

# PALOS VERDES SHELF

## Do Not Consume Sign Summary

August 2023 – July 2024



# Contacts and Resources

## U.S. Environmental Protection Agency

**Renee Jordan Ward**, Remedial Project Manager

[JordanWard.Renee@epa.gov](mailto:JordanWard.Renee@epa.gov)

415-972-3129

75 Hawthorne Street

San Francisco, California 94105

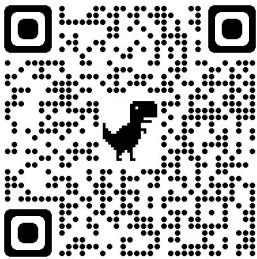
Website:

[www.epa.gov/superfund/montrose](http://www.epa.gov/superfund/montrose)

## Fish Contamination Education Collaborative

Email us at [info@pvsfish.org](mailto:info@pvsfish.org) or contact us through our website at [www.pvsfish.org/contact](http://www.pvsfish.org/contact)

For more information about fish contamination from the Palos Verdes Shelf Superfund Site, please visit: [www.pvsfish.org](http://www.pvsfish.org)



For more information about California fish advisories, please visit: [www.oehha.ca.gov/fish](http://www.oehha.ca.gov/fish)

This report was prepared for the U.S. Environmental Protection Agency by  
EA Engineering, Science, and Technology, Inc.  
555 University Avenue, Suite 182, Sacramento, California 95825

---

## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
LIST OF APPENDICES .....	ii
LIST OF ACRONYMS AND ABBREVIATIONS .....	iii
SUMMARY.....	1
1. INTRODUCTION.....	2
2. OVERVIEW OF ANGLER OUTREACH AND DO NOT CONSUME SIGNAGE.....	4
2.1 ANGLER OUTREACH .....	4
2.2 DO NOT CONSUME SIGNAGE.....	5
3. PIER SIGN CONDITIONS (AUGUST 2023 – JULY 2024) .....	9
4. RECOMMENDATIONS .....	13
4.1 DO NOT CONSUME SIGN GENERAL RECOMMENDATIONS .....	13
4.2 DO NOT CONSUME SIGN “NO ACTION” RECOMMENDATIONS .....	14
4.3 DO NOT CONSUME SIGN “CLEAN” RECOMMENDATIONS.....	14
4.4 DO NOT CONSUME SIGN “REPLACE” RECOMMENDATIONS.....	14
4.5 DO NOT CONSUME SIGN “RELOCATE” RECOMMENDATIONS .....	15
4.6 DO NOT CONSUME SIGN “REMOVE” RECOMMENDATIONS.....	16
4.7 DO NOT CONSUME SIGN “ADD” RECOMMENDATIONS.....	17
APPENDIX A.....	19

---

## **LIST OF TABLES**

Table 1. Pier Sign Conditions and Recommendations

## **LIST OF FIGURES**

Figure 1. Map of Contaminated Sediment at the Palos Verdes Shelf Superfund Site

Figure 2. Map of Piers and Beaches with Posted Do Not Consume Fish Signs

Figure 3. Map of Yellow and Red Zones for Fish Caught from Ventura Harbor to San Mateo Point

Figure 4. Do Not Consume Pier Sign

## **LIST OF APPENDICES**

Appendix A. Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

---

## LIST OF ACRONYMS AND ABBREVIATIONS

AOP	Angler Outreach Program
Cabrillo	Cabrillo Marine Aquarium
DBS&A	Daniel B. Stephens & Associates, Inc.
DDT	dichloro-diphenyl-trichloroethane
DNC	Do Not Consume
EPA	U.S. Environmental Protection Agency
FCEC	Fish Contamination Education Collaborative
OEHHA	Office of Environmental Health Hazard Assessment
PCB	polychlorinated biphenyl
QR	Quick Response

---

This page intentionally left blank

---

## SUMMARY

The purpose of the U.S. Environmental Protection Agency Palos Verdes Shelf Institutional Controls Program is to protect Southern California's most vulnerable populations from the health risks associated with eating fish contaminated with polychlorinated biphenyls and dichloro-diphenyl-trichloroethane. This report summarizes the condition of permanent signs that warn the public about the five contaminated Do Not Consume (DNC) fish. These signs are intended to be displayed at nine piers and eight coastal structures and beaches to inform anglers about contaminated fish. The Fish Contamination Education Collaborative routinely inspects the condition of the DNC signage at pier locations during monthly angler outreach activities and annually inspects the condition of all DNC signage to determine if maintenance, cleaning, or replacement are required.

The DNC signage inspections and monitoring activities were conducted between August 2023 and July 2024. A total of 46 signs were expected to be present based on the status of the last report, with 37 of these signs found present and evaluated during 2024 annual monitoring. In 2024, the 37 signs were found to be in the following standardized conditions: 6 signs in good condition, 6 signs in decent condition, 16 signs in fair condition, and 9 signs in poor condition.

This report provides a discussion and summary of recommendations for all locations and individual signs and incorporates any applicable and outstanding recommendations made in previous reporting. Following the 2024 DNC sign inspection, it is recommended that 28 remaining signs are cleaned and 38 signs are replaced. Replacement recommendations include both heavily damaged and missing signs as reported from 2020 through 2024. Three signs posted at Pier J are mounted too high to be visible by anglers and are recommended to be relocated within the same pier location to a more accessible and visible height. Additionally, two of the signs at Ballona North Creek/Playa del Rey Jetty and one sign at Royal Palms/White Point are recommended for relocation to improved areas (e.g., a new lifeguard tower) within the same locations. The following four sign locations are recommended for removal from the DNC signage program because they are considered redundant and/or are located in areas with low angler visibility: one missing sign at Pier J, one sign in good condition at El Porto/El Segundo, and two missing signs at Ballona North Creek/Playa del Rey Jetty.

