



# **FCEC Partners Meeting Palos Verdes Shelf Superfund Site**

10 March 2022

10 AM – 12 PM

Virtual Meeting



# Agenda

- Welcome and Introductions Current and New Partners (15 min)
- EPA Update (5 min)
- Activities Summary (40 min)
  - Pier Angler Outreach and Alternate Covid-19 Activities
  - Community Outreach and Alternate Covid-19 Activities
  - Enforcement Outreach
- Break (10 min)
- Conclusions/Recommendations from Annual Reports (30 min)
  - Outreach
  - Enforcement
  - DNC Pier Sign Inventory
- Open Forum (30 min)



# Introductions

- Current and New Partners (15 min)

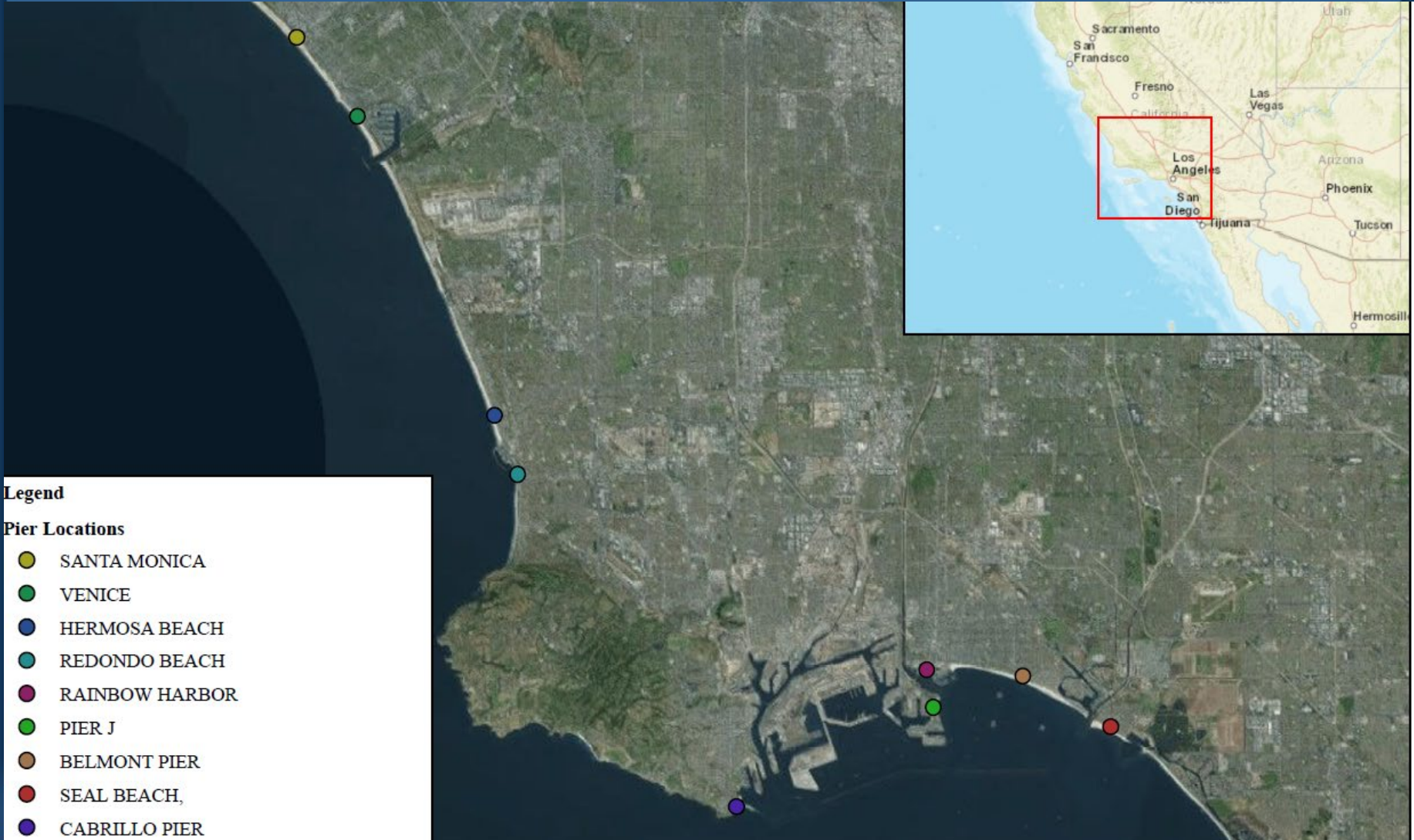


# EPA Update

- EPA Update
  - Judy Huang/EPA Region 9 Remedial Project Manager



# Pier Locations—Angler Outreach





# Activities Summary – Heal the Bay

- Pier Angler Outreach – Heal the Bay
  - Halted Outreach in March 2020 Due to Covid-19 Restrictions
  - Modified Outreach During Covid-19 Restrictions
    - Monthly Electronic Webinars and Blogs in English and Spanish
      - August 2020 – December 2021
      - Posted on HTB Website and Social Media with link from FCEC website
    - Aquarium Pilot Opening March - April 2021
  - Resumed Day and Evening Outreach June 2021 - Present
    - Health and Safety Plan
    - DNC Pier Sign Monitoring
    - Total Contacted ~4,418 people
    - ~53% New
    - ~72% Aware of contamination
    - Awareness sources primarily Tip-cards (41%) and Pier Signage (38%)
    - 400 tip cards were handed out in English and Spanish



# Activities Summary – Heal the Bay Improved Data Field Sheet



## Educational Outreach Tally Sheet

EA USE: Form # \_\_\_\_\_  
Last Modified May 28, 2020

Date:

Location:

Outreach worker:

Day Outreach  Night Outreach

\*\*\*\*\* FILL OUT ONE LINE PER PERSON\*\*\*\*\*

	Is the person an adult or a child	Did they agree to speak to you?	Is the person receiving outreach for the 1 <sup>st</sup> time ever, or is s/he a repeat?	Was person aware of DDT/PCB* fish contamination advisories before this?	Awareness source: Signage, Tip-card, AOP* Team, Internet, Events, Media, Friend/Family Other	Language spoken during outreach	Zip Code	Species and Number of Fish Caught	NOTES
1	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
2	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
3	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
4	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
5	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
6	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
7	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
8	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
9	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
10	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
11	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
12	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
13	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
14	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					
15	<input type="checkbox"/> Adult <input type="checkbox"/> Child	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> New <input type="checkbox"/> Repeat	<input type="checkbox"/> No <input type="checkbox"/> Yes					

\*DDT/PCB = dichlorodiphenyltrichloroethane/polychlorinated biphenyls; AOP = Angler Outreach Program;



