

Program Road Map

Draft Outline: Goals, Objectives, and Strategy

Palos Verdes Shelf Superfund Site

Institutional Controls Program

I. Program Goals:

- Protection of the most vulnerable populations (in Los Angeles and Orange Counties) from the health effects of consuming contaminated fish related to the Palos Verdes Shelf Superfund Site
- Reduce risk by targeting the two routes of exposure for DDT and PCB
 - Consumption of contaminated fish bought at commercial outlets
 - Consumption of contaminated fish caught by local anglers

II. Long Term Objectives:

Address health risks stemming from the key routes of exposure from the Palos Verdes Shelf Superfund Site:

1. **Commercially Caught Fish:** Eventually eliminate contaminated white croaker from being available commercially (fish markets, grocery stores, restaurants, etc.)
 - Ensure catch ban area boundaries are updated based on the latest monitoring data and consistent with state regulations
 - Ensure adherence to bag limit (currently 10 white croaker) caught by anglers
2. **Angler Caught Fish:** Promote the adherence to and awareness of the bag limit for angler-caught white croaker and the local fish advisory from Malibu to Dana Point
 - Ensure fish consumption advisories are updated based on the latest monitoring data
 - Reduce risk from consumption of contaminated fish (i.e. white croaker) caught by anglers

Commercially Caught Fish

Objective: Eventually eliminate commercially available contaminated white croaker at commercial outlets.

Baseline:

- In 1996 (September through October), Heal the Bay visited 12 fish markets in Los Angeles and Orange Counties. Contaminated white croaker was identified at 9 of the 12 fish markets. A total of 132 samples of white croaker were analyzed for total DDT and total PCBs. The total DDT FDA action level (5 ppm) was exceeded in 10 of 132 (7.5%) samples; the maximum total DDT concentration was reported at 32.6 ppm for whole fish. The total PCB FDA tolerance level (2 ppm) was not exceeded in any samples; the maximum total PCB concentration was reported at 1.47 ppm for whole fish.
- In 2004-2005, EPA inspected a total of 68 markets in Los Angeles and Orange Counties. During this inspection, white croaker was found at 6 of the 68 markets (9%) and 6 of 135 market visits (4%). The white croaker was collected for analysis of total DDT and total PCB in muscle tissue. The total DDT FDA action level (5 ppm) was exceeded in 1 of 30 (3%) samples;

the maximum total DDT concentration was 11.8 ppm for muscle tissue. The total PCB FDA action level (2 ppm) was not exceeded in any samples; the maximum total PCB concentration was 0.97 ppm for muscle tissue.

Numeric Objectives:

- Reduce markets found with contaminated White Croaker (sample of targeted Asian markets):
 - 2010: 2-6% of markets are found to have white croaker with DDT and PCB contaminant levels above FDA action levels
 - 2014: 0-4% of markets are found to have white croaker with DDT and PCB contaminant levels above EPA screening levels

Angler Caught Fish

Objective: Promote the adherence to the OEHHA local fish advisory for Point Dume to Dana Point.

Baseline:

- Advisory put in place in 1991. The draft advisory was published in 1986.
- Awareness – Advisory: 55% of anglers were aware of the advisory in 2002-2003, based on angler survey conducted by EPA/MSRP.
- Behavior - White Croaker Consumption: 26% of anglers said they would eat white croaker if they caught it (1994 Santa Monica Bay Seafood Consumption Study)
- Behavior – Fish Preparation (1994 Santa Monica Bay Seafood Consumption Study):
 - 65% of anglers said they ate the fillets of fish
 - 33% of anglers said they ate their fish whole/gutted
 - 47% of anglers said they prepared their fish by frying
 - 17% of anglers said they prepared their fish by broiling or barbecuing

Other potential baseline information

- Average number of fish caught per person for consumption within red zone areas
- Average number of white croaker caught per person for consumption within red zone areas

Numeric Objective:

- 10% increase in awareness of local fish advisory by 2010 (Angler awareness of the local fish should be equal to or greater than 65% in 2010)
- Set numeric objectives for baselines
 - Decrease in anglers catching and consuming fish (from red zone) to within the advisory limits
 - Decrease in anglers catching and consuming white croaker (from red zone)
 - Decrease in anglers exceeding bag limit for locally caught white croaker
 - Increase in the knowledge and behavior of angler/angler families regarding adherence to “Best Practices” for preparing their caught fish

III. Strategies/Tactics:

Commercially Caught Fish

Target Audience(s):

- A. Commercial fishing operations
- B. Fish markets (primary focus: San Gabriel Valley and Central Orange County; secondary focus: City of Long Beach)
- C. Fish distributors
- D. Families/communities served by these fish markets
- E. Regulators (including: local health inspectors, State FDB, Federal FDA, EPA and State Fish and Game)

Tactics/Strategies (by target audience):

A. Commercial Fishing Operations

1. ENFORCEMENT

- a. **Strategic Objective:** Increase access to and understanding of regulations, and enforce adherence to regulations.

