San Francisco Bay Fish Consumption Risk Reduction Program

REPORT ON IMPLEMENTATION PLAN

As Required by San Francisco Bay Regional Water Quality Control Board
Order No. R2-2007-0077, NPDES No. CA0038849

March 1, 2010

I. INTRODUCTION

This report is submitted by the Bay Area Clean Water Agencies (BACWA) and the Western States Petroleum Association (WSPA) (collectively, the Permittees) as required by the Waste Discharge Requirements for Municipal and Industrial Discharges of Mercury to San Francisco Bay, Order No. R2-2007-0077 (NPDES No. CA0038849, Mercury Watershed Permit). The Mercury Watershed Permit requires that the Permittees develop, or cause to be developed a risk reduction program in three phases. Phase I, completed in March 2009, consisted of preliminary investigations of risk reduction program options. Phase II requires identification of the program to be carried out and submission of an implementation schedule. Phase III, implementation of the program, is to begin by 2011 with progress reports to be submitted annually. This document is being submitted to meet the Phase II requirements and describes the Permittees' risk reduction program proposal.

A. Regulatory Overview

In 1994 the California Office of Environmental Health Hazard Assessment (OEHHA) issued an interim fish consumption advisory for San Francisco Bay (Bay) based on data from a San Francisco Bay Regional Water Quality Control Board (Water Board) pilot study that found elevated levels of mercury, polychlorinated biphenyls (PCBs), and other chemicals in Bay fish (OEHHA 1994, SFBRWQCB 1995, SFEI 2000). Also as a result of elevated levels of mercury and PCBs in fish tissue, San Francisco Bay was placed on the State's list of impaired waterbodies and Total Maximum Daily Loads (TMDLs) were developed for mercury and PCBs. The TMDL for mercury was approved by the United States Environmental Protection Agency (EPA) in February of 2008 and the TMDL for PCBs is expected to be approved in the spring of 2010.

The mercury and PCBs TMDLs recognize that reduction of these chemicals in Bay fish to levels necessary to support fishing as a beneficial use will take some time. The TMDLs codify the Water Board's objective that, in the interim, the health risks to consumers of Bay fish be managed and reduced. The mercury TMDL's risk reduction provisions have been implemented via a National Pollutant Discharge Elimination System (NPDES) permit issued to all municipal and industrial dischargers of mercury to San Francisco Bay (Mercury Watershed Permit, SFBRWQCB Order No. R2-2007-0077) and the Municipal Regional Stormwater NPDES permit (MRP) issued to all large and medium municipal separate storm sewer agencies (SFBRWQCB Order No. R2-2009-0074, NPDES No. CAS612008). Both of these permits require the Permittees to "develop and implement or participate in effective programs to reduce mercury-related risks to humans." The MRP also imposes requirements to reduce PCB-related risks to humans and, based on language in the PCBs TMDL, it is expected that a similar requirement will be incorporated into any PCB discharge permits issued to municipal and industrial dischargers.

B. Approaches to Risk Reduction

As described in the Phase I report, submitted in March 2009, the San Francisco Estuary Institute (SFEI) conducted preliminary research on possible models for the development and implementation of a risk reduction program. The Fish Mercury Project (FMP) was identified as a possible program framework. The FMP was a multi-year project authorized by the California Bay-Delta Authority that included mercury monitoring of sport fish, development of site-specific multi-species sport fish consumption advisories, creation of messages and materials to convey the risks and benefits of consuming local sport fish to communities at risk, and the awarding of mini-grants to community-based organizations (CBOs) to develop and implement culturally and linguistically appropriate messages for communicating the risks and benefits to exposed communities. Project partners included the Office of Environmental Health Hazard Assessment (OEHHA), the California Department of Public Health (CDPH), SFEI, the California Department of Fish and Game, and U.C. Davis.

In addition to the FMP, SFEI identified a second model based on two other projects also coordinated by CDPH, both of which sought to characterize mercury exposure in high risk populations and provide education about the risks and benefits of fish consumption, including ways to reduce mercury exposure. In 2005, CDPH conducted a survey of low-income women at a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinic in Stockton to characterize commercial and sport fish consumption patterns and advisory awareness (Silver et al). In 2006 and 2007, CDPH interviewed pregnant, low-income women about their fish consumption patterns at a private obstetrics and gynecology clinic in Sacramento, and provided them with counseling. As part of the study, total blood mercury levels of the participants were analyzed. In both studies, women were exposed to mercury through consumption of both commercial and sport fish, highlighting the need for communications that address both pathways of exposure.

