FISH CONTAMINATION EDUCATION COLLABORATIVE

FINAL ENFORCEMENT REPORT

August 2017 – July 2018

Palos Verdes Shelf Superfund Site

Los Angeles County, California

EPA IDENTIFICATION NO. CAD008242711

REMEDIAL ACTION CONTRACT 3 FULL SERVICE

CONTRACT: EP-S9-14-01

Prepared for

U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, California 94105

Prepared by

EA Engineering, Science, and Technology, Inc.
1000 Atlantic Avenue, Suite 101
Alameda, California 94501

November 2018
Revision: 00

EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA) created the Fish Contamination Education Collaborative (FCEC) with representatives of federal, state, and local agencies, as well as community-based organizations that carry out various outreach and education activities. Enforcement represents one of the four Institutional Controls implemented to address the sediment contamination at the Palos Verdes Shelf Superfund Site (the Site). Enforcement consists of enforcing existing white croaker regulations for commercial and recreational anglers, along with inspections of retail food facilities and enforcement of market protocol under the California Health and Safety Code. Efforts also include monitoring and enforcing the daily catch limit and the commercial no-take zone for white croaker.

In February 2015, the EPA contracted EA Engineering, Science, and Technology, Inc. (EA) to coordinate with enforcement agencies/inspectors to support enforcement activities and provide outreach materials as needed. Additionally, EA conducted fish identification training to Los Angeles County Department of Public Health (LACDPH) and City of Long Beach Department of Health and Human Services, Bureau of Environmental Health (City of Long Beach) inspectors in September 2015 and July 2017. A Fish Identification Training held on 8 August 2018 will be included in the next reporting period.

Enforcement inspection data (markets and restaurants) was collected by the City of Long Beach and LACDPH. The inspections were performed at restaurants and markets that are primarily located in east and downtown Los Angeles. Markets and restaurants targeted for inspections were identified by EPA and stakeholder input. Some of these restaurants and markets previously sold white croaker illegally. The City of Long Beach conducted 33 market and restaurant inspections between October 2017 and July 2018. LACDPH conducted 58 market and restaurant inspections in July and August 2017. LACDPH inspection results in July 2017 that were not provided to EA during the previous reporting period have been included in this report. No commercial violations of white croaker were found during the inspections. The City of Long Beach and LACDPH reported that 55 percent (n=18) and 33 percent (n=19) of markets and restaurants were aware of the contamination, respectively. The markets/restaurants reported that health inspectors were the primary source of their awareness. This suggests that the enforcement inspections are generally successful, but awareness could be improved by additional and/or more frequent outreach.

Recreational and commercial fishing enforcement data was collected by the California Department of Fish and Wildlife (CDFW) conducted 60 recreational and 105 commercial inspections between August 2017 and June 2018. The following tables summarize the results of the CDFW enforcement inspections.

CDFW Recreational Fishing Inspections Overview: September 2017 – July 2018

CDFW Recreational Inspections	
# total inspections	60
# of pier and jetty inspections	18
# of boat patrol inspections	18
# of beach and intertidal inspections	24
# inspections when fisherman reported awareness of the contamination	39
# inspections when fisherman reported they would keep white croaker if they caught it	24
# of inspections: white croaker observed	13
# of white croakers seized	0
# of inspections: barracuda observed	1
# of barracudas seized	0
# of inspections: topsmelt observed	10
# of topsmelt seized	0
# of inspections: barred sand bass observed	10
# of barred sand bass seized	0
# of inspections: black croaker observed	0
# of black croaker seized	0

CDFW Commercial Fishing Inspections Overview: August 2017 – July 2018

CDFW Commercial Inspections	
# total inspections	105
# of pier and jetty inspections	56
# of boat patrol inspections	29
# of beach and intertidal inspections	20
# inspections when fisherman reported awareness of the contamination	87
# inspections when fisherman reported they would keep white croaker if they caught it	32
# of inspections: white croaker observed	32
# of white croaker seized	0
# of inspections: barracuda observed	3
# of barracudas seized	0
# of inspections: topsmelt observed	28
# of topsmelt seized	0
# of inspections: barred sand bass observed	26
# of barred sand bass seized	1
# of inspections: black croaker observed	0
# of black croaker seized	0