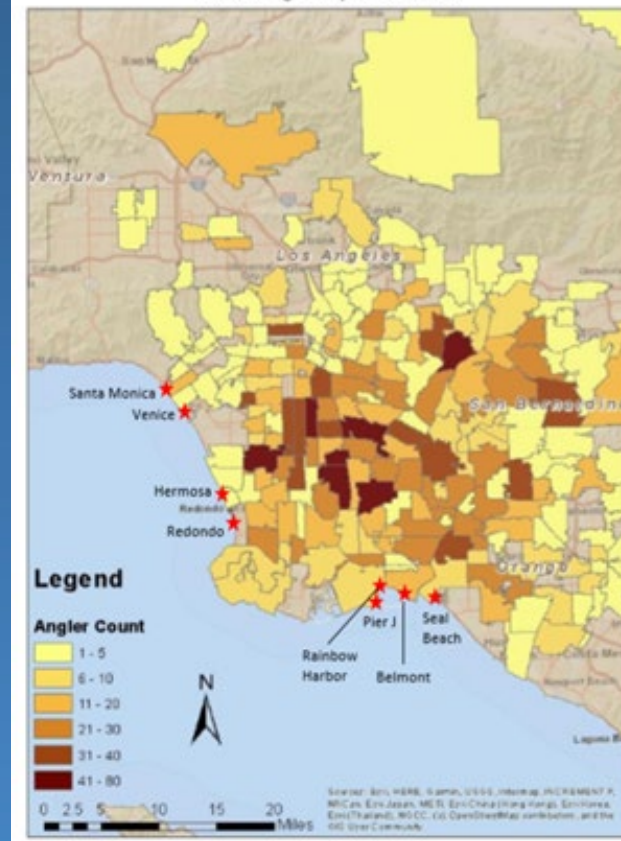


# Activities Summary – Heal the Bay

Heal the Bay Angler Outreach Program  
2018 Angler Zip Code Data



Heal the Bay Angler Outreach Program  
2019 Angler Zip Code Data



Mapping Where Anglers Come From and  
Opportunities for Expanded Outreach





# Activities Summary – Heal the Bay

## Online Outreach

- 5-7 likes was the general range for AOP social posts - same for English and Spanish posts
- 600-700 people reached per Facebook post
- 1000-4000 impressions per Twitter post

**El muelle de Venice, un lugar de pesca favorito en la bahía de Santa Monica**  
09.30.2020 | Frankie Orrala

¿Qué Onda?  
Angler Outreach Program  
Venice Beach

bahía de Santa Mónica, que se extiende  
e Point Dume en Malibú hasta la  
península de Palos Verdes, ofrece playas

Blogs

**Knowledge Drops Science Education Webinar Series Archive**  
12.03.2020 | Heal the Bay

California  
Los Angeles

KNOWLEDGE DROPS

Webinars



# Activities Summary – Heal the Bay

## Aquarium Patio Pilot

	March	April	May
Visitors to HTB Aquarium	361	1364	2487
QR HTB Blog	1	0	0
QR English Tipcard	1	0	2
QR Spanish Tipcard	1	0	0
QR Chinese Tipcard	1	0	0
QR Vietnamese Tipcard	1	0	0



## Aquarium Patio Pilot

Heal the Bay's award-winning Angler Outreach Program (AOP) educates pier and shore anglers in Los Angeles and Orange County about the risks of consuming fish contaminated with legacy toxins such as DDT and PCBs. A major contamination site of these toxins exists along the Palos Verdes shelf. DDT and PCBs can travel through the food chain into fish and cause negative impacts on human health if the fish are eaten.

### Angler Outreach Program



- Provides educational resources about what fish to avoid for people who rely on the fish they catch to feed themselves and their families
- Has reached 170,000+ anglers in multiple languages, including Spanish, Chinese, Tagalog, Vietnamese, Khmer, and Russian
- Is part of the Fish Contamination Education Collaborative, managed by the US EPA in collaboration with agencies and local community groups

LEARN MORE



healthebay.org/  
angler-outreach-program





# Activities Summary – Heal the Bay

## Virtual version of AQ field trip

Developed and offered virtual  
field trip on Fish  
Contamination and Food Web





# Activities Summary – Heal the Bay

## Pier Outreach: Jun 2021 – Feb 2022

- ▶ Represents:
  - ▶ Reopening the Piers
  - ▶ Develop Health and Safety Plan
  - ▶ Rehire 2 experienced team members
  - ▶ Data collected Jun 2021 – Feb 2022
  - ▶ Preliminary Analysis