II. RISK REDUCTION PROGRAM PROPOSAL

Based on conversations with multiple interested parties, BACWA and WSPA intend to develop and implement a risk reduction program modeled on the FMP. This approach was selected because it allows for substantial community and stakeholder participation in the development and implementation of risk communication strategies, the importance of which has been emphasized by the National Environmental Justice Advisory Council (NEJAC 2002). This approach also allows for implementation of some concepts and approaches described in the Clean Estuary Project's (CEP) draft Risk Management Long-Term Plan, developed by the CEP's risk management work group. See Attachment A for the draft plan and notes from a 2006 stakeholder meeting.

Additionally, OEHHA anticipates making revisions to its current interim advisory for San Francisco Bay. The timing of this revision presents an opportunity to involve diverse stakeholders, including CBOs, community members, and local departments of health in

creating a strategy to communicate this new advisory. Provided that the development of a new advisory proceeds on the expected timeline, this project will result in the identification of communication approaches that can be used throughout the Bay Area.

A. Partners

BACWA has worked closely with CDPH, the Water Board, WSPA, and BASMAA on this proposal. CDPH, because of its public health expertise, will take the lead in implementing the program. Implementation of the program will involve the above organizations and agencies as well as a broad range of other stakeholders, including, but not limited to, CBOs, non-profit organizations, local governmental agencies, and individual community members.

Support for the program is expected to be provided by BACWA, WSPA, BASMAA, and CDPH. The Permittees will be providing financial resources to implement this program, with CDPH making substantial in-kind contributions. At this time, BACWA and WSPA have secured approximately half of the $300,000 necessary to carry out this program, and are in the process of applying for grants and working with other permittees – including BASMAA – to obtain the remaining funding. The Permittees will keep the Water Board apprised of their progress and submit supplemental or revised plans as appropriate.

The Aquatic Science Center (ASC), a joint powers authority, has preliminarily been identified to provide support and coordination for the project. The ASC is a joint powers authority formed by the Water Board and BACWA and governed by a Board of Directors that is currently comprised of the following members: Chief of the Water Division, State Water Resources Control Board, Executive Officers of Central Valley and San Francisco Bay Regional Water Quality Control Boards, three representatives from the Bay Area Clean Water Agencies, and the Director of the USEPA, Region 9, Water Division.

B. Program Description

This project will identify and implement strategies to raise public awareness of fish contamination issues, provide educational information on risk reduction techniques, and encourage fish-consuming populations to reduce their exposure to chemicals from consumption of contaminated Bay fish. The program comprises four tasks to be implemented over a two-year period:

- Convene a stakeholder group to inform and guide the program;
- Develop a risk communication strategy with stakeholder input;
- Provide resources to local organizations to implement the strategy; and
- Evaluate the efficacy of the program and make recommendations for future efforts.

Task 1. Convene Stakeholder Advisory Group.

CDPH will take the lead in convening a Stakeholder Advisory Group (SAG) that includes a variety of stakeholders, including representatives from communities that consume Bay fish. To ensure a diverse SAG, CDPH will reach out to a broad range of stakeholders, including, but not limited to community-based organizations (CBOs), environmental groups, individuals and organizations that participated in previous risk communication efforts,[1] local health and environmental health departments, and managers of fishing access points and environmental education centers in the San Francisco Bay Area. To encourage participation among non-governmental organizations small stipends may be provided to offset some costs.

In addition, if sufficient resources can be found, CDPH will conduct preliminary needs assessments with six to ten organizations that may include community-based, social services, watershed, fishing, environmental justice, and parks organizations. The purpose of the needs assessments will be to identify the organizations' needs, interests, and concerns regarding fish contamination issues in San Francisco Bay. Areas that may be explored in the needs assessments include: (1) interest in participating on the SAG and ways that participation can be enhanced; (2) identification of populations that may be highly exposed to contaminants from consumption of San Francisco Bay fish; (3) level of awareness of advisories on fish consumption among populations served by these groups; (4) the groups' past activities to address fish contamination issues, if any; (5) ideas for increasing awareness of fish contamination among the populations served by the groups; and (6) identification of other groups who may have an interest in the overall project and participation on the SAG. Findings from the needs assessment will be used to inform SAG outreach and will be made available to those groups and individuals who eventually choose to be a part of the SAG.