Based on the CDFW enforcement inspection data, Do Not Consume (DNC) fish, specifically the white croaker, were observed during the commercial inspections. White croakers were more commonly found among commercial fishermen in 30 percent (n=32) of the inspections, as compared to ~22 percent (n=13) in recreational inspections. Other DNC fish were less frequently observed. Commercial and recreational anglers are mostly aware of fish

contamination issues; in the commercial inspections, approximately 82 percent (n=87) of anglers reported awareness, and in recreational inspections, 65 percent (n=39) of anglers reported awareness. More recreational anglers reported awareness during beach and intertidal inspections compared to pier and boat inspections, while more commercial anglers reported awareness during pier and boat inspections. Intentions to keep white croaker were more often reported during recreational beach and intertidal (50 percent) than piers and jetties (29 percent) and boat patrol (21 percent) inspections. Intentions to keep white croaker were more often reported during commercial pier and jetty (69 percent) than beach and intertidal (19 percent) and boat patrol (12 percent) inspections. In approximately 34 percent (n=56) of overall inspections, fishermen reported they would keep white croaker if they caught it, which suggests there may be need for more outreach about the health effects of consuming contaminated fish. Data from multiple fishermen are included for each inspection form which presents limitations on the data evaluation. The inspections did not collect information on each of the fishermen interviewed, therefore it could not be determined whether there is a bias in the data (e.g., repeat fishermen being interviewed). An improvement to the inspection form may include collection of this more detailed data as well as tracking how many tip cards are distributed and the amount in each language (English, Spanish, Chinese, and Vietnamese).

This page intentionally left blank.

TABLE OF CONTENTS

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
City of Long Beach	City of Long Beach Department of Health and Human Services, Bureau of Environmental Health
DNC	Do Not Consume
EA	EA Engineering, Science, and Technology, Inc.
EPA	United States Environmental Protection Agency
FCEC	Fish Contamination Education Collaborative
LACDPH	Los Angeles County Department of Public Health
SGA	S. Groner Associates
Site	Palos Verdes Shelf Superfund Site

This page intentionally left blank

1.0 INTRODUCTION

The United States Environmental Protection Agency (EPA) created the Fish Contamination Education Collaborative (FCEC) with representatives of federal, state, and local agencies, as well as community-based organizations that carry out various outreach and education activities. Enforcement represents one of the four Institutional Controls implemented to address the sediment contamination at the Palos Verdes Shelf Superfund Site (the Site). Enforcement consists of enforcing existing white croaker regulations for commercial and recreational anglers, along with inspections of retail food facilities and enforcement of market protocol under the California Health and Safety Code. Efforts also include monitoring and enforcing the daily catch limit and the commercial no-take zone for white croaker.

EPA, Los Angeles County Department of Public Health (LACDPH), and Orange County started collecting market data in 2004 to determine whether white croaker caught in and around the Site were reaching local markets. Overtime, anecdotal reports began to suggest that white croaker was no longer being found in the markets. In 2012, EPA's previous contractor, S. Groner Associates (SGA), compiled a report analyzing the data collected between 2008 and June 2011 with the purpose of providing a basic status report and to describe general observations related to white croaker. In May 2013, SGA compiled a report analyzing the data collected between July 2011 and September 2012. Additionally, SGA prepared a report in April 2014 summarizing data collected by California Department of Fish and Wildlife (CDFW) between October 2012 and September 2013 and the data collected through market inspections between September 2012 and September 2013, with the scope of providing observations related to white croaker.

In February 2015, EPA contracted EA Engineering, Science, and Technology, Inc. (EA) to coordinate with enforcement agencies/inspectors to support enforcement activities and provide outreach materials as needed. Additionally, EA conducted fish identification training for LACDPH and City of Long Beach Department of Health and Human Services, Bureau of Environmental Health (City of Long Beach) inspectors in September 2015 and July 2017. A Fish Identification Training held on 8 August 2018 will be included in the next reporting period. Previous enforcement reports were prepared by EA for the periods between February 2015 and July 2016 and February 2016 and July 2017. The reports included enforcement data collected by CDFW recreational and commercial enforcement inspections and the City of Long Beach, when available. LACDPH did not provide inspection data for these reporting periods. This enforcement report covers the period of August 2017 through July 2018.

2.0 ENFORCEMENT INSPECTIONS

CDFW staff conducted inspections of in-water commercial and recreational anglers, and shoreline recreational anglers. LACDPH staff conducted market inspections in Los Angeles County and the City of Long Beach conducted inspections of markets and restaurants in Long Beach. In the past the Orange County Health Care Agency, Environmental Health Division conducted the inspections of markets and restaurants in Orange County. Based on the data collected prior to EA's involvement in the project, Orange County determined that white croaker was not being sold in markets and declined to continue involvement in this program.

