

San Francisco Bay Fish Project Final Report

Submitted on October 29, 2012, to the Aquatic Science Center by the California Department of Public Health

I. Introduction and Background

This report summarizes the activities conducted by the California Department of Public Health (CDPH) under the San Francisco Bay Fish Project (SFBFP). The goal of the SFBFP is to encourage fish consuming populations to reduce their exposure to mercury and polychlorinated biphenyls (PCBs) from consumption of fish in San Francisco Bay. In implementing these activities, CDPH has successfully completed the tasks and provided the deliverables described in the Memorandum of Agreement (MOA) between CDPH and the Aquatic Science Center. The MOA contains four tasks:

- Task 1: Conduct needs assessments
- Task 2: Create and convene Stakeholder Advisory Group (SAG)
- Task 3: Conduct risk communication and exposure reduction activities
 - (a) Risk communication and exposure reduction framework
 - (b) Project subcontracts (grant program)
 - (c) Advisory brochure and kiosk flyer
 - (d) Identify future activities
- Task 4: Program evaluation and coordination

This report is organized into the following sections:

- Section I: Introduction and background
- Section II: Stakeholder Advisory Group (SAG) and SAG evaluation
- Section III: Educational materials including advisory brochure and kiosk flyer
- Section IV: SFBFP grant program and evaluation
- Section V: Recommendations

Note that evaluation activities (Task 4) are included within Section II and IV. This report does not describe the needs assessments (Task 1) that CDPH conducted in 2010 and the risk communication framework (Task 3(a)) that was discussed at the February and May 2011 SAG meetings. These tasks were already described in CDPH Quarterly Reports #1, #2 and #3. In addition, CDPH discussed future project activities (Task 3(d)) with the SAG at two meetings and provided a summary of our findings in Quarterly Report #7. Since we did not receive any further feedback from the SAG on our summary of future activities, we did not update that summary in this report. However, we have included some of the future activities summary in the Recommendations section of this report.

CDPH circulated a draft version of this report to staff from the Aquatic Science Center, project funders, San Francisco Bay Regional Water Quality Control Board, Office of Environmental Health Hazard Assessment, and the groups receiving funding under the grant program (hereafter referred to as the “funded groups”). The comments received from these groups were incorporated into this final report.

II. Stakeholder Advisory Group (SAG) and SAG Evaluation (Task 2)

CDPH created a Stakeholder Advisory Group (SAG) to collaborate with interested community groups and agencies, and receive their input on the SFBFP activities, including the SFBFP grant program, educational messages and materials, and possible future activities. CDPH kept SAG members informed and updated on project activities and promoted collaboration among SAG members to address project goals. CDPH invited over 100 groups and agencies to the initial SAG meeting in December 2010 as was described in Quarterly Report #1. In addition, with SAG guidance, CDPH developed a SAG charter that described the purpose, need, membership, and responsibilities of the SAG (See Quarterly Report #2).

CDPH convened the SAG for seven meetings between Dec. 2010 and June 2012. Table 1 summarizes the meeting dates, number of attendees, and primary meeting topics. Organizations that attended at least one SAG meeting are shown in Attachment A. Meeting agendas and meeting summaries (which include a list of attendees) were also provided in the Quarterly Reports.

CDPH conducted a brief written evaluation of each SAG meeting. The meeting evaluation asked SAG attendees for input on what was useful, what the attendee would change about the meeting, and whether the attendees thought the presentations were interesting and relevant. See Attachment B for a summary of these evaluations. In addition, CDPH conducted a more in-depth evaluation at the end of each year (in Sept. 2011 and June 2012). The year-end evaluations asked SAG attendees whether we met our objectives for the SAG and whether we achieved the project “hopes and expectations” that were identified at early SAG meetings. The year-end evaluation also explored some of the reasons that SAG members participated. The first year-end evaluation (2011) also asked for input on possible future meeting topics. See summary in Attachment C. All SAG meeting evaluations were also provided in the Quarterly Reports.