There are scenarios in which recommendations between areas overlap; for example, one area, El Porto/El Segundo, is ineffective at reaching angler populations, but the single sign located there is in good condition. Therefore, the sign is recommended for both cleaning and removal so it may be reused at one of the new fishing docks present at Ballona North Creek/Playa del Rey Jetty.

## 1. INTRODUCTION

The Palos Verdes Shelf Superfund Site is part of the Montrose Chemical Corporation Superfund Site, located in Los Angeles County, California (Figure 1). The Palos Verdes Shelf became contaminated with polychlorinated biphenyls (PCBs) and dichloro-diphenyl-trichloroethane (DDT) from the inland Montrose Chemical plant and other industries that discharged their waste into the ocean through the Los Angeles County sanitation sewer White Point Outfall pipes from 1953 to 1971 (Figure 1). Today, about 34 square miles (88 square kilometers; about half the size of Catalina Island) of ocean sediment on the Palos Verdes Shelf are contaminated with these legacy pollutants. Although the contaminated sediment is too deep for human contact, some fish in the area accumulate these organic pollutants at levels that make them unsafe to eat.



**Figure 1. Map of Contaminated Sediment at the Palos Verdes Shelf Superfund Site**

The U.S. Environmental Protection Agency (EPA) initiated institutional controls at the Palos Verdes Shelf Superfund Site in September 2001. Institutional controls refer to non-engineered measures, such as outreach and signage, that aim to prevent or reduce exposure to contaminants at a site. The purpose of the institutional controls program at the Palos Verdes Shelf Superfund Site is to minimize human exposure to PCBs and DDT by reducing the consumption of contaminated fish, particularly white croaker. The institutional controls program includes public education and outreach, fish monitoring, and enforcement of white croaker catch bans. In 2003, the EPA established the Fish Contamination Education Collaborative (FCEC) with representatives from federal, state, and local agencies; non-



---

government organizations; and community-based organizations to implement public outreach and education activities. In September 2009, the EPA selected an interim remedy for the Palos Verdes Shelf Superfund Site that included the continuation and strengthening of the institutional controls program.

The institutional controls program aims to reduce human consumption of contaminated fish by increasing awareness and understanding of local contamination and fish advisories. The program consists of the following three main components: angler outreach, community outreach, and enforcement. Angler outreach activities are used to engage anglers and communities that are vulnerable to fish contamination and disseminate educational materials (e.g., program tip cards, brochures, and comic books) that provide information and resources about contaminated fish species. In 2014, the EPA conducted the Palos Verdes Seafood Consumption Study to identify local demographic and subsistence subgroups within the general fishing population of the Palos Verdes Shelf area that may be disproportionately exposed to contaminants based on the types and quantity of fish species consumed, including consideration of cooking methods. The following four key communities were identified as more vulnerable to fish contamination from the Palos Verdes Shelf Superfund Site: Chinese community in San Gabriel Valley, Vietnamese community in Orange County, and Hispanic and African-American communities in Los Angeles County.

PCBs and DDT pose a significant risk to public health and are listed on the EPA Integrated Risk Information System as probable human carcinogens and on the State of California's Proposition 65 list of pollutants known to cause cancer. Additionally, exposure to elevated levels of PCBs can result in skin irritation, liver disease, and endocrine dysfunction. Exposure to elevated levels of DDT can negatively impact the nervous and endocrine systems, liver function, and child development. The EPA monitors PCB and DDT concentrations in white croaker and barred sand bass on the Palos Verdes Shelf to evaluate the effectiveness of natural recovery processes and improve modeling of contaminant fate and transport. While PCB and DDT concentrations in fish tissues have generally declined since the 1990s, concentrations in white croaker remain above the risk-based cleanup levels.

As part of the angler outreach component of the institutional controls program, the EPA has installed permanent signage displaying Do Not Consume (DNC) fish warnings to help anglers identify fish species that are contaminated and pose a health risk if consumed. This report summarizes the signage inspections and monitoring activities conducted between August 2023 and July 2024, including recommendations on sign maintenance, replacement, or relocation.

---

## 2. OVERVIEW OF ANGLER OUTREACH AND DO NOT CONSUME SIGNAGE

The institutional controls program aims to prevent human exposure to Palos Verdes Shelf Superfund Site contamination by educating impacted communities about safe fishing practices and the health risks associated with eating contaminated fish.

### 2.1 ANGLER OUTREACH

While the contaminated sediment bed at Palos Verdes Shelf Superfund Site is too deep for direct human contact (40–200 meters; 130–650 feet), contaminants can build up in the food web, including in certain fish that are caught and consumed by the public. The EPA conducted Human Health Risk Evaluations and determined that exposure to PCBs and DDT through the consumption of seafood presented the greatest potential for adverse human health effects. In 2003, the EPA initiated the angler outreach program, which aims to mitigate risk to human health by minimizing the consumption of contaminated fish.

Currently, local organizations, including Daniel B. Stephens & Associates, Inc. (DBS&A) and Cabrillo Marine Aquarium (Cabrillo), perform regular in-person outreach at popular fishing piers along the coast of Los Angeles to educate anglers about the five contaminated fish that are unsafe to eat (white croaker, barred sand bass, topsmelt, black croaker, and barracuda). Note that Heal the Bay also completed angler outreach during some of this reporting period, from August 2023 through April 2024, but no longer supports the Palos Verde Shelf Superfund Site outreach program. Angler outreach activities are conducted during the day at Santa Monica Pier, Venice Beach Pier, Hermosa Beach Pier, Cabrillo Pier, Rainbow Harbor, Pier J, Belmont Pier, and Seal Beach Pier (Figure 2). In 2017, the FCEC expanded the angler outreach program to include evening outreach at two popular fishing piers (Venice Beach and Redondo Beach Piers) to reach subsistence anglers who may fish after typical work hours. These piers were chosen based on previous observations that evening anglers frequent these popular piers and that the piers have safe evening access for the outreach team.

