

EXPOSURE REDUCTION IN SAN FRANCISCO BAY

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WHAT IS THE PROBLEM?

- Mercury and PCBs are elevated in many types of San Francisco Bay fish
- Many people eat Bay fish (fishermen and their families)



WHAT IS “EXPOSURE REDUCTION” ?

- Activities to reduce human exposure to mercury and PCBs from consumption of Bay fish
- Informing people vs. reducing their exposure
- Community based



WHY “EXPOSURE REDUCTION” ACTIVITIES NOW?

- Part of the Water Board’s action plan (TMDLs) for cleaning up SF Bay
- *The mercury [and PCB] problem in SF Bay may take decades to solve. Activities...should be taken immediately to help manage the risk to [fish] consumers**
- Exposure reduction is a requirement in SF Bay discharger permits
- New advisory for SF Bay in 2011



*from the Basin Plan Amendment for Addressing Mercury in SF Bay

WHAT IS THE SAN FRANCISCO BAY FISH PROJECT?



- Two-year project (Nov. 2010 to Oct. 2012) to raise awareness about mercury and PCBs in SFB fish and reduce exposures
- Coordinated by CDPH in collaboration with diverse groups
- Funding (\$290k) from dischargers and USEPA
- Activities:
 - Convene Stakeholder Advisory Group (SAG)
 - Develop educational materials
 - Develop and post San Francisco Bay warning sign
 - Support community-based projects
 - Conduct training and technical assistance
 - Evaluation

STAKEHOLDER ADVISORY GROUP (SAG)

- SAG meets quarterly
- Comprised of community groups, local and state agencies, USEPA, dischargers, fishing site managers, and others
- Provided feedback and guidance on project activities
- Provided new information to SAG members
- Led to new activities
 - Warning signs
 - SAG members integrating fish messages in ongoing activities

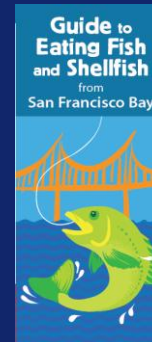
EAST BAY REGIONAL PARK DISTRICT MOBILE FISH EXHIBIT



Photo:
Simone
Lewis-
Koskinen,
Seaweb.org

EDUCATIONAL MATERIALS

- Developed 4 panel advisory brochures
- “Kiosk” poster
- Translation to 10 languages:
 - Spanish
 - Chinese
 - Tagalog
 - Vietnamese
 - Cambodian
 - Laotian
 - Samoan
 - Tongan
 - Korean
 - Japanese
- Educational video



Advisory brochure



“Kiosk” poster

SAN FRANCISCO BAY WARNING SIGN

- Designed to be understood visually with limited English
- Simplified advisory
- “End state behavior”
- “QR” code and website

www.sfbayfish.org

Old sign (2003)



New sign (2012)