In general, the meeting evaluations were very positive. We also were able to implement some of the ideas and actions suggested from the evaluations such as allowing time at the SAG meeting to hear announcements from SAG members, and inviting speakers to present on topics SAG members indicated were important. In the year end evaluation in 2012, a large majority of attendees indicated that we had met our program objectives. The one area that could be improved was the area of collaboration where some respondents indicated a need for promoting more collaboration among SAG members.

III. Summary of Educational Materials (Task 3(c))

Under the project, CDPH developed several new educational materials. These included a four-panel brochure, a kiosk flyer, a coloring book for kids, a warning sign, and an educational video. In addition, CDPH organized media activities around the posting of the signs. These materials and activities are described below.

1. Four-Panel Advisory Brochure

The four-panel brochure summarizes the advisory for San Francisco Bay that was updated by the Office of Environmental Health Hazard Evaluation in 2011. CDPH produced two versions of the brochure with different covers but the same content. One brochure cover had a picture of a leopard shark for distribution to anglers. The other brochure cover had a drawing of a fish and was designed to be used in settings that included community workshops and clinics (“clinic” cover). The brochures were produced in English plus 10 different languages and have been posted on the project website: <http://www.sfei.org/content/educational-materials> (a copy of the Japanese brochure is provided in Attachment D; the other languages have already been submitted in the Quarterly Reports). CDPH also printed 26,000 copies of some of the languages (see Table 2). Tongan, Laotian, and Japanese language brochures, which were not printed, are available for download. These printed copies were made available to the funded groups. Also, an order form for obtaining the printed materials was distributed to the SAG and posted on the project website.

2. Kiosk Flyer

CDPH produced a kiosk flyer which contains nearly all the same information as the brochure in a format suitable for posting at a kiosk or on a bulletin board. The kiosk flyer was completed in 4 languages and posted on the project website. The kiosk flyers for the remaining 7 languages are still being finalized and will be posted on the website when completed.

CDPH printed 200 copies of the kiosk version in English on a rigid, PVC plastic material. These printed copies were distributed to groups posting the warning signs (described below) and were intended for posting at kiosks or bulletin boards near where the warning signs are posted.

3. Coloring Book for Kids

At the request of APA Family Support Services (one of the funded groups), CDPH developed a kids coloring book. The coloring book includes pictures of Bay fish and games (e.g., word search, mazes, etc.), along with simple messages about fish contamination in San Francisco Bay. All of the funded groups were able to utilize the coloring book in their activities.

4. Warning Sign

In our early meetings with the SAG, the group indicated that the development of a warning sign for the Bay was an important priority for the SFBFP. CDPH discussed the design and content of a warning sign with the SAG at several meetings and with a SAG signage subcommittee. One of our primary goals was to develop a sign where the main message could be understood through visual images. These visual images would be supported by minimal text. We also sought to develop a simple, positive, and action-oriented message for the sign. We did not attempt to summarize the entire advisory on the sign as had been done on the previous warning sign for San Francisco Bay that CDPH developed in 2003.

Suggestions from the SAG that we incorporated into the sign included:

- Using a circle-slash symbol that included a fork. Without the fork, the group thought the sign would be interpreted as “do not fish here”.
- Listing an easy to remember website for more information rather than a government website. We purchased the domain name www.sfbayfish.org rather than using www.oehha.gov/fish.html or the project website.
- Including three languages on the sign (English, Spanish, and Chinese) with supplemental information.
- Increase the sign size to accommodate those languages. The final sign size was 14” by 22”.
- Allowing for the inclusion of local contact information. This was done by placing a stick on the lower left-hand corner of the sign.

CDPH conducted field testing of some of the images on the sign to help ensure the sign could be understood by people with limited English skills. We also field tested several headings and phrases to help ensure that they were easy to understand and interpreted correctly. Several versions of the signs were developed and modified after 4 field tests at fishing locations.