Angler outreach objectives include educating active anglers about fish contamination and local fish advisories, how to identify fish species, and how to prepare fish to reduce contaminants. The outreach team also collects data including whether the angler is an adult or child, if they are aware of fish contamination, how they learned about fish contamination, language(s) spoken during the conversation, residence zip code, and what types of fish they caught. The data collected during angler interviews is used to evaluate the effectiveness of the angler outreach program. Details about the angler outreach program are provided in the Palos Verdes Shelf Annual Angler Outreach Report and can be found at [www.pvsfish.org/partner-documents](http://www.pvsfish.org/partner-documents).



**Figure 2. Map of Piers and Beaches with Posted Do Not Consume Fish Signs**

## 2.2 DO NOT CONSUME SIGNAGE

In addition to active angler outreach, the EPA posts and monitors DNC signage listing the five contaminated fish species at locations along the coast of Los Angeles. To date, the EPA has 69 sign locations across 17 coastal areas. The EPA will be reevaluating some of the 17 locations as they may no longer be effective outreach areas. Annual sign inspections and evaluations are performed at locations where signs still exist and were not found/confirmed missing in year(s) prior. Permanent DNC signs are posted in locations from Santa Monica Pier south to Seal Beach Pier in areas known to have high subsistence and sport fishing activities. This area is designated as the “Red Zone” by the California Office of Environmental Health Hazard Assessment’s (OEHHA) Coastal Fish Contamination Advisory. The Red Zone identifies the area in which some fish species are more likely to have higher concentrations of PCBs and DDT that pose a health risk (Figure 3). Fish advisories for some fish extend to the north and south of this zone (“Yellow Zones”; Figure 3).



Figure 3. Yellow and Red Zone Areas for Fish Caught from Ventura Harbor to San Mateo Point



Figure 4. Do Not Consume Pier Sign

The DNC sign messaging includes anatomically representative images of the five contaminated fish that are unsafe to eat (white croaker, barred sand bass, black croaker, topsmelt, and barracuda) in four languages (English, Chinese, Vietnamese, and Spanish) as well as provides the FCEC website address ([www.pvsfish.org](http://www.pvsfish.org)) for additional information on fish contamination (Figure 4). Anglers most often attribute their awareness of fish contamination to posted DNC signs, suggesting that DNC signage is one of the most effective outreach methods for increasing awareness of fish contamination among anglers. As such, the EPA has placed a high priority on the monitoring and maintenance of DNC signs to ensure angler visibility and messaging effectiveness based on sign conditions.

---

In-person outreach and sign monitoring activities were suspended in March 2020 due to the COVID-19 pandemic and associated State restrictions and closures of public spaces. Prior to March 2020, the Los Angeles County Department of Public Health and the City of Long Beach provided support for sign monitoring and maintenance in addition to the routine DNC sign inspections conducted during angler outreach efforts. In 2021, both the Los Angeles County Department of Public Health and the City of Long Beach ceased participation in FCEC's DNC sign monitoring and maintenance activities to redirect resources to address the urgent demands of the COVID-19 pandemic. The DNC sign monitoring activities were transitioned to Heal the Bay and Cabrillo for 2021-2024.

In 2024, DBS&A began providing monthly monitoring of DNC warning signs at the following eight locations: Santa Monica Pier, Venice Pier, Hermosa Beach Pier, Redondo Beach Pier, Rainbow Harbor, Pier J, Belmont Pier, and Seal Beach Pier. Signs at three locations are not included in the monthly monitoring and surveyed on an annual basis; these currently include Ballona Creek, El Porto/El Segundo, and Royal Palm/White Point. DBS&A does not survey DNC signs installed at the five locations where all signs are missing (Ballona South, Dockweiler Beach, Manhattan Beach, Rocky Point, and Torrance Beach) or at the Cabrillo Pier, where DNC signage has been monitored monthly and annually by Cabrillo personnel who also provide the angler outreach at this location.

DNC signage conditions are evaluated annually at all posted locations and monthly during angler outreach activities at the nine fishing piers. The inspection includes a qualitative evaluation of necessary maintenance activities due to graffiti, stickers, bending, peeling, or any other conditions affecting the visibility of the sign messaging. Inspection reports include the designation of sign conditions, photographs, and recommendations for cleaning or other maintenance, replacement, relocation, removal, or additions. Sign conditions and recommendations for all posted DNC signs are provided in this report.

To minimize the potential for subjective evaluations between inspectors, the EPA implemented the following new standardized evaluation criteria categories for the DNC sign conditions in 2023:

- Good: Sign is in great condition and no action is needed.
- Decent: Sign is in good condition (completely readable with minimal/repairable damage) but needs to be cleaned. This could be due to dirt, animal droppings, light graffiti, or stickers that do not impact the sign messaging or text.
- Fair: Sign is significantly damaged (bent, graffiti, stickers, grim or dirt, and the text/messaging is impacted and/or not readable in some places) and cleaning is needed.
- Poor: Sign is damaged beyond repair (bent, sign peeling sign content, sharp edges, heavy graffiti or stickering, most of the sign is not readable) and the sign needs to be replaced or removed.
- Missing: Sign is not seen at the location originally installed.