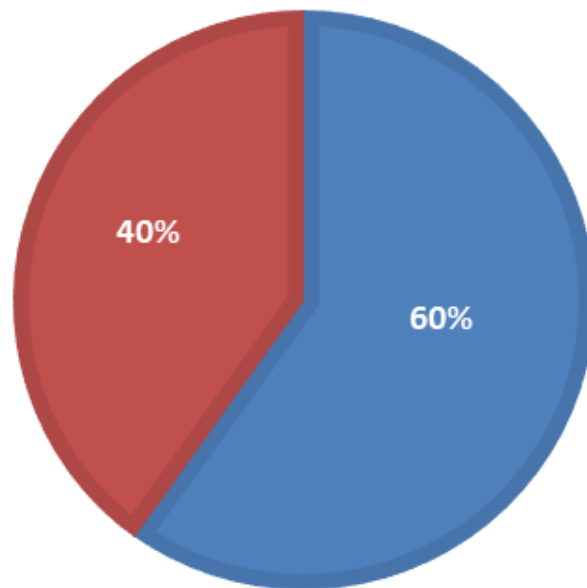


# Activities Summary – Heal the Bay

Total Anglers Surveyed: Jun 2021 – Feb 2022

## PARTICIANT BREAKDOWN

■ New ■ Repeat

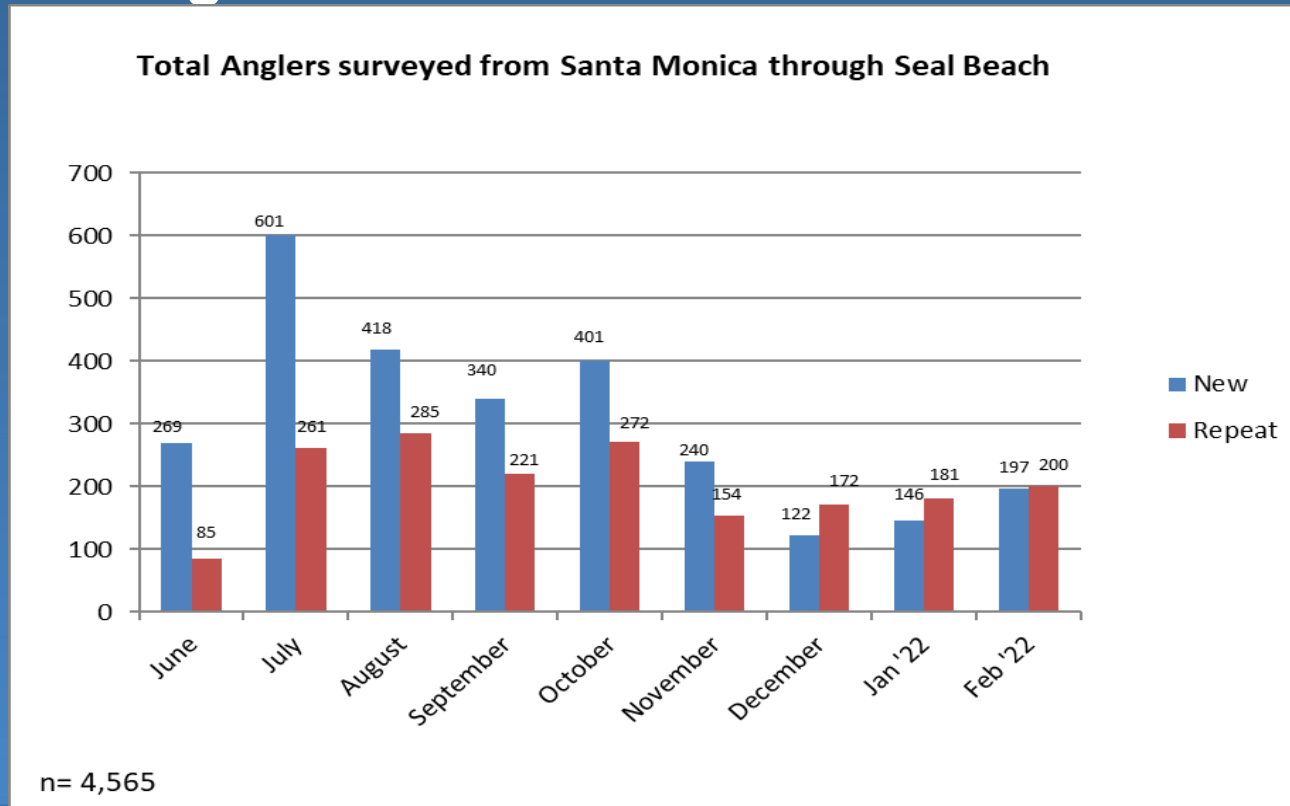


n= 4,565



# Activities Summary – Heal the Bay

Total Anglers surveyed from Santa Monica through Seal Beach: Jun 2021 – Feb 2022

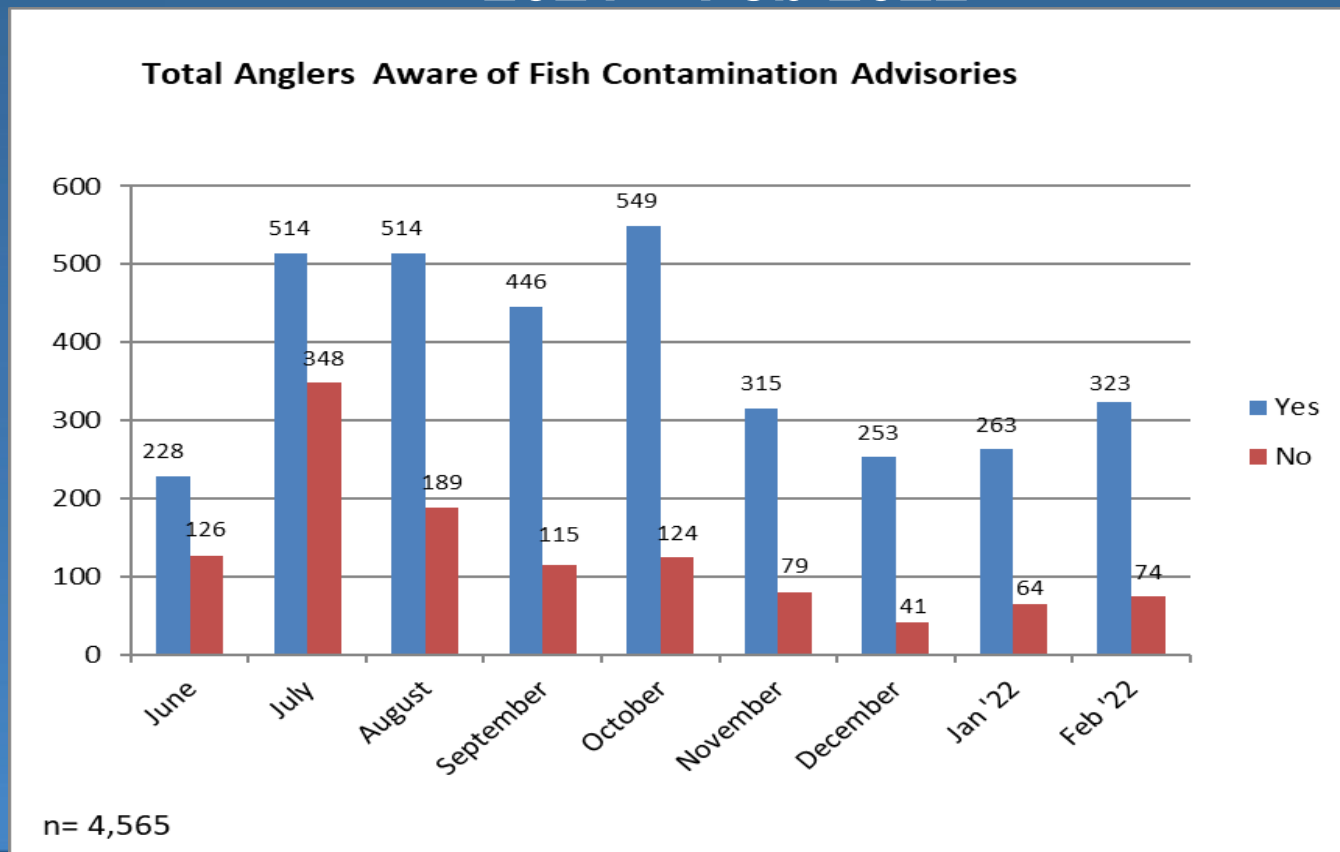






# Activities Summary – Heal the Bay

## Total Anglers Aware of Fish Contamination: Jun 2021 – Feb 2022



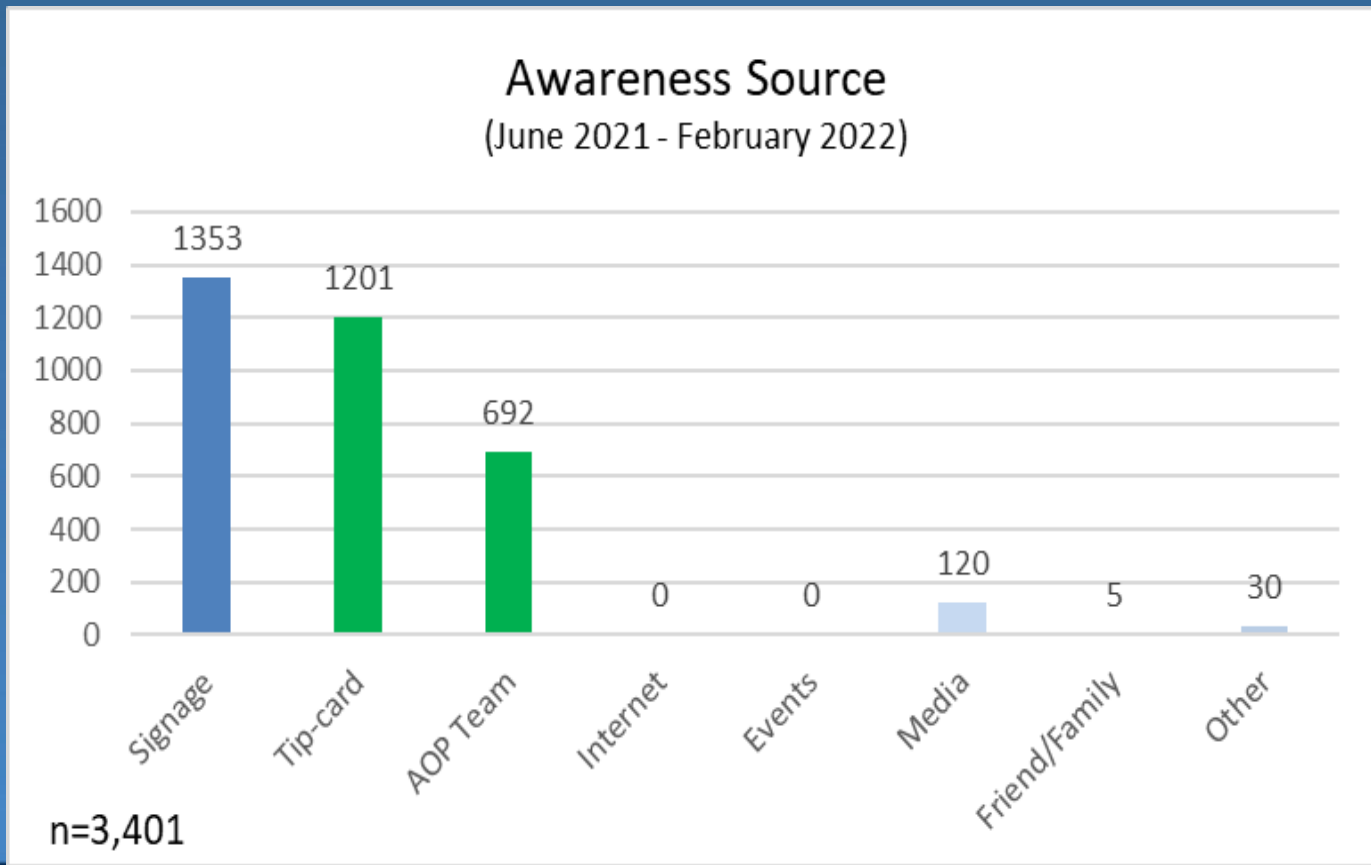