The SAG, coordinated and facilitated by CDPH, will meet six to eight times over the two-year project, with the objective of informing and guiding the development of a risk reduction and communication strategy. The meetings will also be used to solicit the SAG's input on the objectives of the grant program described in Task 3, to keep members updated on the progress of the grant program and related activities (e.g., fish monitoring activities, development of the new Bay advisories, etc.), and to encourage new activities and collaborations among the participating agencies and organizations.

Task 2. Develop Risk Communication Strategy

CDPH will work closely with the SAG to develop a broad risk communication strategy that will serve as the basis for future activities. The strategy will identify populations to

[1] For example, the CEP's 2006 stakeholder meeting, participants in CDPH's 2002 fish forum for San Francisco Bay, Bay Area groups that participated in FMP activities, and participants in CDPH's outreach and education task force on fish contamination issues that met from 1997 through 2002.

be targeted (with an emphasis on those populations at greatest risk), key messages to be communicated, types of activities that would be most effective to reach the target populations, and methods for evaluating the effectiveness of these activities. The objectives of the risk communication strategy – to be further refined and developed with feedback from the SAG – include involving and collaborating with affected communities and local agencies, developing and evaluating educational and outreach activities for target populations, and conducting trainings for SAG members and grant recipients. The strategy will be updated as relevant and critical information becomes available, including a new fish consumption advisory for San Francisco Bay that the Office of Environmental Health Hazard Assessment plans to issue in 2010.

Development of the strategy will also include:

- Reviewing past efforts to conduct educational activities in San Francisco Bay, and recommendations from the San Francisco Bay fish forum and the Clean Estuary Partnership's 2006 meeting;
- Meeting with key stakeholders involved in TMDL development and exploring their ideas for developing this risk communication strategy and their involvement in this process; and
- Reviewing studies that characterize fishing patterns and fishing populations including the San Francisco Bay Seafood Consumption Study and the Recreational Fisheries Information Network (RecFIN).

One important component of the strategy will be the grant program (Task 3) to engage groups, including some of the SAG members, in implementing outreach, education, or risk reduction projects in the short-term. Significant diversity exists across the stakeholders regarding the types of activities that could be implemented to address fish contamination issues in San Francisco Bay. CDPH will make an effort to investigate and explore the feasibility of these activities with the SAG, and seek general support on an overall strategy.

Task 3. Provide Resources to Local Organizations to Implement the Strategy

With input from the SAG regarding goals, CDPH and the Permittees will develop a competitive process to award grants to local organizations to conduct communication and risk reduction projects of their own design. The number of grants awarded will depend on the availability of funds, but the objective is to make available at least $100,000 in grants. Based on the needs of the funded groups, CDPH will conduct capacity-building trainings on topics related to fish contamination, and will assist the groups in developing any skills necessary to implement their projects. CDPH will also monitor the groups' progress and assist them with evaluating their projects and reporting the results of those evaluations. As an example, a brief description of some of the projects funded through the FMP is included as Attachment B.

Task 4. Program Evaluation

Evaluation of program effectiveness will be multi-tiered. CDPH will solicit feedback from the SAG and other stakeholders on the effectiveness of the SAG (e.g., composition of and participation in the SAG, whether SAG members found activities helpful). Effectiveness of the grants program will be evaluated by CDPH and by the groups receiving grants. These evaluations will likely focus on indicators such as the number of people reached by grant-funded activities or the number of materials distributed. CDPH will also generate a summary of all the grant-funded activities that will include grantee feedback on how activities will be sustained and ways to improve the program. These various evaluations will be incorporated into the Permittees' final program report, as well as a discussion of benefits relative to costs and recommendations for future risk reduction and communication efforts in the Bay Area.

C. Schedule

The implementation schedule provided below is contingent on fulfillment of the remaining funding needs. Every effort is being made by the Permittees and other partners to fund this program as expeditiously as possible. Once full funding is available, and before implementation begins, Permittees will submit a more detailed schedule, with deliverables, to the Water Board. In the interim, Permittees will keep Water Board staff apprised of any and all developments with respect to funding and implementation of the program.