---

Additionally, to simplify recommendations made in this and future annual DNC Sign Summary reports, the EPA will incorporate standardized recommendation categories for each area's signs, based on the sign conditions, as follows:

- No Action – Sign is in good condition and sign messaging is fully visible.
- Clean – Sign is in fair to good condition; however, dirt, graffiti, or stickers need to be removed to restore visibility of content.
- Replace – Sign is in an effective location (i.e., pier) with good angler visibility but is damaged beyond repair or is missing.
- Relocate – Sign is in an effective location, but it is not well seen as currently installed (e.g., too high, too low, partial view, etc.); recommend seeking alternative locations to install the sign within the same pier location.
- Remove – Sign is in an ineffective location; this could apply to signs in ineffective locations and to signs that are redundant in an effective area.
- Add – Add signs to significantly improve angler visibility and awareness of fish contamination.

---

### 3. PIER SIGN CONDITIONS (AUGUST 2023 – JULY 2024)

The annual DNC signage inspections were completed in June 2024. Sign inspections typically include evaluation of DNC signs at 17 coastal areas. Five of the 17 locations were not inspected because all signs at these locations are missing and new signs have not been installed. These locations include the following: Ballona South, Dockweiler Beach, Manhattan Beach, Rocky Point, and Torrance Beach. These five areas will be included in Table 1 as “Not Inspected” (NI), until decision making provides a path forward for sign replacement or removal from the DNC signage program.

Of the remaining 12 areas, the 2024 inspection shows that 11 piers and beaches have remaining FCEC DNC signs present. As planned, 9 of the 11 areas were included in monthly DNC sign inspections and are in the Angler Outreach Program (AOP) areas, and 2 of the 11 areas (not in the AOP) were visited only for the annual DNC sign evaluation (El Porto/El Segundo and Royal Palms/White Point).

In 2024, all DNC signage at Seal Beach Pier was reported missing and four of the sign locations were observed to have been replaced with signage from OEHHA. OEHHA sets fish advisories for the following different groups: women ages 18-49, women ages 50 and over, children ages 1-17, and men ages 18 and over. The OEHHA signs include anatomically representative images of 19 fish species and information for the five contaminated fish species shown in the EPA DNC signage. These five species are shown as either unsafe to eat (white croaker, barred sand bass, and topsmelt) or acceptable to consume servings of one per week (black croaker and barracuda). The OEHHA signage shows serving sizes with examples for adults and children and indicates recommended preparation methods (eat only the meat, skinless fillet) and that “some chemicals are higher in skin, fat, and guts”. The sign is presented in English and provides a web link, phone number, email for more information, and Quick Response (QR) code to access a digital version in English and six other languages (Arabic, Chinese, Farsi, Korean, Spanish, and Vietnamese). The OEHHA signs are shown in Appendix A (the DBS&A photographic log for Seal Beach Pier), and versions are available to review online (select language version) at <https://ocbeachinfo.com/fish-advisory-information/>

From August 2023 through April 2024, Heal the Bay and Cabrillo performed routine monthly DNC sign monitoring activities. From April 2024 through July 2024, DBS&A and Cabrillo performed routine monthly DNC sign monitoring activities at the nine fishing piers where angler outreach is routinely conducted and completed the annual DNC sign monitoring for 2024 for all areas with signs expected to be present.

To evaluate the progress toward pre-COVID-19 pandemic signage goals, based on both the 2023-2024 and 2022-2023 sign evaluations, Table 1 and Section 4 provide a variety of summary data for each of the pier and coastal/beach areas with DNC signage, including the following:

- The number of DNC signs present in 2020 at each of the 17 programmed locations with the total number of signs in the DNC program at that time (69)

- 
- The anticipated total number of signs the 2024 team needed to inspect at each of the 17 programmed locations, based on report data in the 2022-2023 DNC Sign Summary
  - The individual sign conditions found at each of the 12 inspected and programmed locations during the 2024 annual DNC inspections
  - The 2024 recommendations based on individual sign conditions and effectiveness of the signage at each of the 17 programmed locations (12 inspected, 5 not inspected)
  - General recommendations for the future of the DNC signage program

Appendix A includes individual signage photographs collected during monitoring activities at each of the DNC signage areas, as provided by DBS&A and Cabrillo.

In 2024, the FCEC initiated efforts to redesign the DNC pier sign. The new design is in progress and will consist of a map of the Red Zone, anatomically representative images of the five contaminated fish that are unsafe to eat (white croaker, barred sand bass, black croaker, topsmelt, and barracuda) in four languages (English, Chinese, Vietnamese, and Spanish) and a QR code to the FCEC website address ([www.pvsfish.org](http://www.pvsfish.org)) for additional information on fish contamination. The goal of the new design is to provide public notice of contaminated fish species in an easily accessible and visible way that ultimately increases angler awareness of fish contamination. The EPA plans to complete the new DNC sign design in 2024 and begin replacing signage in early 2025.