The signs contain a “QR code” which, when scanned by a smart phone, links to a unique website. That website, www.sfbayfish.org, also appears directly on the signs, along with OEHHA’s phone number. Currently, the sign website contains links to the educational brochures in all 11 languages. CDPH hopes to further develop this website in the future.

County staff also requested that the supplemental information be available in other languages (than English, Spanish, and Chinese). CDPH agreed to provide alternative languages on the sign by covering one of the three languages with a sticker that has the new language. However, to date, no counties or other groups have requested signs that are customized with other languages.

The final “Fish Smart” sign, approved by the SAG at the Dec. 2011 meeting, was posted on the project website and provided in Quarterly Report #5. CDPH produced 319 signs.

Beginning in May 2012, the signs were distributed to county health departments (to coordinate posting within their counties). In addition, CDPH has provided signs to East Bay Regional Park District, the City of Berkeley, the City of San Jose, and the US Fish and Wildlife Service. CDPH asked all posting organizations to fill out a sign tracking form and take photographs of the signs. To date, CDPH has identified 146 fishing locations in San Francisco Bay, including shoreline, piers, and marinas, and signs have been posted at 50 locations (about one third of the locations).

In July and August 2012, CDPH conducted an evaluation of sign posting by interviewing 37 anglers at 10 fishing sites in five counties where signs had been posted for at least one week. CDPH found that, in general, most anglers noticed the signs and understood the main messages. However, only one in three anglers reported that the signs were likely to influence their future decisions.

CDPH would like to acknowledge that many counties and other organizations have been very supportive of the sign posting activities and have done an excellent job in posting signs at locations under their jurisdiction. However, CDPH has also identified a number of posting challenges:

- Many locations have not yet been posted. A few counties have very limited staff resources to post signs.
- Some of the tracking forms have not yet been turned in, and some forms contain information that is incomplete or incorrect. As a result, CDPH summary information may not be complete.
- Some signs were posted at ineffective or suboptimal locations at a site. Therefore, CDPH would like to have additional signs posted in more prominent locations at these sites.
- In some locations, old signs need to be removed in locations where new signs are posted.

CDPH will continue to work with the counties and others groups to post signs and track posting activities. However, considerably more effort will be needed to complete posting activities.

5. Educational Video

CDPH developed a 90 second video that highlights fish contamination in the Bay. The video shows staff from the four funded groups describing key messages of the advisory. The video is available on the project website: <http://www.sfei.org/content/sf-bay-fish-video-images>. It has been made available for use by our partners.

6. Media

CDPH worked with the SAG to plan media activities around the posting of the signs and to highlight the funded group projects. CDPH issued a press release about the signs on July 31st (Attachment E). The press release was emailed to reporters and media

outlets, and sent to CDPH Twitter and Facebook followers. These activities resulted in the following media coverage on the sign posting activities:

- Ian Walker of CDPH was interviewed by KCBS-AM and KGO-AM.
- A short segment by KTVU-TV

CDPH had planned to invite SAG members and media to a media availability event at Muni Pier in San Francisco in August. Unfortunately, SAG member involvement was canceled due to last minute changes made by CDPH management.

7. Conclusions

In the development of educational materials, CDPH exceeded the requirements of our MOA in several ways. For example, we produced the advisory brochure in 11 languages (while the MOA required only three languages), developed the educational video, and implemented media activities. We were also able to develop and post warning signs in San Francisco Bay which was an important priority for the SAG although posting activities are still ongoing.

IV. SFBFP Grant Program and Evaluation (Task 3(b) Project Subcontracts)

One of the primary goals of the SFBFP was to support community-based organizations and local agencies in implementing outreach, education, and exposure reduction projects. This section describes the four projects conducted by community groups that were funded under the SFBFP grant program, including activities to evaluate these projects.

1. Background

With extensive input from the SAG, CDPH developed a Request for Proposals (RFP) that was announced in Feb. 2011. The RFP described the goals and expectations of the grant program, the application procedures, and selection process (see Quarterly Report #2). CDPH awarded \$95,000 to four community groups in May 2011 (see Table 3 below). In Oct. 2011, additional funding of \$5,000 (\$1250 for each group) was made available to the groups to support supplemental activities within their projects.