Market/restaurant inspections were conducted by the City of Long Beach between July 2017 and July 2018. LACDPH inspection results in July 2017 that were not provided to EA during the previous reporting period have been included in this report. LACDPH conducted market/restaurant inspections in July and August 2017. CDFW performed recreational inspections between September 2017 and June 2018. Commercial inspections were performed by CDFW between August 2017 and May 2018 and in June 2018. In July 2018, CDFW accompanied the City of Long Beach during their inspections. The inspections consisted of the following:

- Market and restaurants (City of Long Beach and LACDPH)
- Recreational (shoreline and in-water) fishermen (CDFW)
- Commercial (in-water and wholesale) fishing operations (CDFW).

The City of Long Beach conducted 15 market and 18 restaurant inspections between October 2017 and July 2018. LACDPH conducted 32 market and 26 restaurant inspections in July and August 2017. The restaurants and markets targeted are primarily located in east and downtown Los Angeles. As part of the inspections, the market or restaurant is asked where the fish is from and the invoice is checked. Retailers are required to purchase fish from licensed vendors. The markets and restaurants targeted are ethnic, sell seafood, and/or have sold white croaker illegally in the past.

The recreational inspections were focused along the Palos Verdes Peninsula shoreline (including areas between Malaga Cove and Long Point, Abalone Cove and Inspiration Point, and Royal Palms and Cabrillo Beach Jetty). CDFW conducts at least one shoreline patrol and one water sport patrol per month. Recreational fishing inspections include inspecting piers, jetties, boats, and beaches. During recreational fishermen inspections, the wardens check bags for illegal fish and size limits and conduct outreach about the dangers of white croaker and other relevant topics. The bag limit for recreational fishermen is 10 white croakers. CDFW wardens fill out one inspection form per fishing mode a day. CDFW has focused inspections of commercial vessels in the red zone, in particular the areas surrounding the white croaker catch ban off of Palos Verdes and Fish Harbor where a large number of fishermen dock their boats.

3.0 ENFORCEMENT INSPECTION RESULTS

An analysis of the enforcement inspections was performed to summarize major findings from the inspections. The analysis focused on providing a general descriptive summary (or descriptive statistics) of the inspections. In some cases, there were repeat inspections done at the same sites during the year. As a result, some observations were correlated, and thus inferential statistics could not be calculated.

3.1 MARKETS AND RESTAURANTS

The City of Long Beach performed 33 enforcement inspections (15 market and 18 restaurant) between October 2017 and July 2018. The City of Long Beach targeted ethnic restaurants and

markets (e.g., Thai, Chinese, Mexican) and found that 55 percent (n=18) were aware of the contamination. Of those aware, they cited their source of their awareness as health inspectors (79 percent), "Do Not Consume" (DNC) pier signage (7 percent), family/friend (7 percent), and other sources (7 percent). Informational brochures and tip cards were distributed to 30 of the 33 market and restaurants. No commercial violations of white croaker were found during the inspections.

LACDPH performed 58 enforcement inspections (32 market and 26 restaurants) in July and August 2017. LACDPH targeted ethnic restaurants and markets and found 33 percent (n=19) were aware of the contamination. Of those aware, 18 respondents cited their source of their awareness as health inspectors (61 percent), other sources (22 percent), media (11 percent), and CDFW (6 percent). Informational brochures and tip cards were distributed to 50 of the 58 markets and restaurants. During one market inspection, 50 pounds of white croaker were observed in the establishment. The market provided an invoice for the croaker which confirmed that they were sourced from a reputable vendor, and not caught off the coast of Southern California. No commercial violations of white croaker were found during the inspections.

3.2 RECREATIONAL FISHING

Inspection modes included piers and jetties, boat patrol, and beach and intertidal areas. The recreational inspection data was collected between August 2017 and June 2018 using one data sheet per inspection mode. There were 60 inspections conducted in this time period. Out of those, approximately 30 percent (n=18) were pier and jetties inspections, 30 percent (n=18) were boat patrols, and 40 percent (n=24) were beach and intertidal inspections. A total of 1,687 anglers were reached during the pier and jetties (460), boat patrols (494), and beach and intertidal (733) recreational inspections.

3.2.1 Awareness of Fish Contamination Issues

At least one angler interviewed reported being aware of the fish contamination issues during 39 out of 60 inspections (65 percent). This includes 11 out of 18 pier and jetties inspections, 9 out of 18 boat inspections, and 19 out of 24 beach and intertidal inspections. Additional information is included in the following table.