**Table 1. Pier Sign Conditions and Recommendations**

Location	Total # of signs present (2020)	Expected Total # of signs present	Actual Total # of signs present in 2024	<sup>1</sup> Current Sign Condition					<sup>3</sup> Recommendations Based on Current Conditions						Notes
				Good	Decent	Fair	Poor	Missing (2020-2024)	No Action	Clean	Replace	Relocate	Remove	Add	
Santa Monica Pier	6	4	4	1	1	1	1	2	-	3	3	-	-	-	Sign 1. Missing. Recommended for replacement. Sign 2. Poor condition. Dirty, some scrapes, rips, and graffiti. Recommended for replacement. Sign 3. Good condition. Recommended for cleaning. Sign 4. Decent condition. Dirty, some scrapes, and a rip. Recommended for cleaning. Sign 5. Missing. Recommended for replacement. Sign 6. Fair condition. Dirty, some scrapes, stickers, and graffiti. Recommended for cleaning.
Venice Beach Pier	6	4	2	-	-	2	-	4	-	2	4	-	-	-	Sign 1. Missing. Recommended for replacement. Sign 2. Missing. Recommended for replacement. Sign 3. Missing (75%). Dirty, graffiti, and bent. Recommended for replacement. Sign 4. Fair condition. Dirty, graffiti, and bent. Recommended for cleaning. Sign 5. Missing. Recommended for replacement. Sign 6. Fair condition. Weathered with graffiti. Waste bin may block sign. Recommended for cleaning and to monitor if waste bin blocks sign enough to justify sign relocation.
<sup>4</sup> Ballona North Creek/Playa del Rey Jetty	4	2	2	-	-	2	-	2	-	2	-	2	2	-	Sign 1. Fair condition and legible. Dirty, stickers, and graffiti. Recommended for cleaning and relocation. Sign 2. Fair condition and illegible. Dirty and graffiti. Recommended for cleaning, relocation, and if cleaning is not sufficient, replacement. Tied to recommendation that the ineffective "good condition" sign from El Port/El Segundo be cleaned and relocated to the second fishing pier at this area. Sign 3. Missing. Previous location unknown. Recommend removal of location (ineffective). Sign 4. Missing. Previous location unknown. Recommend removal of location (ineffective).
Ballona South	4	0	NI <sup>2</sup>	-	-	-	-	4	-	-	4	-	-	-	<sup>2</sup> Not inspected in 2024. All signs known to be missing.
Dockweiler Beach	1	0	NI <sup>2</sup>	-	-	-	-	1	-	-	1	-	-	-	
<sup>4</sup> El Porto/El Segundo	1	1	1	1	-	-	-	0	-	1	-	-	1	-	Sign 1. Good condition and legible. Recommend removal of location (ineffective); this sign can be cleaned and relocated to the Ballon North Creek/Playa del Rey Jetty second fishing pier location.
Manhattan Beach	4	0	NI <sup>2</sup>	-	-	-	-	4	-	-	4	-	-	-	<sup>2</sup> Not inspected in 2024. All signs known to be missing.
Rocky Point	1	0	NI <sup>2</sup>	-	-	-	-	1	-	-	1	-	-	-	
Cabrillo Pier	8	8	8	-	3	3	2	0	-	6	2	-	-	-	Sign 1. Poor condition. Very bent. Lots of peeling and bubbling, but still mostly readable. Recommended for replacement. Sign 2. Decent condition. Weather beaten, worn and peeling on the top and bottom. Paint is bubbling across the sign. Recommended for cleaning. Sign 3. Fair condition. The top part of the sign is peeled off. The rest of the sign is mostly readable. Paint along the edges bubbling. Tagged and stickered. Recommended for cleaning. Sign 4. Fair condition. Very soiled and scratched with some tagging. Some bending and lots of weathering. Still mostly readable. Recommended for cleaning. Sign 5. Decent condition. Still relatively clean. Stickered and tagged. Bubbling of paint along the left side. Recommended for cleaning. Sign 6. Fair condition. Some stickers and bending, but still readable. Still relatively clean. Tagging on center right has faded since last month. Recommended for cleaning. Sign 7. Poor condition. Still cleaned of tagging and stickers. Heavily cracked and peeling, making it hard to read. New tagging on upper right side. Recommended for replacement. Sign 8. Decent condition. Very weathered, cracked, and rusted, but still very readable. Recommended for cleaning.
Hermosa Beach Pier	5	4	4	1	-	1	2	1	-	2	3	-	-	-	Sign 1. Missing. Recommended for replacement. Sign 2. Poor condition. Some cracks and very faded. Recommended for replacement.

Location	Total # of signs present (2020)	Expected Total # of signs present	Actual Total # of signs present in 2024	1 Current Sign Condition					3 Recommendations Based on Current Conditions						Notes	
				Good	Decent	Fair	Poor	Missing (2020-2024)	No Action	Clean	Replace	Relocate	Remove	Add		
																Sign 3. Good condition. Some cracks. Recommended for cleaning. Sign 4. Fair condition. Graffiti, torn, and chipped. Recommended for cleaning. Sign 5. Poor condition. Dirty, fading, and torn. Recommended for replacement.
Redondo Beach Pier	6	5	5	1	1	3	-	1	-	5	1	-	-	-		Sign 1. Good condition. Recommended for cleaning. Sign 2. Fair condition. Weathered and peeling. Replacement needed soon. Recommended for cleaning. Sign 3. Missing. Recommended for replacement. Sign 4. Decent condition. Chipped on corners. Recommended for cleaning. Sign 5. Fair condition. Chipped and weathered. Recommended for cleaning. Sign 6. Fair condition. Recommended for cleaning.
Pier J	4	3	3	2	1	-	-	1	-	3	-	3	1	-		Sign 1. Good condition. Recommended for cleaning and relocation. Sign 2. Good condition. Recommended for cleaning and relocation. Sign 3. Decent condition. Recommended for cleaning and relocation. Sign 4. Missing. Recommend removal of location (ineffective).
Rainbow Harbor	5	5	2	-	-	-	2	3	-	-	5	-	-	-		Sign 1. Missing. Recommended for replacement. Sign 2. Missing. Recommended for replacement. Sign 3. Poor condition. Weathered and graffiti. Recommended for cleaning. Sign 4. Missing. Recommended for replacement. Sign 5. Poor condition. Recommended for cleaning.
Belmont Pier	5	5	5	-	-	3	2	0	-	3	2	-	-	-		Sign 1. Poor condition. Weathered and graffiti. Recommended for replacement. Sign 2. Poor condition. Weathered and graffiti. Recommended for replacement. Sign 3. Fair condition. Recommended for cleaning. Sign 4. Fair condition. Recommended for cleaning. Sign 5. Fair condition. Recommended for cleaning.
Seal Beach Pier	5	4	0	<sup>5</sup> 4 OEHHA	-	-	-	5	-	-	5	-	-	-		<sup>5</sup> Signs 1-4: Missing. OEHHA sign present. Recommended for replacement. Sign 5. Missing. Recommended for replacement.
Torrance Beach	2	0	NI <sup>2</sup>	-	-	-	-	2	-	-	2	-	-	-		<sup>2</sup> Not inspected in 2024. All signs known to be missing.
<sup>4</sup> Royal Palms/White Point	2	1	1	-	-	1	-	1	-	1	1	1	-			Sign 1. Fair condition. Dirty, scrapes, and bent. Recommended for cleaning. Sign 2. Missing. Recommended for replacement and relocation to second lifeguard tower.
<b>Totals</b>	<b>69</b>	<b>46</b>	<b>37</b>	<b>6</b>	<b>6</b>	<b>16</b>	<b>9</b>	<b>32</b>	<b>0</b>	<b>28</b>	<b>38</b>	<b>6</b>	<b>4</b>	<b>0</b>		