Before project implementation began, CDPH developed a memorandum of agreement (MOA) with each group that described the core activities they planned to implement with their grant including specific targets for the number of participants and their evaluation methods. The MOAs also describe the expectations for the groups that included: participation in CDPH trainings and site visits, attendance at SAG meetings, and documentation and reporting of results. In addition, the MOAs described CDPH's role and how CDPH would support the projects. (See Quarterly Report #3 for copies of the MOAs). One of the funded groups, CIEA, made substantive changes to their project that resulted in an addendum to their MOA (see Quarterly Report #6).

2. Funded Group Activities

The funded groups' core activities, the population served by their projects, and their project collaborators are summarized in Table 4. Additional information about each project can be found in their final reports (Attachments F-I), and in previous documentation that includes their MOAs, mid-term reports (Quarterly Report #5), and presentations each group made to the SAG at the June 14 (posted on the project website).

3. Funded Group Evaluation

CDPH required the funded groups to conduct both process evaluation (also called output evaluation) and outcome evaluation of their projects. Process evaluation is used to document program implementation and whether activities were implemented as planned and whether the expected outputs were produced. Outcome evaluation documents what was produced or changed as a result of the project. CDPH provided training for the groups on evaluation and had the groups fill out an evaluation workbook to help them plan and develop their specific evaluation activities. We also developed a set of evaluation tools to assist the groups in conducting their evaluation activities (tools were provided in Quarterly Report #4 and posted on the project website. The tools included:

- Population Screening Tool (PST)
- Pre Test and Post Test
- Retrospective Post Test (RPT) (a long and short version)

CDPH also developed several spreadsheets ("activity sheets" and "reporting forms") to compile and summarize data collected from the tools. The evaluation tools were also translated into several languages with assistance from APA.

a. Process Evaluation

CDPH developed the Population Screening Tool (PST) to help the funded groups to document their activities, track the number of participants, determine whether participants were consumers of San Francisco Bay (SFB) fish, and determine whether participants were considered to be at risk. The four funded groups' projects reached over 8,000 participants of which 5,726 were consumers of SFB fish and 4,741 were considered to be at risk (see Table 5). The participants also identified over 17,000 other members of their household who ate SFB fish. The actual number of SFB fish consumers, at risk consumers, and other household members is likely to be larger than the numbers reported in Table 5 because some of the funded groups did not obtain this information from all of its participants.

b. Outcome Evaluation

The purpose of the outcome evaluation was to measure changes in awareness, knowledge, or intent to change behavior among participants in these projects. The outcome evaluation tools included a six-question pre/post test and a retrospective post test in a long and short format. The number of participants with outcome evaluation and the evaluation methods used are summarized in Table 5. While all groups used the evaluation tools, all made some modifications to the tools which included changes in question format, wording, or response choices, or the inclusion of additional questions. Additionally, there were also differences in the ways that the groups collected, aggregated, and presented their outcome evaluation data. Due to these differences, CDPH could not aggregate outcome evaluation data across groups. However, in summarizing the outcome evaluation findings for each group (describe below), we present finding in a similar format and highlight some of the differences in methods used by the groups.

i. APA Family Support Services

APA is a San Francisco-based organization that provides family support services and advocates for culturally competent services for Asian and Pacific Islanders (APIs). APA and their partner organizations conducted 36 workshops with 2137 participants from different API groups. They used the six question pre/post test to evaluate changes in knowledge about fish contamination and the advisory (APA did not make any modifications to CDPH's pre/post test). A summary of the average pre-test and post-test scores for these workshop participants and the average change in test scores are shown in Table 6. APA reported an average increase in test score of over two points among participants as a result of attending a workshop.