75% aware

25% not aware



# Activities Summary – Heal the Bay

Awareness Source: Jun 2021 – Feb 2022

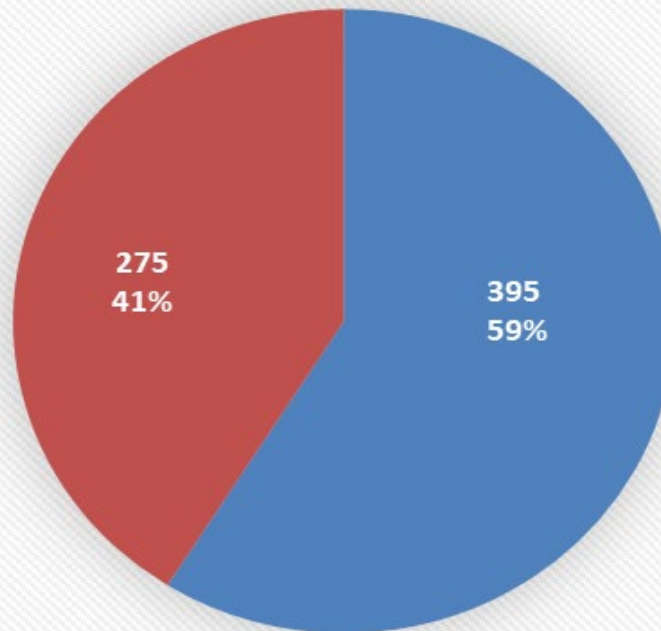




# Activities Summary – Heal the Bay

Evening Outreach : Jun 2021 – Feb 2022

Participant Breakdown



n= 670

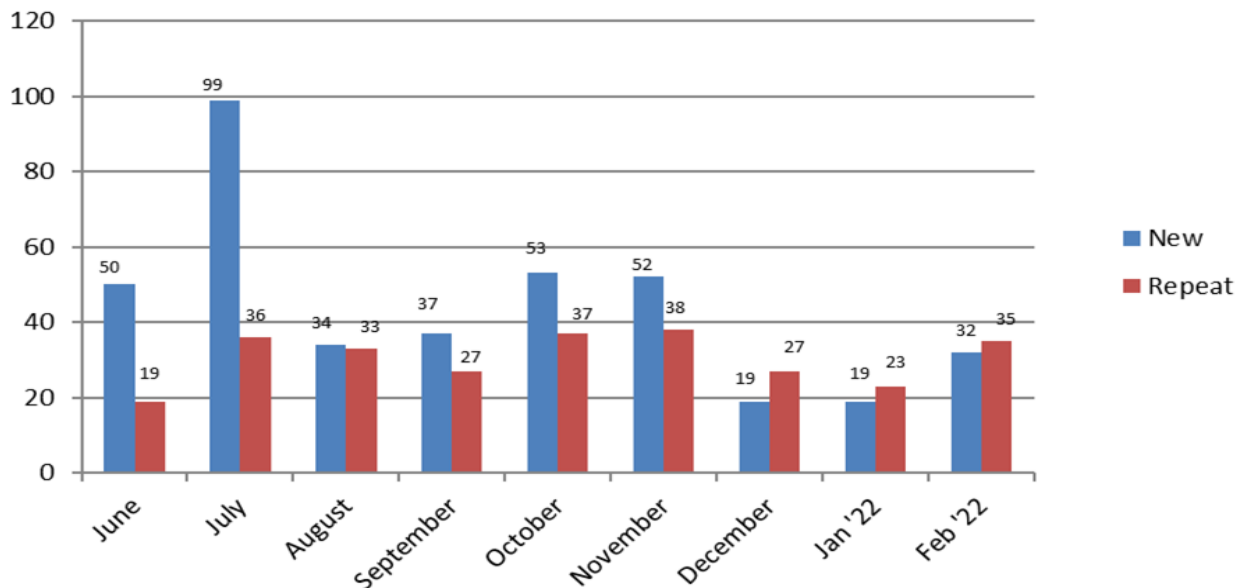
■ New ■ Repeat



# Activities Summary – Heal the Bay

Total Anglers surveyed : Jun 2021 – Feb 2022  
(Venice and Redondo Beach Pier)