Task	**Deliverable**	**Schedule**
1	Preliminary needs assessment (contingent on funding)	September 2010
1	First SAG meeting (meetings to be held every three to four months for duration of project)	October 2010
2	Final risk communication and reduction strategy	August 2011
3	Grant program request for proposals	December 2010
3	Proposals selected for funding	April 2011
3	Funded proposals completed	March 2012
4	Final program report	May 2012

REFERENCES

National Environmental Justice Advisory Council, 2002. Fish Consumption and Environmental Justice, Report: A Report developed from the National Environmental Justice Advisory Council Meeting of December 3-6, 2001.

Office of Environmental Health Hazard Assessment, 1994. Health Advisory on Catching and Eating Fish, Interim Sport Fish Advisory for San Francisco Bay.

San Francisco Bay Regional Water Quality Control Board, 2007. Waste Discharge Requirements for Municipal and Industrial Discharges of Mercury to San Francisco Bay, Order No. R2-2007-0077, NPDES No. CA0038849.

San Francisco Bay Regional Water Quality Control Board, 2009. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES No. CAS612008.

San Francisco Bay Regional Water Quality Control Board, State Water Resources Control Board, and California Dept. of Fish and Game, 1995. Contaminant Levels in Fish Tissue from San Francisco Bay.

San Francisco Estuary Institute, 2000. San Francisco Bay Seafood Consumption Study. San Francisco Estuary Institute, Richmond, CA.

Silver, Elana; Kaslow, Jessica; Lee, Diana; Lee, Sun; Tan, May Lynn; Weis, Erica; and Ujihara, Alyce. Fish consumption and advisory awareness among low-income women in California's Sacramento–San Joaquin Delta, Environmental Research, Volume 104, Issue 3, July 2007, Pages 410-419

Attachment A

Clean Estuary Partnership Risk Management Workgroup
Meeting Notes & Draft Workplan

Clean Estuary Partnership
Meeting to Discuss Approaches to Reducing Impacts on Communities of Contaminants in San Francisco Bay Fish

Date: Tuesday, December 19th, 2006
Time: 9:00 am – 4:00 pm
Location: State Office Building, Oakland

Attending
Larry Bahr, Fairfield Suisun Sewer District
Kevin Buchan, Western State Petroleum Association
Amy Chastain, Baykeeper
Mike Connor, San Francisco Estuary Institute
Whitney Dotson, Environmental Justice Coalition for Water
Naomi Feger, Water Board, San Francisco Bay Region
Sharon Fuller, Ma'at Youth Academy
Margy Gassell, Office of Environmental Health Hazard Assessment
Andy Gunther, Applied Marine Sciences
Cynthia Bartus Jepsen, Alameda County Dept of Environmental Health
Michael Kent, Contra Costa Health Services
Susan Klasing, Office of Environmental Health Hazard Assessment
Amy Kyle, Technical Consultant
Patrick Morris, Water Board, Central Valley Region
Sherri Norris, California Indigenous Alliance for the Environment
Adam Olivieri, Bay Area Stormwater Management Agencies Association
Karen Pierce, Bayview Hunter's Point Health and Env Assmt Program
Michele Pla, Bay Area Clean Water Agencies
Sudeep Rao, Literacy for Environmental Justice
Bill Ross, Ross and Associates
Paul Salop, Applied Marine Sciences
Elana Silver, California Department of Health Services
Gina Solomon, Natural Resource Defense Council / UCSF
Amy Vanderwarker, Environmental Justice Coalition for Water
Andria Ventura, Clean Water Action
Chuck Weir, East Bay Dischargers Authority
Dyan Whyte, Water Board, San Francisco Bay Region
LaDonna Williams, People for Children's Health and Environmental Justice
Paris Williams, People for Children's Health and Environmental Justice
Bruce Wolfe, Water Board, San Francisco Bay Region

I. Introduction

Amy Kyle provided a brief introduction as to how today's discussion had come about and what the focus of the meeting would be – identifying short-term actions that could be pursued by CEP participants to manage risks posed by contaminants in Bay fish while

longer-term remedies work on the sources of pollution. Representatives of each of the three CEP Partner organizations welcomed attendees and offered their reasons for pursuing these efforts.