In addition to the workshops, APA conducted a long-term assessment over a two-month period with 57 at risk participants drawn from several different API groups. For the long-term assessment, participants were surveyed, attended a workshop, and received one-on-one support over the two-month period. For the evaluation, participants were asked to fill out the RPT three separate times and rate their level of agreement with the statements on the test. APA's RPT is shown Attachment J. Findings for several RPT questions are summarized in Table 7. For questions 1 and 2, participants rated their level agreement before and after their participation in the activities or workshops. We compared the participant's rating before the first activity (survey) to the respondent's rating after the final follow up that occurred 2 months later. Table 7 also shows results from four questions (A-D) that were designed by APA (not part of the CDPH evaluation tools). The long-term assessment of participants' responses to questions 1, 2, A, B, and D showed positive changes over the two-month period. Also, for most of the participants who reported no change, the participants agreed with the statement on the RPT before and after the two-month follow up. Very few respondents showed a negative change. (Results for other questions on the RPT are not shown because the data were not available in this format).

ii. California Indian Environmental Alliance (CIEA)

Berkeley-based CIEA aims to protect and restore indigenous peoples' culture, traditions, and environmental health. For their project, CIEA collaborated with the Native American Health Center, Women, Infants, and Children (WIC) clinic in Oakland. CIEA's project involved two primary activities, (1) waiting room interviews and education and (2) a class on fish contamination. The waiting room interviews explored the respondent's fish intake (commercial and sport fish). Respondents were also counseled about fish consumption. When SFB fish consumers were identified, they were asked to fill out the retrospective post test (short version). Results for the 47 SFB fish consumers who filled out the RPT are summarized in Table 8 (a copy of the retrospective post test for CIEA's waiting room survey can be found in Attachment K). Overall, CIEA found high levels of agreement among respondents with evaluation statements about increased knowledge/information of the SFB advisory (93% agreed) and whether the respondents would share the advisory information with family/friends (96% agreed). A lower proportion of respondents (but still well above a majority) indicated they would follow specific parts of the advisory. For example, 74% reported that they were likely to avoid eating surfperch from San Francisco Bay.

CIEA used a variety of approaches to evaluate the 810 WIC clients who attended the "Making Healthy Fish Choices" classes during the period from April to June 2012 (an additional 540 WIC clients attended the class during July and August, beyond the period when CIEA could evaluate the outcomes). All class participants were asked to fill out and sign a "pledge" which included the following statement, "I eat fish caught in San Francisco Bay, I promise to follow the advisory guidelines for women and children (below)" (the advisory guidelines were listed on the pledge; the pledge also included statements and information about commercial fish). While the clinic staff were not able to collect pledges from all class attendees, CIEA was able to obtain 170 pledge forms from attendee who indicated they eat SFB fish and would follow the advisory. CIEA also obtained retrospective post tests from a small number of class attendees who were San Francisco Bay fish consumers (n=11) (these results are not reported). Finally, CIEA and CDPH conducted three focus groups with 20 class attendees to solicit feedback on the usefulness of the class and ways that the class could be improved. Overall, the class was very positively received by the participants and clinic staff.

iii. Greenaction for Health and Environmental Justice

The mission of San Francisco-based Greenaction is to mobilize community power to protect health and promote environmental justice. Greenaction interviewed and provided education to anglers at fishing locations, conducted education at community meetings, and held workshops at clinics with women of childbearing age. Outcome evaluation results for anglers, community members, and women at clinics who participated in Greenaction activities are summarized in Table 9. Greenaction conducted additional evaluation in their Tongan/Samoan workshops using the RPT and in the general community using a show of hands; these are not included in this report. Greenaction used the RPT survey shown in Attachment L for all three activities shown in Table 9. In questions 1 and 2 in the RPT survey, participants rated their level of

agreement with the statements using a four-point scale. For questions 3-7b, participants indicated how likely they were to take any of the steps listed, again using a four-point scale. Greenaction collapsed the responses for each questions into two categories, agree or disagree (questions 1 and 2), or will change or will not change (questions 3-7b), in addition to “don’t know” and “not applicable” responses.