Notes:

<sup>1</sup> Standardized sign condition categories are defined in Section 2 text.

<sup>2</sup> For the “Not Inspected” (NI) signs, no recommendations are shown because reevaluation/decision making by the EPA and FCEC is needed prior to replacement, relocation, or removal.

<sup>3</sup> Recommendation categories are defined in Section 2 text, and Recommendations are detailed by each category in Section 4.

<sup>4</sup> Signs at these areas are monitored annually only. All other areas are monitored monthly.

<sup>5</sup> The format and content of the OEHHA signs are available to review online, here (select language version): <https://ocbeachinfo.com/fish-advisory-information/>

---

## 4. RECOMMENDATIONS

This is the first report that uses the EPA’s standardized DNC sign evaluation categories and recommendation criteria. Defined fully in Section 2, these categories are summarized below:

- The five standardized evaluation criteria categories for the DNC sign conditions are as follows: Good, Decent, Fair, Poor, and Missing.
- The six standardized recommendation categories for each area’s signs are based on the sign conditions listed above and are as follows: No Action, Clean, Replace, Relocate, Remove, and Add.

Appendix A provides the pier sign inspections performed by DBS&A and Cabrillo and shows the individual sign locations, photographs, and condition at the time of assessment, or whether the sign was missing. These inspections are the primary data used to develop recommendations under categories “No Action”, “Clean”, and “Replace”.

Recommendations for categories “Relocate”, “Remove”, or “Add” signage from the EPA’s Palos Verdes Shelf DNC program are made in discussion and coordination with the FCEC, and using information collected by the AOP team during its outreach activities and the annual/monthly DNC sign inspections.

### 4.1 DO NOT CONSUME SIGN GENERAL RECOMMENDATIONS

Sign maintenance activities have not been completed since 2020, and the program is in transition of maintenance activities to a local vendor. Thus, there are a significant number of signs that require replacement or maintenance, especially cleaning (e.g., graffiti and sticker removal).

The FCEC has previously suggested enhancements to DNC signs, such as incorporating a QR code for quick access to the FCEC’s website ([www.pvsfish.org](http://www.pvsfish.org)) and applying UV protective coatings to signs for increased durability against environmental factors. It is recommended that the DNC sign content and construction materials be re-evaluated prior to ordering replacement DNC signs. Based on the current overall conditions of the DNC signs due to suspended maintenance activities and the transition of partner maintenance responsibilities, the DNC signs generally need cleaning to remove dirt, graffiti, and/or stickers to improve message visibility. The EPA will initiate DNC sign maintenance activities when pier contacts, vendor approvals, material and design approvals, and health and safety measures have been established.

The EPA plans to complete the new DNC sign design in 2024 and begin replacing signage at the nine AOP piers in early 2025. The continuation of posting signs at other pier locations will be reevaluated based on the recommendations in this report and FCEC input. It is recommended that sign cleaning, replacement, and relocation activities are scheduled based on the new sign installation timeline to reduce the level of effort maintaining existing signage that will be replaced in the near future.

---

## **4.2 DO NOT CONSUME SIGN “NO ACTION” RECOMMENDATIONS**

Generally, the recommendation for signs reported in good condition would be “No Action” as the information is still legible. However, due to the lapse in maintenance and cleaning activities since 2020, and with the anticipated plans for design updates for the DNC sign layouts, there are no DNC signs for which “No Action” is currently recommended.

## **4.3 DO NOT CONSUME SIGN “CLEAN” RECOMMENDATIONS**

Due to the lapse in maintenance and cleaning activities since 2020, it is recommended that all signs currently still present are considered for cleaning unless they are to be replaced or removed. There are 28 signs recommended for cleaning, detailed as follows:

It is recommended that the six signs documented in 2024 as being in good condition still be scheduled for routine cleaning, especially the five signs located at pier locations where cleaning or relocation is scheduled for other signs: Santa Monica Pier (1), Hermosa Beach Pier (1), Redondo Beach Pier (1), and Pier J (2). The single sign located at El Porto/El Segundo is in good condition and is recommended to be removed from that ineffective location and cleaned, removed, and reinstalled elsewhere (e.g., Ballona North Creek/Playa del Rey Jetty), as needed.