Table 1. Reported Awareness of Fish Contamination by Fishing Mode – Recreational

Fishing Mode	Reported Awareness					
	Yes	% Yes by Mode	% Yes All Modes	No	% No by Mode	% No All Modes
Piers and Jetties	11	61%	18%	7	38%	12%
Boat Patrol	9	50%	15%	9	50%	15%
Beach and Intertidal	19	79%	32%	5	21%	8%
Total	39	-	65%	21	-	35%

3.2.2 Intentions to Keep White Croaker

When asked about intentions to keep white croaker if they caught it, at least one angler responded "yes" on 24 of the 60 inspections (40 percent). Intentions to keep white croaker were more often reported during boat patrols (12 out of 24), than piers and jetties (7 out of 18) and beach and intertidal inspections (5 out of 18). Additional information is included in the following table.

Table 2. Intentions to Keep White Croaker - Recreational

	Would fishermen keep White Croaker if they caught it?					
Fishing Mode	**Yes**	**% Yes by Mode**	**% Yes All Modes**	**No**	**% No by Mode**	**% No All Modes**
Piers and Jetties	7	39%	12%	11	31%	18%
Boat Patrol	12	50%	20%	12	50%	20%
Beach and Intertidal	5	28%	8%	13	72%	22%
Total	24	-	40%	36	-	60%

3.3 DO NOT CONSUME FISH OBSERVED AND SEIZED

3.3.1 White Croaker

White croaker was observed in approximately 22 percent (n=13) of the inspections. No white croaker were seized during inspections. White croaker were observed while inspecting the following locations: Marina Del Rey Harbor and Launch Ramp, Cherry Beach to 72nd Street, Shoreline Village, Cabrillo Pier/Launch Ramp, Davies Launch Ramp, Santa Monica Bay, El Segundo Beach, Manhattan Beach, Long Beach Launch Ramps, Fish Harbor, and South Shores Launch Ramp.

3.3.2 Other Do Not Consume Fish

Barracuda was observed in approximately 2 percent (n=1) of the inspections. No barracuda were seized during inspections. Barracuda was observed at the Marina Del Ray Harbor and Launch Ramp.

Topsmelt was observed in approximately 17 percent (n=10) of the inspections. There were no topsmelt seizures reported. Topsmelt was observed while inspecting the following locations: Cherry Beach to 72nd Street, Shoreline Village, Davies Launch Ramp, Long Beach Ramps and Shoreline, offshore Palos Verdes Peninsula, LA Harbor, Hermosa Beach, Marina Del Ray, El Segundo Beach, Redondo Harbor, Point Vicente, and Portuguese Bend.

Barred sand bass was identified in approximately 17 percent (n=10) of the inspections. One barred sand bass was seized during inspections, for being undersized. Barred sand bass was observed while inspecting the following locations: Los Angeles Harbor, Long Beach Harbor, Cabrillo Pier/Launch Ramp, Long Beach Ramps and Shoreline, Cherry Beach to 72nd Street, Davies Launch Ramp, and Santa Monica off shore.

Black croaker was not observed during the inspections.

3.3.3 Citations, Warning, and Violations

There were a total of 21 warnings and 36 citations issued. There were no citations or warnings related to white croaker and other DNC fish. Citations and warnings were generally related to possession of undersized fish and fishing without a license.

3.3.4 Information Provision

Tip cards and/or enforcement brochures were distributed during 36 of 60 inspections (60 percent). During the inspections the materials were sometimes provided in multiple languages. The materials were provided in English (55 percent [n=33]), Spanish (43 percent [n=26]), and Chinese (2 percent [n=1]).

3.4 COMMERCIAL FISHING

The commercial fishing inspection data was collected between August 2017 and June 2018 using one data sheet per inspection mode. There were 105 inspections conducted in this time period. Out of those, approximately 53 percent (n=56) were pier and jetties inspections, 28 percent (n=29) were boat patrols, and 19 percent (n=20) were beach and intertidal inspections. A total of 3,728 anglers were reached during the pier and jetties (2,211), boat patrols (726), and beach and intertidal (341) commercial inspections.

3.4.1 Awareness of Fish Contamination Issues

At least one angler interviewed reported being aware of the fish contamination issues during 87 out of 105 inspections (82 percent). This includes 50 out of 56 pier and jetties inspections, 25 out of 29 boat patrol inspections, and 12 out of 20 beach and intertidal inspections. Additional information is included in the following table.