Overall, Greenaction found a high level of agreement or willingness to change among their participants. For example, 88% of respondents said their knowledge of the Bay fish advisory had improved and 83% said they planned to follow the advisory recommendations. Anglers consistently showed lower levels of agreement or willingness to change, particularly for question 3 (about surfperch) and question 4 (about removing skin) when compared to community members and women at clinics.

iv. Kids for the Bay (KftB)

KftB’s mission is to collaborate with teachers to inspire environmental consciousness in children. They are based in Berkeley. For this project, KftB gave a series of lessons to elementary school students in 6 different classes (grades three to six) at schools in Oakland, San Pablo, and Richmond. In addition, the students interviewed and gave presentations to their parent and guardians, and interviewed anglers at fishing locations. The KftB lessons incorporated information about Bay fish contamination. KftB conducted outcome evaluation of the student presentations by asking the students’ parents or guardians to fill out a retrospective post test after they attended the presentations. The retrospective post test utilized a 5 point scale that included a “neutral” response and is provided in Attachment M. Table 10 summarizes the evaluation results for 65 parents who turned in their evaluation form. Outcome evaluation results from student interviews of anglers are not included. Overall, KftB found that the majority of parents reported positive changes or agreement with evaluation statements. For example, 69% of parents/guardians reported a positive change in their understanding of the advisory when they compared what they knew before the student presentations with what they now know. Also, 91% of parents/guardians said they planned to follow the advisory recommendations.

4. Other Activities by Funded Groups and Sustainability

In addition to their core activities, each of the funded groups conducted other activities during their projects. All groups helped CDPH develop the 90 second educational video by appearing in the video and talking about the advisory. As SAG members, funded groups helped to guide SAG activities, determine the languages needed for the advisory brochures and kiosk flyers, develop the warning sign, and plan media activities. Some of the other activities from the funded groups are highlighted below.

APA Family Support Services

- Worked with CDPH to translate the advisory brochure into 9 API languages.
- Developed several fish themed games and activities for kids.

- Arranged for training (by CDPH) and ongoing support to APA partner organizations that increased these organizations capacity to provide fish information in the communities they serve.
- Farmmary Saephan of APA was interviewed for a radio story called "Fishermen harvest dinner in the Bay at their own risk" that was aired on KALW, a San Francisco public radio station.

California Indian Environmental Alliance

- Developed the "Making Health Fish Choices" curriculum and supporting materials that can be used in future projects.
- Organized a training (with CDPH) for the WIC clinic staff which increased their capacity to provide fish information to WIC clients
- CIEA distributed educational information at several community events include the Alameda Farmer's Market, Running is My High (5K or 10K walk/run), and World Wide Breastfeeding Week.

Greenaction

- Developed a trifold brochure in English, Spanish, and Vietnamese about Bay fish contamination that was used in their outreach efforts.
- Developed factsheets in Tongan to support presentations in the Tongan community.
- Developed and circulated locally several fact sheets, newsletter, and newspaper articles that described the advisory or their project.

Kids for the Bay

- Developed the Safe Bay Fish Consumption Project curriculum and supporting program materials which can be used in future projects.
- The KftB project was described in a short Bay Nature Magazine article (April-June 2012) called "Safe Fishing with Kids for the Bay".
- On KPFA public radio in June 2012, KftB Executive Director Mandi Billinge spoke about their work with students to educate families about safely consuming San Francisco Bay fish.

Some of the ways the project activities will be sustained beyond the funded period are described below.

APA will continue to distribute advisory brochures and the leftover incentive materials (water bottles and card holder with project logo and website) at events and activities. They plan to continue using the coloring book. They and their partner organizations will continue to integrate the fish information in their ongoing programs such as health workshops and parenting classes.

CIEA received a \$3,000 grant from the Center for Environmental Health in July 2012

that will allow them to implement the “Making Healthy Fish Choices” curriculum at other locations. CIEA will also continue to distribute fish consumption information in its ongoing work. CIEA’s project partner, the NAHC WIC clinic, plans to continue providing fish information as part of its regular nutritional counseling.

