in the Fish Mercury Project to ensure that the appropriate numbers and types of fish will be sampled in order to revise current advisories, or issue new advisories as needed, for rivers and other water bodies in the project area.

A significant portion of the Fish Mercury Project's sampling plan each year will be used for advisory development. For 2005, the fish sampled for advisory development focused on the south Delta, the San Joaquin River, the Cosumnes and Mokelumne rivers and associated reservoirs, and the Feather River. OEHHA will evaluate the results after fish samples are analyzed and determine where new advisories are

needed. OEHHA holds public workshops for new advisories and posts all of their advisories on the web at: www.oehha.ca.gov/fish. Advisories are also included in the California Department of Fish and Game's Fishing Regulations Handbook provided when anglers purchase a fishing license.

OEHHA and DHS/EHIB have been collaborating to simplify advisory messages and to disseminate them to the public through brochures and posted signs with the help of local agencies.

In 2006, fish sampling for advisory development through the Fish Mercury Project will focus on fishing sites in the north Delta and the Sacramento River from the north Delta to Lake Shasta, including other waterbodies in this area.



Trina Mackie, DHS, interviews an angler at Grasslands State Park. Understanding anglers' preferences and eating habits enables mercury testing and health advisories to correspond with actual fishing practices.