II. Technical Presentations

Mike Connor of the San Francisco Estuary Institute and Gina Solomon of the Natural Resources Defense Council and UCSF gave presentations on (1) what is known about contaminants in fish in San Francisco Bay and (2) what are the health implications of these contaminants, respectively.

III. Discussion of How to Reduce or Mitigate Impacts of Contaminants in Bay fish

Meeting attendees next participated in a free-form discussion describing the perspectives of the communities they represent and possible ideas for reducing impacts to the communities. Ideas generated through this discussion are presented below, based on broad categories of discussion:

Medical Treatment

- There are currently no effective medical treatments for health impacts that are associated with contaminants that are found in Bay fish. Therefore, increased medical testing for specific contaminants that can be used to target extra care and attention for patients would be beneficial. Having the medical information available for patients and parents of patients will assist with their decision-making.
- Pay increased attention to poly-brominated diphenyl ethers. These compounds have not been linked to specific health impacts to-date, but are showing up in increasing concentrations in humans and should therefore be given increased scrutiny. The partial ban is a start, but it may not take care of the problem.
- Can the targeted biomonitoring, that allows people to have concentrations of various contaminants in their bodies measured, that was instituted on a small-scale through recent legislation be made available to a wider public? Can this be made part of annual checkups?

Outreach to Medical Community

- Meeting participants generally saw the information available through health care providers as being inadequate. The issue does not garner as much interest from health care providers as other more common ailments (e.g., asthma). Opportunities for increased transfer of information from doctor to doctor (e.g., continuing education, publications, through medical societies) are seen as helpful for improving information from doctor to patient.
- In San Francisco a few years ago, three children died related to asthma. Physicians did not know enough about treatment of asthma. A community effort demanded that the San Francisco Health Commission require mandatory training on treatment of asthma for all health care providers. After that training there has been a reduction in the number of hospitalizations for asthma. There is now a need to develop this kind of education regarding contaminants in Bay fish that is needed to go to local health authorities to try to get this same kind of push.

- We need an epidemiological study to identify numbers of children in schools who have neurological problems associated with pollutants present in Bay fish. Where are the most impacted communities? How many of these families are relying on fish from the Bay? This info is needed for community outreach and informed decision-making. We need this data to tell the medical community why this issue is important.

General Outreach

- Provide counseling to potential mothers before they get pregnant and during pregnancy rather than just during pediatric visits.
- Provide more accessible information on what species are best to consume and to avoid. Are there specific areas in the Bay that could be identified where the fish caught are less contaminated?
- Education will be more effective if it comes through community members than agencies who have not obtained the trust of the community.
- It would be good to have discussions between Bay Area communities and ones from the upper watersheds.
- Outreach should not be too technical in nature. You can lose community members when the discussion becomes too technical.
- Community leaders can currently only do outreach on a small-scale due to their time and funding constraints. A larger media program might be helpful.
- Since problems associated with pollutants are additive, we should make people aware of the other ways that pollutants are getting into the body.
- Regarding the issues of the effectiveness of signage, they serve their purpose – they reach some people and don't reach others. We've been doing warnings for years and people are still eating fish. What do we do now?

Food Replacement

- Fish have nutritional value. Any replacement program should include more healthful fish in place of Bay fish that may be contaminated.
- WIC clinics are providing vouchers to buy tuna. There is no recognition of the different types of tuna and which have more potential health impacts. Vouchers for salmon could also be distributed in place of tuna.
- Agencies could provide funding to subsistence fishers to buy alternative / supplemental diets so that they don't have to eat too much fish in the Bay.
- For native communities, supporting salmon restoration programs is important.
- Backyard fish farming enterprises could potentially provide food lower in contaminants.
- Release of hatchery salmon fingerlings in Bay tributaries, not as a salmon restoration project but to provide foodfish, could potentially provide a healthful replacement for current Bay fish.
- Transportation costs are part of the reason why people consume Bay fish. If there were low-cost alternatives for obtaining food, consumption of Bay fish may go down.