Table 3. Reported Awareness of Fish Contamination by Fishing Mode - Commercial

Fishing Mode	Reported Awareness					
	Yes	% Yes by Mode	% Yes All Modes	No	% No by Mode	% No All Modes
Piers and Jetties	50	89%	47%	6	11%	6%
Boat Patrol	25	86%	24%	4	14%	4%
Beach and Intertidal	12	60%	11%	8	40%	8%
Total	87	-	82%	19	-	18%

3.4.2 Intentions to Keep White Croaker

When asked about intentions to keep white croaker if they caught it, at least one angler responded "yes" on 32 of the 105 inspections (31 percent). Intentions to keep white croaker were more often reported during piers and jetties (22 out of 56), than boat patrols (4 out of 29) and beach and intertidal inspections (6 out of 20). Additional information is included in the following table.

Table 4. Intentions to Keep White Croaker - Commercial

	Would fishermen keep White Croaker if they caught it?					
Fishing Mode	Yes	% Yes by Mode	% Yes All Modes	No	% No by Mode	% No All Modes
Piers and Jetties	22	39%	21%	34	61%	32%
Boat Patrol	4	14%	4%	25	86%	24%
Beach and Intertidal	6	30%	6%	14	70%	13%
Total	32	-	31%	73	-	69%

3.5 DO NOT CONSUME FISH OBSERVED AND SEIZED

3.5.1 White Croaker

White croaker was observed in approximately 30 percent (n=32) of the inspections. No white croaker were seized during inspections. White croaker were observed while inspecting the following locations: Seal Beach Pier, Marina Bridge, Belmont Pier and Shore, San Gabriel River, Shoreline Marina, 72nd Place Jetty, Cabrillo Pier, Alamitos Jetty, Los Angeles Harbor, Queens Way Bridge, Alamitos Bay, Manhattan Pier, Palos Verdes Coastline, Pier J, LA River, Golden Shore, Huntington Harbor, Redondo Beach, Davies Launch Ramp, Shoreline Drive, Golden Shores, and Colorado Lagoon.

3.5.2 Other Do Not Consume Fish

Barracuda was observed in approximately 3 percent (n=3) of the inspections. No barracuda were seized during inspections. Barracuda was observed at the Santa Monica Bay, Seal Beach, and Redondo Beach inspection locations.

Topsmelt was observed in approximately 27 percent (n=28) of the inspections. There were no topsmelt seizures reported. Topsmelt was observed while inspecting the following locations: Marina Bridge, Long Beach Harbor, Pier J, Seal Beach Pier, Belmont Pier, Los Angeles Harbor, Manhattan Pier, Redondo Pier, Palos Verdes Coastline, Cabrillo Pier, Alamitos Bay, Golden Shore, Huntington Harbor, Cherry Beach to 72nd Street, Abalone Cove, Bluff Cove, Hermosa Pier, and Long Beach Ramps.

Barred sand bass was identified in approximately 25 percent (n=26) of the inspections. One barred sand bass was seized during inspections, for being undersized. Barred sand bass was observed while inspecting the following locations: Seal Beach, Marina Bridge, Belmont Pier, Manhattan Pier, Redondo Pier, Los Angeles Harbor, Davies Launch Ramp, 72nd Place Jetty, Alamitos Bay, Cabrillo Pier, Seal Beach, and Long Beach Harbor and Ramps.

Black croaker was not observed during the inspections.

3.5.3 Violations

There were a total of 162 violations reported, however none of them were related to white croaker. There were no citations or warnings related to white croaker. With exception to the one barred sea bass seized, no other violations were recorded for DNC fish. Citations and warnings were generally related to fishing without a license.

3.5.4 Information Provision

Tip cards and/or enforcement brochures were distributed during 92 of 105 inspections (88 percent). During the inspections the materials were sometimes provided in multiple languages. The materials were provided in English (87 percent [n=92]), Spanish (40 percent [n=42]), Chinese (~7 percent [n=8]), and Vietnamese (~7 percent [n=7]).

4.0 ENFORCEMENT INSPECTION RESULTS DISCUSSION

4.1 MARKETS AND RESTAURANTS

The City of Long Beach performed 33 enforcement inspections and reported that 55 percent of the markets and restaurants were aware of the contamination. Health inspectors were cited as the primary source of their awareness (79 percent). Informational brochures and tip cards were distributed to 91 percent of the market and restaurants. No commercial violations of white croaker were found during the inspections. This suggests that the enforcement inspections and informational materials are generally successful at educating the markets and restaurants about the fish contamination. An improvement to the inspection form may include tracking how many tip cards are distributed as well as the amount in each language (English, Spanish, Chinese, and Vietnamese).

