

Program Road Map

Draft Outline: Goals, Objectives, and SWOT Analysis

Palos Verdes Shelf Superfund Site

Institutional Controls Program

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

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 (i.e. fish markets, grocery stores, restaurants, etc.)
 - Ensure catch ban areas are updated based on the latest monitoring data & consistent with state regulations
 - Ensure adherence to bag limit of 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
 - Reduce risk from consumption of self-caught contaminated fish

1. Commercially Caught Fish

Eventually Eliminate Commercially Available Contaminated White Croaker at Commercial Outlets

Baseline:

- In 1996, 100% of markets (nine of nine markets) were selling contaminated white croaker, according to a study by Heal the Bay. In 2004, 9% of markets (six of 68 markets) had contaminated white croaker available for sale.

Numeric Objectives:

- Reduce markets found with contaminated white croaker (sample of targeted Asian markets):
 - 2010 – three markets or less
 - 2014 - zero markets

Target Audience(s):

- Primary
- Commercial fishing operators
 - Fish markets (primary focus: San Gabriel Valley and Central Orange County)
 - Fish distributors
 - Families/communities served by these fish markets
 - Regulators (including: local health inspectors, State FDB, Federal FDA, EPA, State Fish and Game)

Barriers:

- **Regulations:** Uncertainty of the accuracy of the catch ban area
- **Enforcement:** Challenges for state agencies
- **Knowledge:** Unclear if all commercial fishing operations know regulations
- **Economics:** Financial incentive to sell any fish caught
- **Legality:** Not all white croaker sold is illegal, may be confusing for markets and distributors
- **Inspection:** Impossible for distributors and markets to visually differentiate good vs. bad fish

Motivators:

- **It's Illegal:** Catching white croaker from the catch ban area for commercial purposes is illegal and regulations are in place
- **Poor Customer Relations:** Potential public relations problem for markets/restaurants selling contaminated white croaker
- **Market Pressure:** Pressure from distributors and markets to verify non-contaminated white croaker

Program SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats):

Strengths/Opportunities:

- **Breadth of Partnership:** FCEC has a strong partnership with various agencies
- **Health Inspectors:** Local health inspectors are interested in providing assistance
- **Contaminant Data:** Recent data is available regarding levels of contamination in fish
- **Media Interest:** The media has shown great interest in this issue
- **Enforcement Funding:** Availability of federal funding to assist enforcement agencies within the term of the ICs program
- **Market Monitoring:** Good collaborative process between county health, market owners and EPA for monitoring markets
- **Market Locations:** Good understanding of the types and regions where contaminated white croaker has been found

Weaknesses/Threats:

- **Distribution Information:** Unclear how contaminated white croaker is reaching the markets
- **Catch and Landing Information:** Lack of data regarding catch and landing information from commercial fishing operations
- **Awareness of Catch Blocks:** Lack of understanding regarding the commercial fishing operations' level of awareness regarding catch blocks

- **Landed vs. Sold:** Current information gap between the amount of white croaker reported landed vs. what reaches the market
- **Enforcement Agencies:** Challenges, resources, jurisdiction.

2. Angler Caught Fish

Promote the adherence to the local fish advisory (Malibu to Dana Point)

Baselines:

- 0% of anglers were aware of advisory when the advisory was put in place in 1991. 55% were aware of the advisory in the 2002-2003 angler survey that EPA/MSRP conducted.
- 26% of anglers said they would eat white croaker if they caught it (1994 Santa Monica Bay Seafood Consumption Study)
- Random sample of angler families regarding their behavior regarding preparation of angler caught fish:
 - 65% of anglers said they ate the fillets of fish (1994 Santa Monica Bay Seafood Consumption Study)
 - 33% of anglers said they would eat their fish whole/gutted (1994 Santa Monica Bay Seafood Consumption Study)
 - 47% of anglers prepared their fish by frying (1994 Santa Monica Bay Seafood Consumption Study)
 - 17% of anglers prepared their fish by broiling or barbecuing (1994 Santa Monica Bay Seafood Consumption Study)

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:

- Set numeric objectives for baselines
 - 20% increase in awareness of local fish advisory by 2010
 - 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 families regarding adherence to “Best Practices” for preparing their caught fish

Target Audience:

- Primary: - Local anglers
 - Local angler families
- Secondary: - Angler supply stores

Barriers:

- **Economics:** Subsistence fishing (need to catch fish for food)
- **Ease of Catch:** White croaker is comparatively easy to catch
- **Complex Health Issue:** Long-term health impact must be balanced with the fact that fish in other aspects is a very healthy food source and other contaminants (e.g. mercury) may drive the risk.
- **Inertia:** Resistance of some anglers to change (i.e., “always done it this way”)

Motivators:

- **It’s Illegal:** Bag limit is in place to limit angler catch in an effort to prevent sport-caught fish from being sold to markets and restaurants
- **Health Issue:** Advisory is in place to discourage consumption of contaminated white croaker
- **Family Health:** Potential risk to children, who are more vulnerable family members

Program SWOT Analysis:

Strengths/Opportunities:

- **Very Targeted:** Outreach very focused on the population at risk (both in terms of audience and location)
- **Visibility:** Program very visible to angler community
- **Data Collection:** Lots of data collected with outreach effort to help refine program
- **Existing Regulations:** Existing regulations on bag limit for white croaker
- **Local Fish Advisory:** New data is available, which may allow for a stronger advisory

Weaknesses/Threats:

- **Lack of Data:** Lack of key behavioral data regarding fishing – difficult to collect personal data from anglers
- **Lack of Enforcement:** The advisory is not enforceable; it exists as a recommendation
- **Fish Identification:** Difficult to identify fish; various names for fish species depending on ethnic group