- We should consider a "fish exchange program," where Bay fish can be exchanged for a culturally-appropriate replacement fish. In order for this to work, we need to ask people what would make this an attractive alternative for them. Some people, given alternatives, will still choose to fish and consume Bay fish.
- There are no supermarkets in EJ communities, and therefore a lack of food alternatives. There are also transportation issues involved that might hinder replacement efforts.
- Mobile sources to bring in healthy food alternatives would make a difference. Rolling vegetable carts and fish carts could be successful in some communities. There are current nutrition programs that are doing this kind of work in local communities that we could attach to.
- If you can't eat your traditional fish, rely on other native foods for supplements to diet.
- Striped bass, one of the more contaminated fish, are non-native to the Bay. If you pay a bounty for fish in the bay, a lot of additional fishing would occur. Those places that people normally catch fish would have a lot fewer fish. You therefore eliminate fish as an opportunity for diet.
- There was an in-depth discussion regarding the possibility of banning catch of certain fish (species and size) determined to pose a health risk to women of child-bearing age and children. On one hand, this could potentially be an effective means for managing risk. On the other hand, this was viewed as an action that could potentially alienate various communities around the Bay. Also, the question arose as to why is California Department of Fish and Game stocking fish that pose a health risk?

General

- We need to develop a variety of options to deal with this – there's no one size fits all solution. We also need to be aware of the law of unintended consequences.
- Although we are focusing on short-term actions, any discussion must include what steps are being taken on the long-term to remove pollutants from the Bay. We need to recognize that fishing in the Bay is desirable, and get the word out that current actions will clean up the Bay so that future generations won't be subject to the same advisories. This message is not getting out.
- If you come from a community that is affected by pollutants, it goes beyond individual behavior (what you eat, and how much you exercise).
- Any risk management projects need to be culturally-sensitive.
- We need to expand the number of communities represented within this process through an extensive community consultation process. Community leaders represented here may understand what is and is not effective within their communities or segments of their communities, but they do not represent all affected communities in the Bay Area.
- It should be recognized that most community leaders are doing this work on their own time. Agencies participating in this process should compensate community leaders for their time.
- We should clearly identify what are our goals for this process so that we will be able to measure progress.

- We should look at the State Carl Moyers Program that provided funding to replace polluting diesel vehicles as a possible model for obtaining funding to support risk management activities.
- It would be helpful to know which agencies and CBOs are doing what, who to contact at each, and how interested parties can plug into the process. Opportunities for the type of dialogue we are having today are rare and appreciated.
- Community input should be sought and incorporated when determining long-term actions also.
- If risk management activities appear successful, we need to avoid claiming success too soon. For example, there are still high levels of lead in EJ communities because we saw success in other communities and lessened the effort.
- The bottom line in all of these potential actions is locating funding to support actions over the long-term. There needs to be a variety of alternatives and they need to be monitored over a long-enough period to see which work and which do not.

IV. Next Steps

The CEP partners want to make sure they have expanded the net to include sufficient representation and asked for feedback from the participants. Meeting participants felt like the ethnic diversity of the Bay Area was not as well-represented as is possible. They offered the Ditching Dirty Diesel collaborative as a model of inclusion, in which a workshop announcement was opened to the public and widely distributed via community organizations and word of mouth. There has been great buy-in for the effort.

The CEP could perhaps achieve greater community involvement by partnering with CBOs for future activities, such as ongoing meetings and workshops, the development of grant proposals, etc. The CEP could consider instituting a small grants program that would generate incentive for participation. Several participants recommended coming up with an alternative subject to "risk management" that is more accessible to the public.

CEP support staff agreed to post copies of presentations from today's meeting and the "blue paper" developed through Environmental Justice Coalition for Water and distributed at the meeting to the CEP website, and develop meeting minutes for review of all participants. These items will be distributed as they become available.

V. Adjournment

The meeting was adjourned at 4:00 PM.

CEP Risk Management Long-term Plan

As a follow-up to the December 19, 2006 kick-off meeting re: risk management activities for CEP Task 4.44, the CEP working group on risk management (working group) has met multiple times in the process of identifying and implementing short- and long-term actions for the CEP. The following presents an outline of a draft risk management approach, along with brief description of specific activities, that will be further refined for presentation to the EMB at its scheduled June 25, 2007 meeting.

1) *Identify Target Populations for CEP-supported Intervention Actions.* This task is envisioned as a phased project in which areas within the Bay that support recreational fishing are identified in a first phase; this may be accomplished through survey of existing information, review of aerial photos, communication with bait shops, etc. A follow-on phase would then attempt to identify who is fishing in these areas, perhaps by ethnicity and neighborhood, and what are they catching. This second phase could potentially be conducted as a collaborative effort with CBOs. This task would be expected to be initiated in summer 2007.