LACDPH performed 58 enforcement inspections and reported 33 percent of the markets and restaurants were aware of the contamination. Health inspectors (61 percent) were cited as the primary source of their awareness. Informational brochures and tip cards were distributed to 86 percent of the market and restaurants. No commercial violations of white croaker were found during the inspections. This suggests that the enforcement inspections were generally successful, but awareness could be improved. An improvement to the inspection form may include tracking how many tip cards are distributed as well as the amount in each language (English, Spanish, Chinese, and Vietnamese). The inspections were performed over a two-month period in 2017. The inspections could be distributed more evenly throughout the year to increase the awareness.

4.2 RECREATIONAL FISHING

Anglers stated that they were aware of the fish contamination issues in approximately 65 percent of the recreational inspections. In 40 percent of inspections, anglers reported they would keep white croaker if they caught it, which suggests there may be a need for more outreach concerning the health effects of consuming contaminated fish. More recreational anglers reported awareness during beach and intertidal inspections compared to pier and boat inspections. Intentions to keep white croaker were more often reported during recreational beach and intertidal (50 percent) than

piers and jetties (29 percent) and boat patrol (21 percent) inspections. This indicates that while anglers on beach and intertidal are most aware of contamination issues, they are also most likely to keep white croaker. Compared to the last reporting period, the overall awareness of the contamination decreased and the intention to keep white croaker increased. Additional and/or more focused outreach in this area may help increase the education. Data from multiple anglers are included for each inspection form which presents limitations on the data evaluation. The inspections did not collect information on each of the angler interviewed, therefore it could not be determined whether there is a bias in the data (e.g., repeat angler being interviewed). An improvement to the inspection form may include collection of this more detailed data as well as tracking how many tip cards are distributed and the amount in each language (English, Spanish, Chinese, and Vietnamese).

4.3 COMMERCIAL FISHING

Anglers interviewed stated that they were aware of the fish contamination issues in approximately 83 percent of the commercial inspections. More commercial anglers reported awareness during pier and jetty inspections than beach and intertidal and boat patrols. In 30 percent of inspections, anglers reported they would keep white croaker if they caught it, which suggests there may be a need for more outreach concerning the health effects of consuming contaminated fish. Intentions to keep white croaker were more often reported during commercial pier and jetty (69 percent) than beach and intertidal (19 percent) and boat patrol (12 percent) inspections. This indicates that while anglers on pier and jetties are most aware of contamination issues, they are also most likely to keep white croaker. Additional and/or more focused outreach in this area may help to increase the education. Data from multiple anglers are included for each inspection form which presents limitations on the data evaluation. The inspections did not collect information on each of the anglers interviewed, therefore it could not be determined whether there is a bias in the data (e.g., repeat anglers being interviewed). An improvement to the inspection form may include collection of this more detailed data as well as tracking how many tip cards are distributed and the amount in each language (English, Spanish, Chinese, and Vietnamese).

5.0 FISH IDENTIFICATION TRAINING

EA facilitated fish identification training for the City of Long Beach and LACDPH inspectors with EA subcontractor Dr. Michael Franklin (California State University – Northridge) on 8 August 2018. The results of the training will be included in the next reporting period.

6.0 CONCLUSIONS

Enforcement is a key Institutional Control as part of FCEC program. Based on the inspection data, DNC fish, specifically the white croaker, were observed during both the residential and commercial fishing inspections. With exception of one market that purchased white croaker from a reputable vendor, it was not observed during market and restaurant inspections. White croaker were more commonly found among commercial fishermen in approximately 30 percent of the inspections. Other DNC fish were less frequently observed. Recreational and commercial

anglers are mostly aware of fish contamination issues; in both the commercial and recreational inspections, 76 percent of all anglers reported awareness, which is a decrease compared to the previous reporting period (82 percent). More recreational anglers reported awareness during beach and intertidal inspections compared to pier and jetty and boat patrol inspections, while more commercial anglers reported awareness during pier and jetty and boat patrol inspections. Intentions to keep white croaker were more often reported during commercial pier and jetty, than beach and intertidal and boat patrol inspections. In approximately 34 percent (n=56) of overall inspections, anglers reported they would keep white croaker if they caught it. This percentage is consistent with the previous reporting period (~30 percent), however, there may still be a need for more outreach concerning the health effects of consuming contaminated fish.

This page intentionally left blank.