Twenty-two other signs in various conditions should also be cleaned. Note that three signs at Pier J have been recommended for both cleaning and relocation. Sign cleaning efforts should be combined with relocation efforts to minimize the overall level of effort at these locations. Additionally, prioritizing sign cleaning efforts is recommended to be considered based on the timing of proposed content changes to the DNC sign design. Because design changes are proposed in the near future, and because it is expected that for consistency in messaging, all DNC signage will be updated with the new design, then cleaning recommendations should be considered a low priority, and ranking of which signs are scheduled for cleaning first or last should be considered as follows:

- Signs anticipated to be replaced quickly and early in the schedule with the new design have a lower priority for cleaning.
- Signs anticipated to be replaced with the new design very late in the schedule have a higher priority of cleaning.

## **4.4 DO NOT CONSUME SIGN “REPLACE” RECOMMENDATIONS**

DNC signs recommended for replacement are those with conditions documented as severely degraded (“Poor” condition) or the sign was missing. Damaged signs are primarily due to environmental damage, bending from being leaned on, vandalism, and/or construction activities. Damage is indicated most often at popular pier locations and in low level sign installations (e.g., pier railings). Missing signs are typically due to theft and/or being removed by cities during pier maintenance or construction activities.

---

A total of 38 signs are recommended for replacement. Twenty-six of these are sign locations at the following DNC program areas: Santa Monica Pier (3), Venice Beach Pier (4), Cabrillo (2), Hermosa Beach Pier (3), Redondo Beach (1), Rainbow Harbor (5), Belmont Pier (2), Seal Beach Pier (5), and Royal Palms/White Point (1). For the Seal Beach Pier, the OEHHA mistakenly removed the FCEC DNC signs when they installed their required fish consumption outreach program signs.

Additionally, as documented in the 2022 DNC Sign Inspection Report, there are 5 DNC program areas with 12 total missing signs, including: Ballona South (4), Dockweiler Beach (1), Manhattan Beach (4), Rocky Point (1), and Torrance Beach (2). Currently, these areas remain without DNC signage and were not reinspected in 2024; they are currently recommended for replacement following reevaluation by the FCEC to determine their effectiveness and angler visibility. As determined during reevaluation, these 12 missing sign locations can either be replaced at the same location(s), relocated to more effective newly constructed structures if present, or removed from the list of monitored DNC sign locations based on ineffective angler visibility.

#### **4.5 DO NOT CONSUME SIGN “RELOCATE” RECOMMENDATIONS**

The recommendation category “Relocate” is intended to be used for moving signs within the same DNC program area (e.g., from a northern railing to southern railing). Relocation is used for individual DNC sign locations designated as being effective for reaching anglers, but where a sign is not well seen. When relocating signs, mounting too low often results in signs getting bent/damaged due to pier visitors leaning against railings. In addition, signs located at low heights are easier to vandalize and remove. By contrast, for example, the DNC signs at Pier J, which are placed higher up on poles, show less evidence of being bent or vandalized but are not easily read by the pier anglers and public. It was previously reported that the ideal height is 9 feet above ground surface to reduce maintenance requirements, yet FCEC partners have indicated they did not easily observe signs at this height. The ideal height for signs is 48 to 60 inches above the lowest point (i.e., pier boardwalk, beach ground, sidewalk, etc.) to align with American Disabilities Act sign height requirements. However, due to mounting location availability and restricting pier views, there is limited control over DNC sign height in many locations.

The following six signs are recommended for relocation: three at Pier J, two at Ballona North Creek/Playa del Rey Jetty, and one at Royal Palms/White Point Pier. Note that some of the recommendations for relocation are for the same individual signs recommended for cleaning or replacement.

##### **Pier J**

Three signs at Pier J are mounted too high and are ineffective and inaccessible to anglers. There are two new fishing piers at Pier J, where DNC signs are not currently located and anglers are commonly encountered. It is suggested that:

- Two signs are relocated to the new fishing pier locations to improve visibility.

- 
- One sign is relocated to the restroom structure near the northern fishing pier. To preserve pier views, the relocated DNC signs will need to be mounted to pier railings adjacent to other pier signs. Sign height for the restroom structure is recommended to be installed between 48 and 60 inches in accordance with American Disabilities Act sign height requirements.

### **Ballona North Creek/Playa del Rey Jetty**

In 2020, there were four total DNC signs present at the Ballona North Creek/Playa del Rey Jetty, and this area has had changes in public use since and throughout the COVID-19 pandemic. There are currently two DNC signs remaining and two missing (included in Section 4.6). The two remaining signs are recommended to be cleaned and relocated to more effective areas. There are two fishing piers present at Ballona North Creek/Playa del Rey Jetty, one of which has a DNC sign posted in a location that is obscured by a trash bin. The other pier does not currently have any DNC signage and would benefit from having at least one installed. It is recommended that:

- The sign consistently obscured by a trash bin is relocated on the same pier to a location that improves visibility.
- The second DNC sign at this location is located near the parking area and is degraded and recommended for cleaning (or replacement using a reused sign from El Porto/El Segundo), as well as relocation due to poor angler visibility. Signage on the fishing piers will likely need to be installed on pier railings to preserve pier views.

### **Royal Palm/White Point Pier**

Royal Palm/White Point Pier currently has one DNC sign present and one sign missing from its original location. It is suggested that the missing sign be replaced and relocated to the new lifeguard tower as there are no existing poles or structures in this location to hang signs. If possible, signage on the lifeguard towers should be mounted between 48 and 60 inches above the ground surface.