2) *Develop Background Information About Strategies Used to Manage Risk.* The working group requested that Dr. Kyle, as part of her reporting process, compile information that would assist CEP decision-making by addressing a number of global questions, such as:
    - What intervention options have been tried elsewhere to reduce or address risks?
    - What is known about the success of such options?
    - Other interesting or pertinent information that comes out of the National Fish Forum meeting in July 2007.

    Upon production of a draft report, the CEP would host a second stakeholder forum to review the strategies collaboratively. Anticipated timing is July through November 2007.

3) *Identify Relevant CBOs*. Initiate a process to identify CBOs who are involved in the risk management field locally or who represent geographic / ethnic communities of relevance to the CEP risk management activities. Anticipated timing is November 2007 through February 2008.

4) *Identify CBOs with Capabilities to Work Collaboratively with CEP on Specific Intervention Tasks.* The CEP would identify a subset of the above CBOs who have demonstrated capability (e.g., staffing, community representation) to implement intervention-focused tasks. Anticipated timing is February 2008 through March 2008.

5) *Targeted Grants to CBOs.* Based upon the results of the above tasks, identify CBOs to support with funding for specific intervention tasks. Funding would not be allocated through a competitive process, but would rather be targeted to CBOs working with specific at-risk populations as identified in Task 4. This is currently envisioned as a four-year project to be initiated in early 2008 with details on how the program would function to be determined.

6) *Seek External Funding.* CEP would work collaboratively with the CBO community to identify areas of need and solicit sources of external funding to support risk management activities. This is envisioned as an ongoing task.

7) *Stakeholder Communications.* Develop and implement a strategy for communicating with stakeholder community. This is also envisioned as an ongoing task.

Attachment B

Delta Watershed Fish Project/Fish Mercury Project
2007 Outreach and Education Mini-Grant Awards

Delta Watershed Fish Project/Fish Mercury Project
2007 Outreach and Education Mini-Grant Awards

The following seven organizations have been awarded mini-grants from $6,000 to $10,000 to conduct outreach and education in their communities to increase awareness about local fish contamination in the Sacramento-San Joaquin Delta. The mini-grant funding is provided by the Fish Mercury Project, a CALFED project, and coordinated by the California Department of Public Health, Environmental Health Investigations Branch.

California Indian Environmental Alliance, Berkeley, CA
Sherri Norris, Executive Director. (510) 848-2043, sherrinorris@sbcglobal.net
California Indian Environmental Alliance (CIEA) was launched in 2006 with part of their mission being to protect and restore indigenous peoples' culture, traditions, and environmental health. The staff brings tribal coalition-building experience, training skills, and presentation experience from working on International Indian Treaty Council's former mercury program. CIEA aims to reach and serve tribal communities in California, with a focus through this project on tribes who fish in the greater Sacramento-San Joaquin Delta region. With a 2007 mini-grant, CIEA will create culturally-appropriate educational materials, communicate with approximately 45 California tribes via email, newsletters and a website, and hold two community workshops for tribal communities on mercury and fish advisories.

EcoVillage Farm Learning Center, Richmond, CA
Shyaam Shabaka, Director. (510) 329-1314, sms2020@aol.com
Website: www.ecovillagefarm.org
EcoVillage Farm Learning Center, a project of Earth Island Institute, conducts environmental health, education, social justice, horticulture, watershed protection, and community-building programs in West Contra Costa County and other East Bay communities. EcoVillage's 2005 and 2006 mini-grant projects involved local high school students as Lay Community Health Educators who conducted educational activities in schools, at businesses such as bait shops and beauty parlors, and with anglers in the Delta. EcoVillage staff and students also posted the Delta fish advisory sign at sites popular among African-American and other anglers. This year, EcoVillage will continue its partnership with biology students from Richmond High School to conduct Angler Education Days at Delta fishing sites, and will continue to post and monitor advisory signs. Evaluation surveys with anglers will be conducted at select sites.