Total Anglers surveyed from Venice and Redondo Beach Pier



n= 670

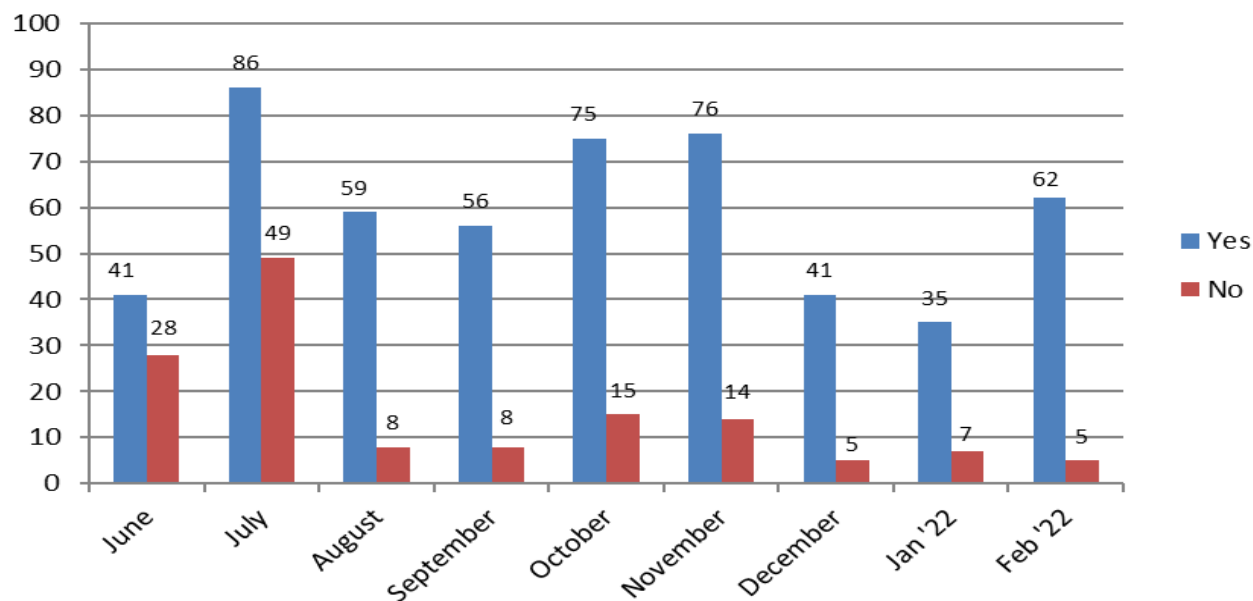
59% New  
41% Repeat



# Activities Summary – Heal the Bay

## Total Anglers Aware of Fish Contamination: Jun 2021 – Feb 2022 (Venice and Redondo Beach Pier)

Total Anglers Aware of Fish Contamination Advisories



n= 670

79% aware

21% not aware



# Activities Summary – Cabrillo

- Pier Angler Outreach – Cabrillo
  - Halted Outreach in March 2020 Due to Covid-19 Restrictions
  - Resumed Day Outreach September 2021 - Present
    - Health and Safety Plan
    - DNC Pier Sign Monitoring
      - 8 DNC Pier Signs
      - 7 Good and 1 Fair Condition, Still Readable
    - Total Contacted ~700 people
    - ~39% New
    - ~73% Aware of contamination
    - Awareness sources primarily Outreach Team (52%) and Pier Signage (35%)





# Community Events Booth Display Board

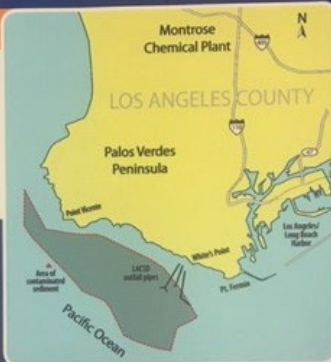
## PALOS VERDES SHELF CONTAMINATION

### CONTAMINATION HISTORY

For decades, the Montrose Chemical Corporation, located near Torrance, released the chemical DDT into the sewer system, which eventually emptied into the ocean off the Palos Verdes Peninsula.

Another group of chemicals, called PCBs, were also released by local industries.

Although these chemicals are no longer used, they remain in the ocean sediments and have contaminated fish that live there. People who regularly eat fish caught near the contaminated area face greater health risks because of prolonged exposure to toxic chemicals.



## PROTECT THE HEALTH OF YOU AND YOUR FAMILY FROM LOCAL FISH CONTAMINATION

### AREA AND FISH OF CONCERN



Some fish caught in this area are contaminated with harmful chemicals and should not be eaten.



This advice only applies to fish caught between Santa Monica Pier and Seal Beach Pier.

Eating fish is good for you, but some fish caught off the coasts of Los Angeles and Orange County are contaminated with DDT, PCBs and mercury. Join with other local residents and fishermen in releasing these fish back into the ocean.

## ADDRESSING THE PROBLEM

### PROTECTING YOUR HEALTH AGAINST LOCAL FISH CONTAMINATION

The United States Environmental Protection Agency (EPA) established the Fish Contamination Education Collaborative (FCEC) to educate the public on the health risks posed by chemically contaminated fish and to encourage the public to adopt safer fish consumption practices.

Through outreach and education, FCEC engages three programs to protect public health.



### Program Goal

The Angler Outreach Program educates local pier and shoreline fishermen on the risks of consuming contaminated fish.



### Program Goal

The Community Outreach Program works to minimize the sale of contaminated fish in markets throughout the region.



### Program Goal

The Commercial Outreach Program works to minimize the sale of contaminated fish in markets throughout the region.

### HEALTH EFFECTS



Health problems associated with prolonged exposure to DDTs and PCBs include:

- Cancer
- Liver disease
- Growth and development problems
- Effects on the immune system

### WHO'S AT RISK?



The contaminants pose the greatest risk to developing fetuses and young children, so the following groups should exercise the most caution when eating some locally caught fish:

- Children
- Nursing mothers
- Pregnant women
- Women who can become pregnant



Some fish can be eaten with restrictions.

### COOKING GUIDELINES

DDTs and PCBs build up in the fatty parts of the fish. Protect your health by following these guidelines for all other locally caught fish not pictured above.



1 Eat only the fillet of the fish.



2 Remove and throw away the head and guts before cooking.



3 Bake, steam or grill fish, letting the fatty juices drip away.

### FOR ADULTS



### FOR CHILDREN



For all other fish caught between Santa Monica Pier and Seal Beach Pier, only eat one serving per week.

The recommended serving of fish is about the size of your hand. Give children smaller servings.