- **Tactics:**

- **Dock Side Inspection:** Randomly sample white croaker landed at the two identified major landing areas – Huntington Beach and Terminal Island
- **Increase Patrol:** Augment patrol resources to allow for increased enforcement presence
- **Refurbish Regulations:** Develop creative ways to layout regulations to commercial fishermen (i.e. “A Pocket Guide to CA Commercial Fishing”)
- **Make Regulations Available:** Make catch-ban regulation easily accessible for commercial operations
- **Catch-Ban/Catch-Block Alignment:** Reestablish catch-ban area to correspond with commercial catch-blocks
- **Engage Technology:** Research and employ technological methods to monitor the catch-ban area and aid in enforcement
- **Marine Protective Area Designation:** Establish Palos Verdes Shelf as a Marine Protective Area to close off all fishing in this area

- **Measurement:** The number of incidents reported in the catch-ban area

2. MONITORING/ENFORCEMENT/PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Educate commercial fishing operations directly and through the assistance of trade industry groups regarding the catch ban regulations.

- **Tactics:** (should be carried out by agency that will have the most impact in this area)

- **Develop a Database:** Create a database of commercial fishing operations located in the region

- **Assess Level of Awareness:** Develop an assessment tool to determine the approximate level of awareness of fishing operations in regards to the catch ban
- **Engage Trade Association:** Develop relationships with local and regional industry trade associations to assist in reaching out to local operations (i.e., the Pacific Coast Federation of Fishermen's Associations)
- **Engage Operations:** Develop an informal focus group of commercial fishing operations to understand awareness, barriers, and motivators regarding the Superfund site and the white croaker issue/regulations
- **Develop Collateral:** Develop a concise collateral outreach piece (most likely in the form of direct mail) to reach the fishing operations
- **Conduct Outreach:** Conduct an outreach campaign targeting operations and work with industry associations on distributing articles and other information regarding the issue through their channels
- **Periodic Follow-up:** Continue to follow up with industry associations and direct outreach to commercial fishing operations
- **Measurement:** Pre and post awareness levels of the fishing operations regarding the white croaker issue/regulations

B. Fish Markets

1. MONITORING/ENFORCEMENT

- a. **Strategic Objective:** Assess the geographic extent and frequency with which contaminated white croaker are reaching fish markets.
 - **Tactics:**
 - **Educate Markets:** County and city health inspectors educate markets on proper records maintenance (i.e. "Best Practices") for white croaker purchases
 - **Conduct Inspections:** County and city health inspectors examine the paper trail of white croaker purchases
 - **Undocumented White Croaker Flagged:** Inspectors notify EPA and/or its contractor of markets selling white croaker without proper paperwork
 - **Markets Pass/Fail Inspection:** Inspectors pass, warn, fine, confiscate product, etc. if appropriate (required under law).
 - **White Croaker Tested:** White croaker found at markets (including undocumented white croaker) are sampled and analyzed for contaminant levels
 - **Measurement:** Number of markets found selling undocumented white croaker
- b. **Strategic Objective:** Create, implement and promote a certification program for market adherence to properly procured and documented fish.
 - **Tactics:**
 - **Develop Criteria:** Develop the criteria that would make markets eligible for certification
 - **Create Process:** Create a certification process and promote to markets

- **Develop Materials:** Develop collateral materials (such as criteria, process and certificate, etc.) for program
 - **Create Value:** Create value for the certification by promotion with community
 - **Measurement:** Number of certified markets, community awareness of meaning of certification
- c. **Strategic Objective:** Evaluate market availability of other contaminated fish caught locally, in addition to white croaker.
- **Tactics:**
 - **ID target fish:** Develop criteria for additional fish to be monitored
 - **Outline Market Protocol:** Create a protocol for markets to follow in purchasing target fish
 - **Conduct Inspections:** Inspectors evaluate markets to see if they are following the protocol
 - **Problem Markets Flagged:** Inspectors identify markets that fail to comply with protocol
 - **Markets Pass/Fail Inspections:** Inspectors pass, warn, fine, confiscate product, etc. if appropriate
 - **Contaminated Fish Tested:** Fish identified as “target fish” that are found in markets will be sampled and analyzed for levels of contamination
 - **Measurement:** Number of markets found selling “target fish”

2. PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Reinforce health inspectors’ efforts to educate markets on “Best Practices” in purchasing white croaker (and possibly other fish).
- **Tactics:**
 - **Outline “Best Practices”:** Outline standard “Best Practices” for markets to follow to prevent contaminated white croaker from reaching the markets
 - **Engage Markets:** Develop an informal focus group of markets to better understand barriers they may face in regards to following the “Best Practices”
 - **Develop Support:** Develop community support as incentive for markets to voluntarily agree to implement the “Best Practices” (CBO’s, community leaders, local/ethnic media, etc.)
 - **Voluntary Pledge:** Work with markets to sign commitments to voluntarily implement “Best Practices”
 - **Media Outreach:** Conduct localized media outreach regarding the issue in targeted local and ethnic media
 - **Develop Materials:** Develop materials and signage to support employees in following the “Best Practices”
 - **Periodic Follow-up:** Conduct periodic follow-up with markets to reinforce the “Best Practices” and keep the issue a priority, hold mini-workshops or training sessions
 - **Measurement:** Number of markets pledging to follow the “Best Practices”

- b. **Strategic Objective:** Promote the certification program for market adherence to properly procured and documented fish.
 - **Tactics:**
 - **Inspectors Coordination:** Coordinate with inspectors regarding the markets eligible for certification
 - **Market Follow-up:** Follow up with eligible markets, urging them to pursue certification
 - **Create Value:** Promote certification with community
 - **Issue Certificate:** Issue certificates to deserving markets
 - **Visual Assessment:** Visit markets to see if they publicly display certificate
 - **Measurement:** Number of markets who display certificates, community awareness of certificate meaning

C. Fish Distributors

1. MONITORING/ENFORCEMENT/PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Educate and engage distributors regarding the overall effort and the specific “Best Practices” being promoted to the markets.
 - **Tactics:** Tactics should be carried out by agency or organization with the most weight in this area and available resources, to make the most impact
 - **Develop a Database:** Create a database of seafood distributors serving the region
 - **Identify Key Distributors:** Identify the key distributors that work with locally caught fish and serve our targeted markets
 - **Engage Distributors:** Inform distributors of the market outreach program; obtain input regarding the “Best Practices”; understand any barriers they may face in distributing “clean” fish
 - **Develop Fact Sheet:** Develop a fact sheet regarding the specific issues regarding the catch ban, the fish advisory, and the steps we want distributors to take
 - **Outreach:** Distribute materials to distributors and conduct periodic follow ups
 - **Measurement:** Number of distributors reached and engaged on the issue

D. Families/Communities Consuming Contaminated Fish

1. PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Educate and engage families and communities served by markets where contaminated fish was previously identified, about the health risks related to white croaker consumption, providing them with best practices for preparing and eating locally caught fish.
 - **Outreach Tactics:**
 - **Identify Target Communities:** Identify target communities through market monitoring data

- **Develop Baseline Survey:** Develop an initial survey to gauge awareness of ways to prepare fish to reduce the risk of exposure to contaminants through the consumption of fish
 - **Outreach Through Community Organizations:** Deliver “Best Practices” of the fish preparation message to individuals through working with organizations that serve residents in the targeted communities
 - **Outreach Through Health Industry:** Educate target communities through health professionals and community clinics who directly serve target community members
 - **Outreach Through Local Media:** Purchase local media advertisements in community papers, radio and television, as well as engage community reporters to do stories on risky fish consumption and “Best Practices” guidelines
 - **Direct Outreach to Fish Consumers:** Direct outreach on best practices to fish consumers. Opportunities for direct outreach encompass hosting information booths at community events, as well as hosting informational tables at community markets and hosting “Best Practices” demonstrations at community markets
 - **Evaluation of Efforts:** Conduct post-outreach surveys to determine any change in awareness and behavior
 - **Measurement:** Pre and post awareness levels and behavior change, as determined by a comparison between baseline surveys with follow up surveys
- b. **Strategic Objective:** Promote the certification program for market adherence to properly procured and documented fish.
- **Tactics:**
 - **Promotional Outreach:** Promote certification with community through outreach efforts
 - **Media Outreach:** Stir up media interest in certification and FCEC program
 - **Engage Key Community Members:** Outreach to key community members to endorse certification program and garner additional support
 - **Evaluation of Efforts:** Conduct post-outreach surveys to determine community awareness level of certification
 - **Measurement:** Community awareness of certificate meaning