Lao Family Community of Stockton, Inc., Stockton, CA
Pheng Lo, Project Coordinator. (209) 466-0721, plo@laofamilyofstockton.org
Website: www.laofamilyofstockton.org
Lao Family serves Hmong and Southeast Asian refugees and families in San Joaquin County through programs including health outreach, vocational training, employment services, and school readiness services. Lao Family reaches hundreds of families with children under five through early-childhood home visitation programs. In 2007, Lao Family will provide the School Readiness Educators with information and materials about mercury in fish to use while conducting the home visits, so that the most vulnerable populations of women and children will be reached directly. Lao Family will also disseminate information at community meetings and events, and they will create press releases and radio PSAs for the local media.

Mechoopda Indian Tribe of Chico Rancheria, Chico, CA
Sarah Frost, Project Coordinator. (530) 899-8922, sfrost@mechoopda-nsn.gov
The Mechoopda Indian Tribe is a federally-recognized tribe with approximately 470 members. The Tribe provides education, youth programs, childcare, housing assistance, cultural programs, environmental planning, protection and advocacy as well as other forms of support for the community. Fishing within the Tribe's territory is an important part of the culture; however, the local Feather River was issued a fish advisory in 2006. The Tribal Environmental, Cultural, and Education Departments began providing outreach and education about the fish advisory. With a 2007 mini-grant, the Tribe will conduct further outreach through several cultural events including

an Elders luncheon and a youth spearfishing event. They will create advisory maps highlighting the advisories throughout the region, provide information on identifying common local sport fish and their relative risk for mercury exposure, host community meetings to promote awareness and advocacy regarding legacy mercury contamination and remediation in the Tribe's territory and develop a mini fish cookbook to promote eating safe quantities of fish.

Todos Unidos, Antioch, CA
Carlos Torres, Project Coordinator. (925) 518-4259, ctorresb@yahoo.com
Website: www.todosunidos.net
Todos Unidos works in eastern Contra Costa County to raise the health, economic, education, social, and cultural levels of underserved Latino families. In 2005 and 2006, Todos Unidos was awarded mini-grant funding to provide education about fish contamination to Latino communities in Pittsburgh, Bay Point, and Antioch. They held community workshops, attended health fairs and festivals for Latinos, and made presentations on Latino television and radio shows. This year, Todos Unidos will continue these outreach strategies by coordinating six training events, attending seven community events, and creating media presentations and announcements. They will also reach out to Latino organizations in the South Delta and San Joaquin River valley to coordinate outreach efforts around a new fish advisory that will be issued for these areas.

United Cambodian Families, Stockton, CA
Lim Leang. (209) 938-8941
Website: www.unitedcambodianfamilies.org
United Cambodian Families (UCF) works with Stockton's Cambodian community to find practical solutions to social issues, help children succeed in school, and train leaders to become forces for positive change. In 2005, UCF began conducting outreach on fish consumption issues through workshops and events such as Cambodian New Year festivals. In 2006, the group posted several Delta advisory signs and coordinated a boat tour of the Delta. They created a 30-minute DVD of the tour including interviews with community leaders about fish consumption and local water pollution issues. For their third mini-grant project, UCF will contact alumni to evaluate the success of past workshops, adapt their workshops, and hold three of these workshops for women and children. They will also continue to attend events in the community and publish information in their newsletter.

Vietnamese Voluntary Foundation, Inc. (VIVO), Stockton, CA
Lan Doan, Project Coordinator. (209) 475-9454, vivosjc@sbcglobal.net
VIVO provides social, educational, employment and other supportive services to refugees and immigrants of all ethnic and language groups. VIVO received a mini-grant in 2006 to provide fish outreach and education to Vietnamese and Hmong communities in San Joaquin County. Activities included distributing educational materials to Hmong residences and making presentations at community meetings and events such as Hmong New Year celebrations. In 2007, VIVO will focus on reaching women more directly by conducting two fish consumption workshops—one with Vietnamese women and one with Hmong women—and holding a follow-up workshop to reinforce the information. VIVO will also continue to bring materials and information to local events, and will conduct three presentations for local youth and elderly organizations.

These activities will take place from January - December 2007.
Grantees will present their activities and materials at a public Fish Forum in November 2007.

For more information about the Fish Mercury Project, visit: http://www.sfei.org/cmr/fishmercury/

For information about the mini-grant program, contact the Calif. Department of Public Health:
Ilinisa Hendrickson, (510) 620-3136, ilinisa.hendrickson@cdph.ca.gov
Alyce Ujihara, (510) 620-3663, alyce.ujihara@cdph.ca.gov