# Activities Summary – DBS&A

- Community Outreach and Alternate Covid-19 Activities
  - Halted Outreach in March 2020 Due to Covid-19 Restrictions
  - Resumed Community Event Outreach October 2021 - Present
    - Health and Safety Plan
    - Aquarium of the Pacific Baja Splash Festival October 2021
      - ~300 Attendees & tip-cards distributed in English (200), Spanish (50), Chinese (25) , Vietnamese (25)
    - LA County Parks Dia de los Muertos Chalk Festival November 2021
      - ~300 Attendees & 20 English tip-cards distributed
    - Upcoming Community Events March 2022
      - Aquarium of the Pacific Noche de Estrellas
      - Aquarium of the Pacific 17<sup>th</sup> Annual International Children's Festival





# Activities Summary – DBS&A





# Activities Summary – DBS&A

- Community Outreach and Alternate Covid-19 Activities
  - Modified Bait Shop Outreach – Telephoned and material drop-off
    - August 2020 delivered to 4 of 40 shops (performed by HDR)
    - July 2021 delivered to 33 of 40 shops
      - Tip-cards in English (1,400), Spanish (1,75), Chinese (250), and Vietnamese (300)
    - December 2021 delivered to 6 of 40 shops
      - Tip-cards in English (275), Spanish (275), Chinese (50), and Vietnamese (50)
    - Upcoming deliveries in late Spring 2022
      - Replace shops that have gone out of business or no longer sell bait



# Activities Summary - BPSOS

- Community Outreach and Alternate Covid-19 Activities
  - Halted Outreach in March 2020 Due to Covid-19 Restrictions
  - Alternate Electronic Outreach September/October 2020
    - Translate Outreach materials & posted to FCEC website and BPSOS Social Media
      - Common Subsistence and Sport Fish of Southern California Fish Identification.
      - Fish contamination map showing red and yellow zones of DDT and PCB contamination.
      - Identifying Croakers.
      - Fish Market Owner Fact Sheet.
      - Remedial Investigation Report Fact Sheet.
      - Safer Fish Preparation and Cooking Guide.



# Activities Summary - BPSOS

- Community Outreach and Alternate Covid-19 Activities
  - Alternate Electronic Outreach September/October 2020
    - BPSOS Website visits: 4,500 (January 1, 2021-March 1, 2021)
    - BPSOS Newsletter: 384 Recipients
      - 82 February 2021
      - 150 June 2021
      - 152 July 2021
    - <https://bpsoscca.org/fcec>
    - Social Media: BPSOS FCEC Facebook and Instagram Postings

Date Posted	People Reached (FB+IG)	Engagements (FB only)	Likes (FB+IG)
4/16/2020	99	13	7
10/26/2020	241	22	11
4/22/2021	96	2	12





# Activities Summary - BPSOS

- Community Outreach and Alternate Covid-19 Activities



**1 MONTROSE CHƯƠNG TRÌNH PHỤC HỒI ĐỊNH CỤ (MSRP)**  
 Restoring natural resources injured by DDTs and PCBs

**FISH CARD** DDTS AND PCBs LÀ GÌ?  
 WHAT ARE DDTs AND PCBs?

**2 MONTROSE CHƯƠNG TRÌNH PHỤC HỒI ĐỊNH CỤ (MSRP)**  
 Restoring natural resources injured by DDTs and PCBs

**FISH CARD** DDTs VÀ PCBs TỪ ĐÂU MÀ CÓ?  
 WHERE DID THE DDTs & PCBs COME FROM?

Hầu hết các DDT và PCB gây ô nhiễm môi trường biển gần Los Angeles đến từ các công ty đã đổ chất thải của họ vào hệ thống cống rãnh địa phương nhiều năm trước.

Most of the DDTs and PCBs contaminating the marine environment near Los Angeles came from companies that dumped their waste

- Resume Community Event Outreach Anticipated in April/May 2022
  - Health and Safety Plan



# Activities Summary - CCHC

- Community Outreach
  - Halted Outreach in March 2020 Due to Covid-19 Restrictions
  - Resumed Community Event Outreach in January 2022
    - Health and Safety Plan
    - Chinese New Year Festival January 2022
      - 1,000 Attendees
      - Distributed tip-cards in Chinese (385) and English (50)
    - Anticipated Upcoming Event June 2022 Walkathon & Carnival in San Gabriel





# Activities Summary – Toxics Epidemiology Program of LA County

- Community Outreach
  - Halted FCEC activities in March 2020
  - Reassigned to LACDPH during Covid-19
  - Pier sign monitoring November 2021
    - 13 signs need cleaning, 7 need replacement
    - March 2022 next inspection
  - Anticipate restart FCEC activities after June 2022



# Activities Summary – Enforcement

- Enforcement Outreach
  - CDFW
    - Continued Recreational and Commercial Fishing inspections during Covid-19 Restrictions
    - 177 Recreational Fishing
    - 5 Commercial Fishing (1 Fish Market, 4 Restaurant Inspections)
    - CDFW Update
  - City of Long Beach
    - Grant expired 2019
    - No fish market and restaurant inspections performed
    - No DNC per sign monitoring and maintenance
  - Los Angeles Department of Public Health
    - Grant expired in February 2022
    - No fish market and restaurant inspections performed



**BREAK FOR 10 MINUTES**





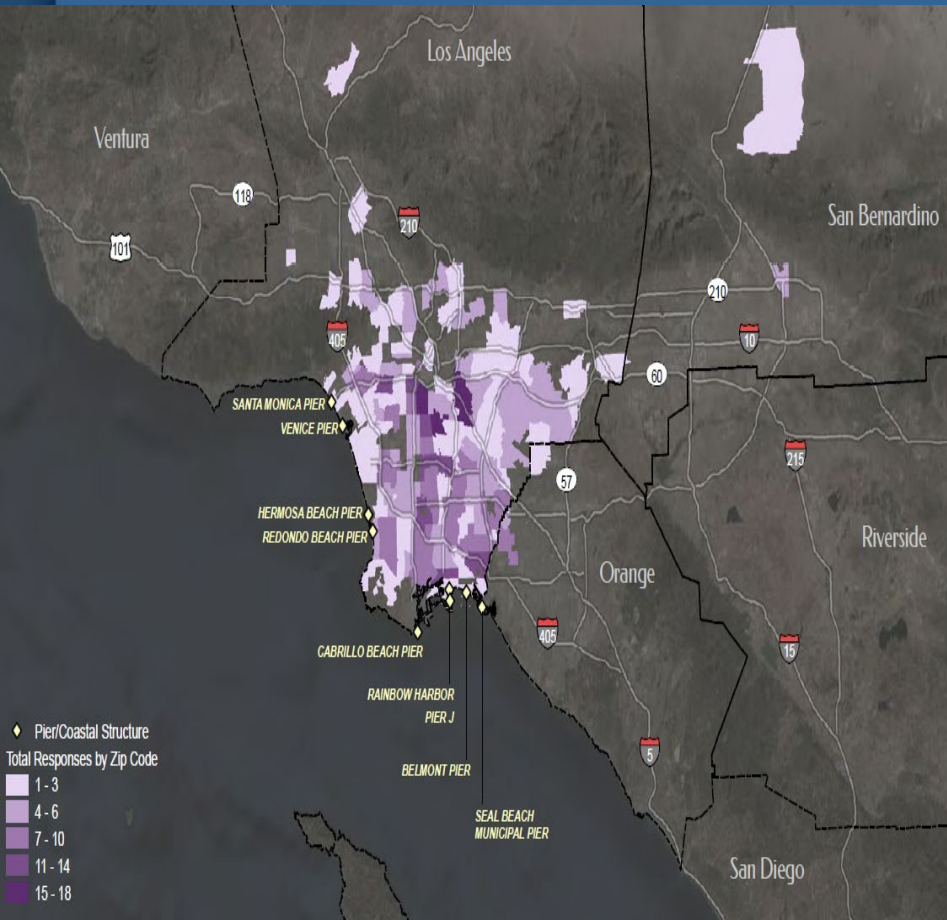
# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Community Outreach
  - Angler (June-July 2021)
    - Primary Languages English and Spanish (Day) and Chinese (Night)
    - Popular Piers Santa Monica and Redondo Beach (Venice closed)
    - New Respondent Increase ~70%
    - Awareness Decrease from 76% to 55%
    - Awareness Source Change from Outreach Team to DNC Fish Signage
    - Day Zip codes 87% LA, 11% Orange, 1% San Bernardino, 0.5% Riverside Counties
    - Night Zip codes 96% LA, 4% Orange
  - Community Events – Diversify, Encourage Sign-in Sheets, LACUSD