E. Regulators

1. MONITORING/ENFORCEMENT/PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Maintain/develop effective means of communicating with the regulatory agencies to ensure that all ICs components are effectively inter-coordinated and integrate new data/information as it’s received.
- **Tactics:**
 - **Periodic Updates:** Maintain (and/or expand when necessary) communication channels to ensure coordination amongst ICs components.
 - **Data Analysis:** Analyze and incorporate any data or findings from various ICs components to better inform all components

Angler Caught Fish

Target Audience(s):

Primary-

- A. Local anglers
- B. Local angler families

Secondary-

- C. Angler supply stores

Tactics/Strategies (by target audience):

A. Local Anglers

1. ENFORCEMENT

- a. **Strategic Objective:** Examine variations on the daily bag limits for “target fish”.

- **Tactics:**

- **Increase Enforcement:** Increase enforcement of existing bag limit for white croaker
- **Reduce White Croaker Bag Limit:** Decrease the bag limit amount of white croaker anglers can legally catch per day
- **Establish New Bag Limits:** Create daily bag limits for additional “target fish”
- **Location-specific Bag Limits:** Create location-specific bag limits to restrict fishing in certain areas

- **Measurement:** Number of bag limit violations that occur

2. PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Educate pier and shore-based anglers in Los Angeles and Orange County on the risks of consuming contaminated white croaker and other locally-caught fish.

- **Tactics:**

- **Refine Targets:** Periodically adjust outreach efforts to best target the piers and shoreline locations on which anglers fish, based on program data, field observations and integration with other program elements.
- **Pier Outreach Program:** Conduct outreach to anglers at local fishing spots. Educate local anglers on the risks related to the local fish advisory, local bag limits, and complete Angler Outreach Action Tracking Sheets (AOATS).
- **Local Bait Shop Outreach:** Based on proximity to targeted piers, outreach workers conduct monthly presentations of the FCEC and Pier Outreach program to bait shop employees.
- **Outreach Through Angler Organizations:** Identify partnership opportunities with organized angler groups, posting information directly in newsletters or websites.
- **Evaluation:** Use AOATS to determine any change in awareness and behavior.

- **Measurement:** A comparison of AOATS before outreach efforts and after outreach efforts gauge changes in angler awareness and behavior.
- b. **Strategic Objective:** Ensure all local anglers receive fish advisory information when obtaining a fishing license
- **Tactics:**
 - **Distribution Advisory Information:** Distribute local advisory in a simple tip card when angler purchases a fishing license
 - **Promote Regulation:** Educate anglers on the advisory
 - **Disseminate Advisory:** Mail advisory information to all locally licensed anglers
 - **Measurement:** Anglers awareness of the advisory

B. Local Angler Families

1. PUBLIC EDUCATION & OUTREACH

- a. **Strategic Objective:** Educate the families of local anglers on the dangers of consuming locally caught fish in order to reduce health risks.
- **Tactics:**
 - **Analyze AOATS Data:** Conduct a geographical analysis of the AOATS data
 - **Identify Target Communities:** Identify communities to target based on AOATS data and those most at risk for consuming contaminated fish
 - **Develop Baseline Survey:** Develop an initial survey to gauge awareness of risks related to eating fish and understanding of Best Practices for fish preparation to reduce risk. Conduct surveys in the target communities prior to outreach
 - **Outreach Through Community Organizations:** Deliver “Best Practices” of the fish preparation message to individuals through working with organizations that serve residents in the targeted communities as identified through market monitoring
 - **Outreach Through Health Industry:** Educate target communities through health professionals and community clinics who directly serve target community members, specifically the most vulnerable populations (pregnant women and young children)
 - **Outreach Through Local Media:** Promote the issue through local media in community papers, radio and television, as well as engage community reporters to do stories on risky fish consumption and “Best Practices” guidelines
 - **Evaluation of Efforts:** Conduct post-outreach surveys to determine any change in awareness and behavior
 - **Measurement:** Pre and post awareness levels and behavior change, as determined by a comparison between the baseline surveys with follow up surveys
- Continue reaching out to community members to attend Nov. meeting

IV. Continuing IC Implementation

Based on measurement data, determine new and/or ongoing Strategies and Tactics to accomplish or maintain long-term objectives.