Greenaction plans to have website links and their project materials on their website (under development). They will continue to be a resource for their community and provide information about the safe consumption practices and the advisory.

KftB will continue to implement the Safe Bay Food Consumption Project curriculum into four classes this fall as part of their Watershed Action Program, including support for teachers implementing the curriculum.

5. CDPH support and evaluation of funded groups

CDPH conducted a variety of activities to support the funded groups and their projects. We conducted several trainings for funded groups beginning with a full day of training in June of 2011. OEHHA staff assisted in all of these training activities by presenting information about the advisory. These trainings are summarized in Table 11.

We provided technical assistance throughout the project that included:

- Translation of educational materials, curriculum, surveys, evaluation tools, into Spanish and Asian languages.
- Printing of surveys, educational materials (posters), and evaluation tools.
- Providing a bilingual interviewer to support survey activities.
- Development of reporting templates for the mid-term and final reports.
- Planning and implementing three focus groups with WIC participants.

CDPH conducted site visits with each of the four groups to observe them implementing at least one activity.

In June 2012, we met individually with staff from the funded groups to conduct exit interviews. We developed a list of questions that were asked at each interview. The list of interview questions was circulated to BACWA, BASMAA, USEPA, and the water board for input prior to the interviews. The final list of exit interview questions can be found in Quarterly Report #7. CDPH tape recorded these interviews to supplement our written notes and produced a summary of themes (Attachment N).

6. Conclusions

All groups successfully implemented their projects and easily met or exceeded their goals for the numbers of participants. The outcome evaluation results for the funded groups demonstrated positive changes in terms of increases in knowledge and access to information after participation in the funded group activities. Participants also demonstrated a willingness to share the information with others and an intention to change behavior in ways that reduce exposure to chemicals from Bay fish.

V. Recommendations

This section highlights some of the recommendations for improving the overall project including the SAG and grant program. These recommendations are drawn from several sources including the funded groups' exit interviews and final reports; the future activities discussion with the SAG; SAG evaluations; and general observations by CDPH.

A. Recommendations for the SAG.

- Increase and broaden SAG attendance.
- Provide presentation power points ahead of time, if possible.
- Explore ways to increase collaboration among groups.
- Explore ways to shorten SAG meetings.

B. Recommendations for educational activities

- Integrate fish contamination information into mercury reduction programs.
- Develop a tip card for anglers similar to the card that was developed in Southern California.
- Develop a sticker for anglers that combines consumption advice with a ruler for measuring fish.
- Develop educational videos, audio messages, and social media projects.
- Develop a fish education curriculum that can be used by SAG and other project partners. Explore options for presenting the curriculum online.
- Conduct more evaluation on the effectiveness of messages and activities.
- Develop the www.sfbayfish.org website (the website and QR code that appears on the signs).

C. Recommendations for the grant program

- Continue to target women ages 18-45, children (including students), families, fish consumers, anglers.
- Increase opportunities for collaboration among funded groups to share ideas and resources. Consider making some of these activities mandatory.
- Improve timeliness of developing educational materials and improve schedule, timing, and coordination of activities. [Note: These points were mentioned because delays in completing the advisory brochure translations and evaluation tools were a problem for the funded group].

- Provide more evaluation support. Seek increased consistency in reporting practices among groups.
- Develop more in-depth training for funded groups to increase their technical knowledge and their ability to teach others.
- Revise and update evaluation reporting forms for consistency and clarity.
- Continue to provide funding for community based organizations to provide outreach and education in their communities.
- Seek to incorporate more interactive and activity centered components within training activities.
- Explore ways to incorporate longer-term follow up activities within funded group projects in order to document behavior change. This might require a longer time frame for the overall projects (e.g., 18 months rather than 12 months).

D. Recommendations for the overall project

- SAG members strongly supported continuing the current project activities (SAG, educational activities/materials, grant program, training/technical support).
- Explore research projects to document and characterize subsistence fishing and high risk exposures.
- Collaborate with Delta Exposure Reduction program activities.

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