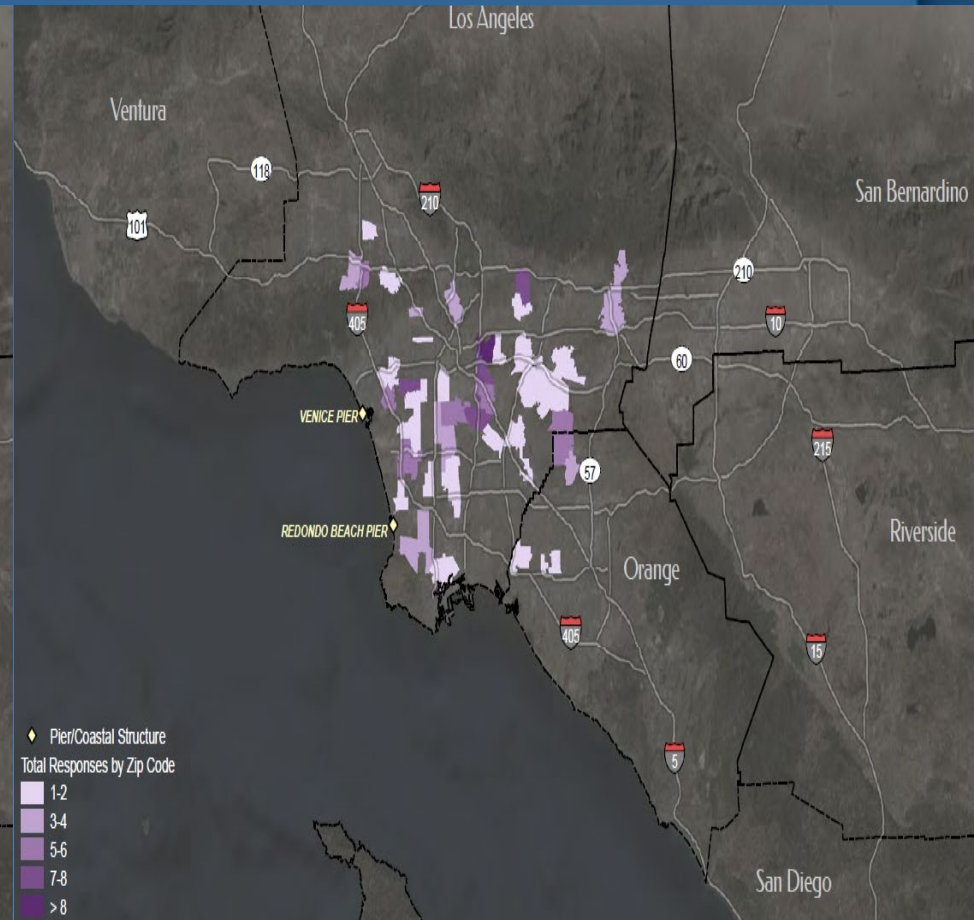




# Annual Report Results and Recommendations (Aug 20-Jul 21)



Day



Night



# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Community Outreach
  - Bait Shops Recommendations
    - Replace 2 West Marine and 3 Closed shops
    - Korean material requests San Pedro, Long Beach, Seal Beach, Huntington Beach





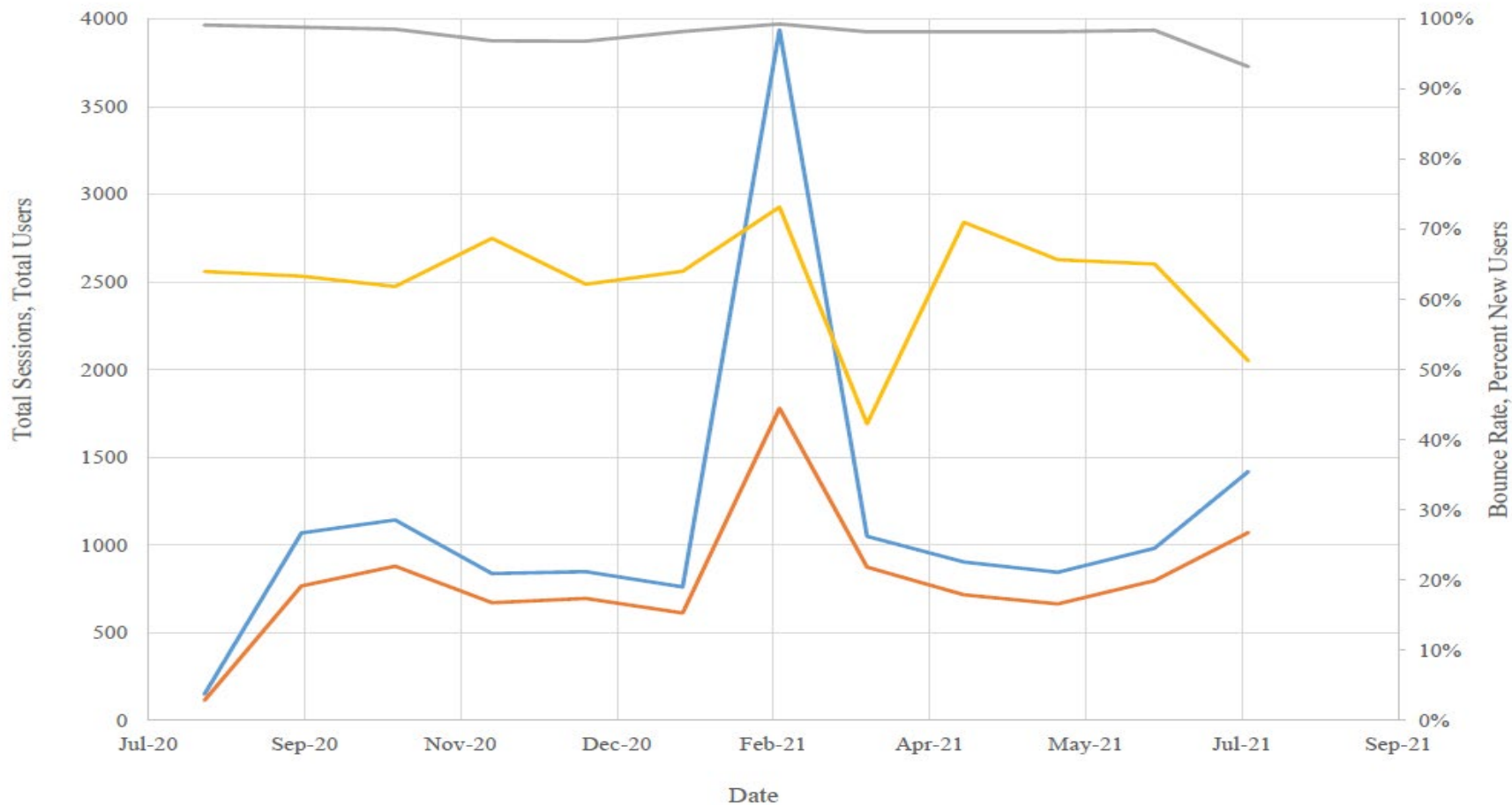
# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Community Outreach
  - Electronic
    - FCEC website completed May 2020
    - Increased visits and engagement
    - Social Media (Facebook) less effective
    - HTB Monthly Blogs and Webinars
  - Recommend Partners Increase Postings to FCEC Website and Social Media (Facebook, Instagram, Twitter)