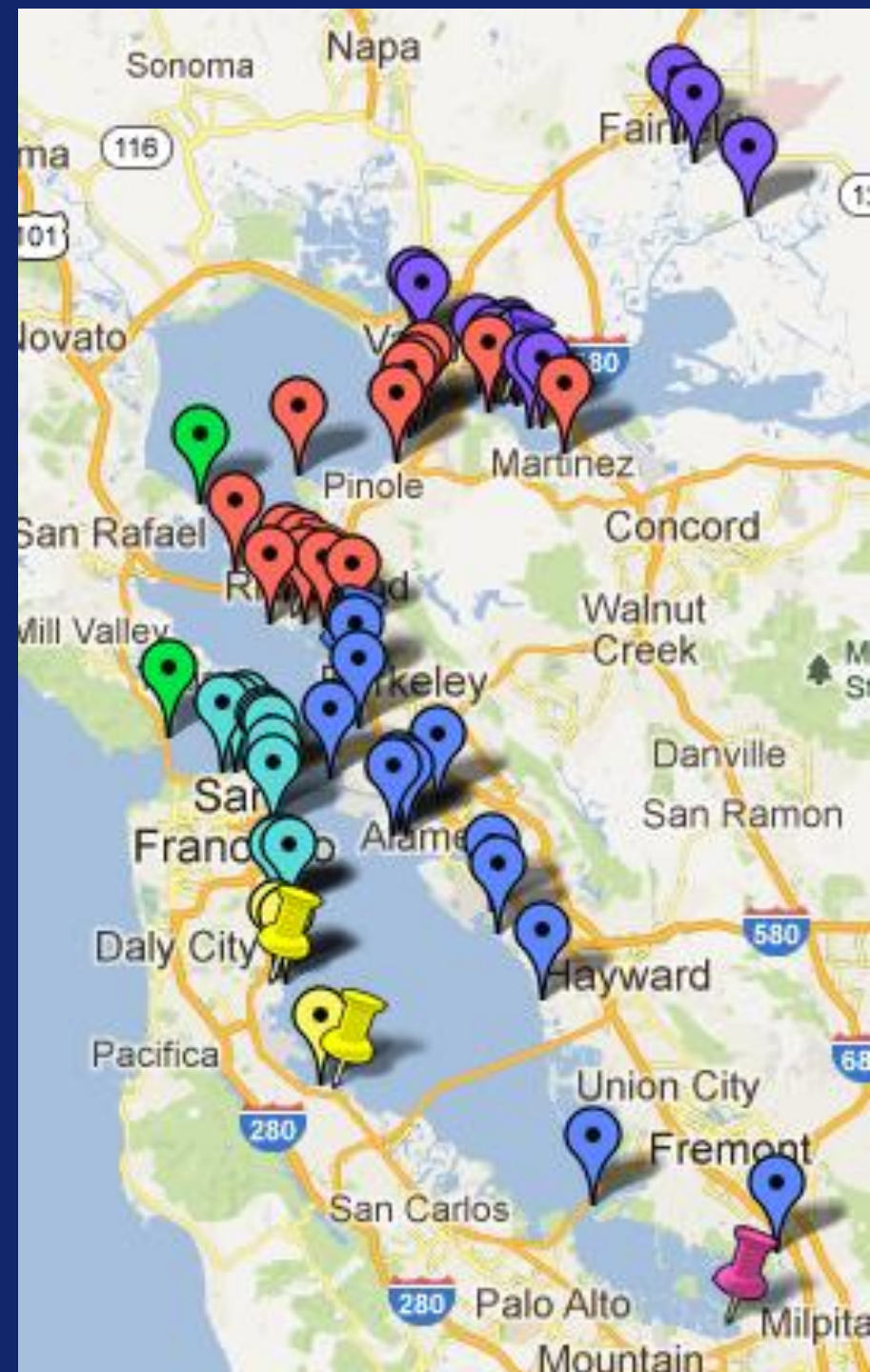


SAN FRANCISCO BAY WARNING SIGN

- Posting by counties, cities, ports, parks, etc.
- After 7 months, signs up at 71/144 sites in 7 counties (~50% of sites)



Vallejo Promenade



SF BAY WARNING SIGN EVALUATION

- 37 anglers interviewed at 10 sites in 5 counties
- 92% had seen the sign (34/37)
- 62% could correctly remember “eat this” fish (21/34)
- 32% said sign would influence future decisions (11/34)



FUNDED COMMUNITY GROUPS

- Four community groups awarded \$20,000 to \$25,000 grants





- Outreach and educational to Asian and Pacific Islanders through community partners, and at community events, fishing locations, clinics, etc.
- Conducted bilingual workshops on fish contamination issues to at-risk groups





- Waiting room survey and education at Women, Infants, and Children (WIC) clinic in Fruitvale (Oakland)
- Trained WIC clinic staff on fish contamination issues
- Developed and delivered “Making Healthy Fish Choices” curriculum over a 5-month period for WIC clients





- Interviews and education of fishermen at fishing locations in Bayview-Hunters Point (San Francisco)
- Community presentations (churches, community events) and workshops with women of childbearing age at health clinics and hospitals



Photo: Winnie Seto - Aqua Vista Pier



Photo: Winnie Seto - Fishers at Pier 30



- Delivered safe Bay fish lessons to six elementary school classes
- Trained students to give presentations to family members and school peers
- Trained students to interview and educate fishermen at fishing piers



TRAINING AND TECHNICAL ASSISTANCE

- Training for funded groups and their project partners on fish contamination issues
- Training for funded groups on evaluation methods
- Technical assistance for funded groups:
 - Review of project materials (e.g., curriculum, questionnaires, educational materials)
 - Focus groups
 - Translation and printing
 - Developed evaluation tools
 - Conduct site visits
 - Conduct exit interviews (lessons learned, challenges, capacity building, sustainability, evaluation of CDPH)

EVALUATION OF COMMUNITY PROJECTS

Outputs—Who participated?

- Number of participants
- Are participants consumers of SFB fish?
- Are consumers “at risk”? (women 18-45/children, moderate-high consumer, eats highly contaminated species)
- Are there other household members who eat SFB fish?

Projects reached (at least) 5700+ SF Bay fish consumers and 17,000+ other household members

EVALUATION OF COMMUNITY PROJECTS

Outcomes—What changed as a result of the project?

- Increase in knowledge (specific):
 - *Which type or types of San Francisco Bay fish should not be eaten by anyone?*
 - a) Brown rockfish
 - b) Jacksmelt
 - c) Surfperches
 - d) Halibut
 - e) Don't know

APA Family Support Services saw an increase in pre/post test scores among workshop attendees

EVALUATION OF COMMUNITY PROJECTS

Outcomes—What changed as a result of the project?

- Increase in knowledge (general):
 - *Has talking with me today increased your knowledge of the consumption advisory for San Francisco Bay?*
 - **93% agree**
- Access to information:
 - *Do you have the information you need to reduce your exposure to chemicals from eating San Francisco Bay fish?*
 - **89% agree**
- Intent to change:
 - *Do you think you are likely to avoid eating surfperches from the San Francisco Bay?*
 - **74% agree**

Results from CIEA project among WIC clinic clients (N=47)

NEXT STEPS

- Two-year project completed
- Continuing to post signs
- Distributing educational materials
- Exploring funding options to continue
- Applying lessons learned to Delta

PROJECT STAFF AND COLLABORATORS

- CDPH
 - Tivo Rojas-Cheatham
 - Ian Walker
 - Aida Negrón
 - Lauren Wohl-Sanchez
 - Kelsie Scruggs
 - Olga Martinez
- Margy Gassel, OEHHA
- Jan O'Hara and Naomi Feger, San Francisco Bay Regional Water Quality Control Board
- San Francisco Estuary Institute/ Aquatic Science Center
- Stakeholder Advisory Group
- Funded Groups
 - Marie Harrison and Rose Chan, Greenaction for Health and Environmental Justice
 - Farmmary Saephan, APA Family Support Services
 - Angela Berry-Philip, California Indian Environmental Alliance
 - Jonah Landor-Yamagata, Kids for the Bay
- Primary Project Funders
 - Bay Area Clean Water Agencies
 - Western States Petroleum Association
 - Bay Area Stormwater Management Agencies Association
 - US Environmental Protection Agency

FOR MORE INFORMATION

- SFB Fish Project website: www.sfei.org/sfbfp
- Final project report: <http://sfei.org/content/documents-0>
- Educational materials and warning sign: <http://sfei.org/content/educational-materials>
- Educational video: <http://sfei.org/content/grantees-2011-2012>
- Join our SAG email list
- Contact information:
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Questions?