# Annual Report Results and Recommendations (Aug 20-Jul 21)



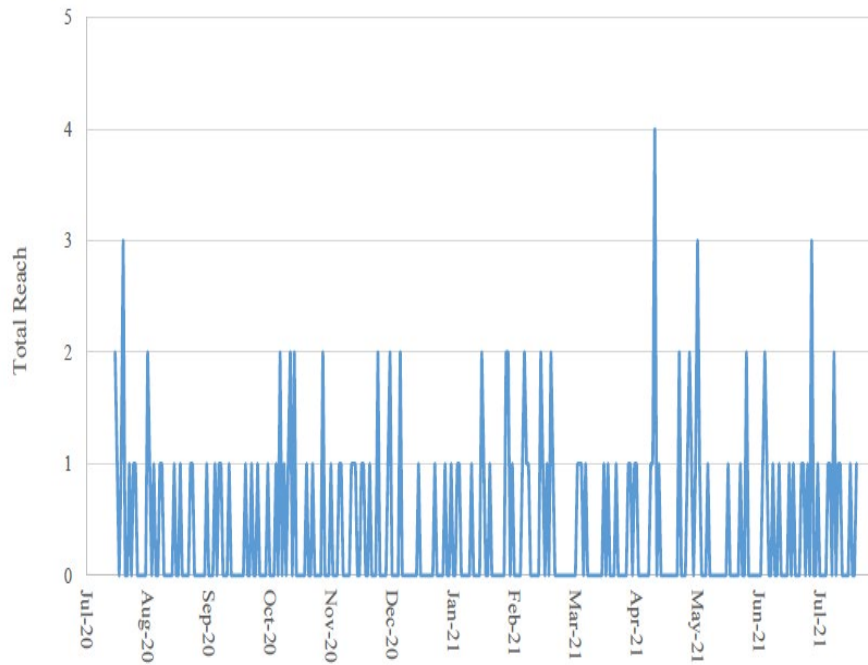
FCEC Website

— Total Sessions — Total Users — Percent New Users — Bounce Rate

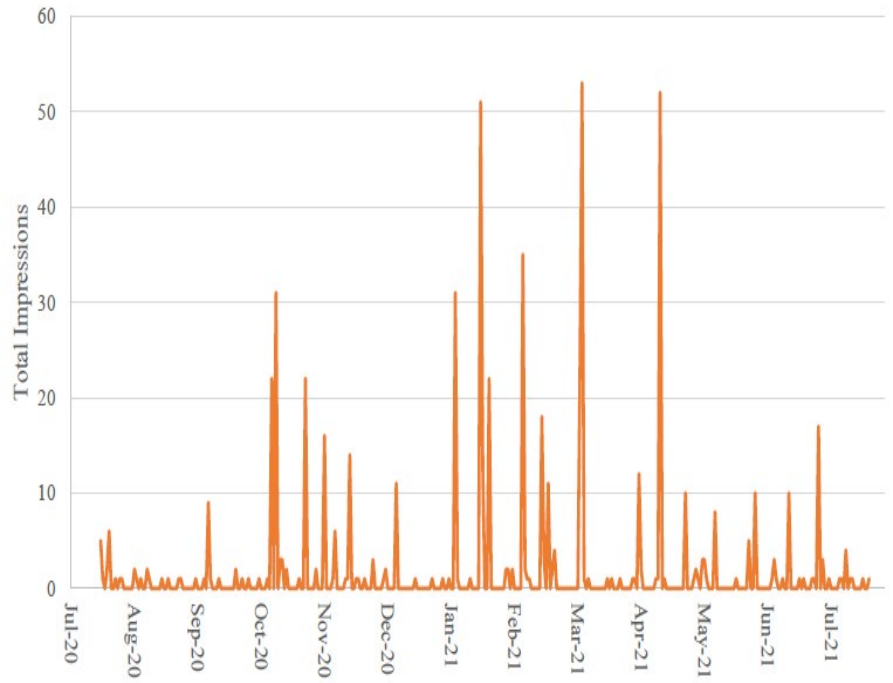




# Annual Report Results and Recommendations (Aug 20-Jul 21)



Facebook Total Reach



Facebook Total Impressions



# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Enforcement September 2020-July 2021
  - Recreational Fishing Inspections (177)
    - 4,266 Anglers Reached
    - 14% White Croaker Observed
    - 67% Aware of Contamination
    - 40% Tip-card Distributed
    - 3 White Croaker Violations
  - Commercial Market (1) and Restaurant (5) Inspections
    - 0% White Croaker Observed and Violations
    - 80% Unaware of Contamination
  - Recommend CDFW Record Awareness, White Croaker Locations, Tip-card Languages; and Increase Commercial Inspections



# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Pier Sign Status June 2021
  - 18 Piers
  - HTB (on behalf of Cabrillo, City of LGB, LACDPH)
    - Assessed 45 of 69 DNC Pier Signs
    - Venice closed (6)
    - 20 DNC Pier Signs Missing and Need Replacement
      - 18 Missing: Santa Monica (1), Ballona North (3), Ballona South (4), Dockweiler (1), Manhattan Beach (4), Rocky Point (1), Hermosa (1), Pier J (1), Torrance (2)
      - 2 Replacement: Ballona North (1) and Hermosa (1)



# Annual Report Results and Recommendations (Aug 20-Jul 21)

- Pier Sign Status Recommendations
  - Record Monitoring Dates and Photos
  - Place Signs at Height (9 feet)
  - Consider UV Coating
- Need Replacement Monitoring for City of LGB



# Open Forum

- Replacement DNC Pier Sign Monitoring for City of Long Beach and (LACDPH)
- Market and Restaurant Inspections
- Other Topics





# Thank you!

- EPA appreciates your education, outreach, and enforcement efforts
- Further suggestions or concerns, please contact:

Judy Huang  
US EPA Region 9  
Huang.Judy@epa.gov  
(415) 972-3681

Laura Levine  
EA Engineering (contractor)  
llevine@east.com  
510-545-4441