## **4.6 DO NOT CONSUME SIGN “REMOVE” RECOMMENDATIONS**

Recent data shared in Angler Outreach Reports and at FCEC meetings suggest that angler populations at certain locations have shifted since the COVID-19 pandemic and that new fishing piers have been installed in some areas. Areas with reduced angler populations are not effective locations for DNC signage, and it is recommended that newly constructed fishing piers (e.g., Pier J and Ballona North Creek/Playa del Rey Jetty) display DNC signage. Any removed signs from ineffective locations that are in acceptable condition should be reused at other program DNC signage areas.

To date, there are four total individual sign locations recommended for removal from the DNC program, as follows: one sign at Pier J, one sign at El Porto/El Segundo, and two signs at Ballona North Creek/Playa del Rey Jetty.

---

One of the Pier J sign locations, where a sign is missing, is not recommended for replacement as the other three signs are believed to be able to effectively cover this area once signs are relocated to lower and more visible areas (discussed in Section 4.5).

There is one sign present and in good condition at El Porto/El Segundo. There are consistently no anglers present at El Porto/El Segundo, and so this ineffective sign is recommended to be removed from El Porto/El Segundo and reused elsewhere, as needed. It would be efficient to reuse this sign at the Ballona North Creek/Playa del Rey Jetty fishing dock.

There are two missing signs at Ballona North Creek/Playa del Rey Jetty and two remaining signs recommended for both cleaning and relocation (discussed in Sections 4.2 and 4.4). These two missing signs are not anticipated to be necessary for reaching anglers and would be redundant in an otherwise effective area.

#### **4.7 DO NOT CONSUME SIGN “ADD” RECOMMENDATIONS**

There are not currently any recommendations for additional DNC signs.

---

This page intentionally left blank



---

# APPENDIX A

Do Not Consume Sign Inspections (Locations, Photographs, Conditions)

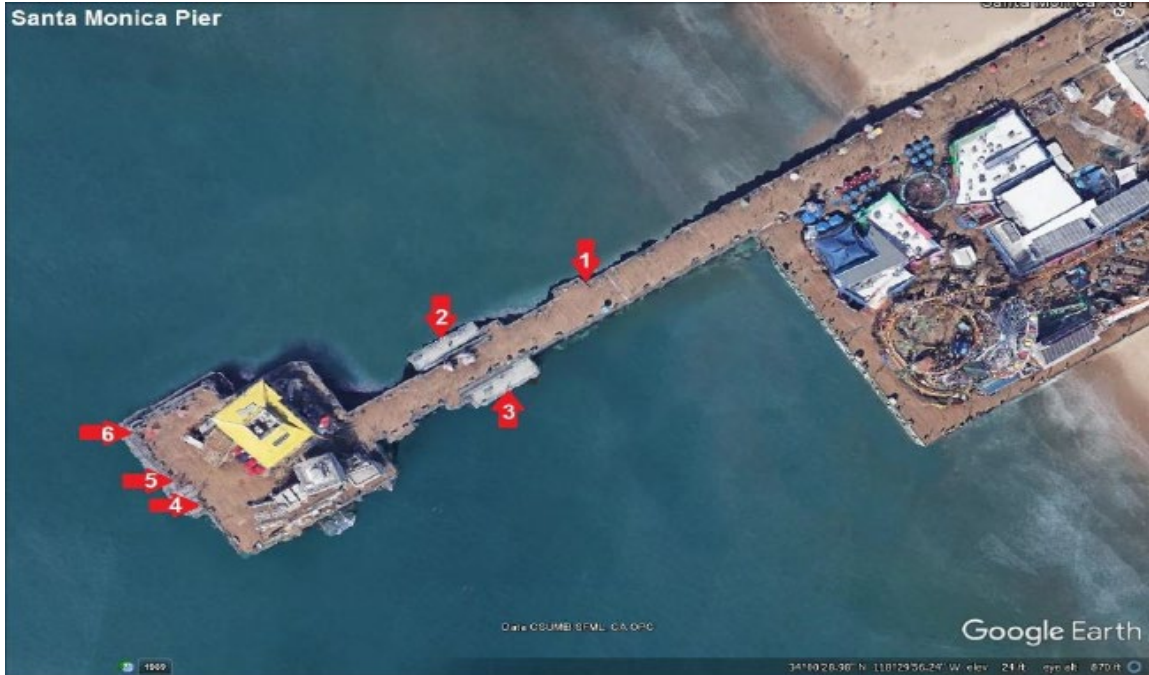
---

This page intentionally left blank

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Santa Monica Pier

Six total signs were previously located at this pier. Four total signs were inspected during this reporting Period. Signs 1, 2, and 5 are recommended for replacement. Signs 3, 4, and 6 are recommended for cleaning.



#1



#2



#3



#4



#5



#6

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Venice Pier

Six signs were previously located at this pier. Signs 1, 2, 3, and 5 are missing and are recommended for replacement. Signs 4 and 6 are recommended for cleaning. Recommended also to monitor if waste bin blocks Sign 6 frequently enough to justify sign relocation.



#1



#2



#3



#4



#5



#6

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Ballona North Creek/Playa del Rey Jetty

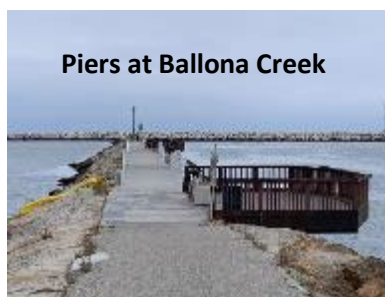
Four total signs were previously located at this pier; however, the missing sign locations are unknown, and because two signs are considered effective, these two locations are recommended to be removed (ineffective). Signs 1 and 2 are recommended for cleaning followed by relocation to other locations at Ballona North Creek piers. If Cleaning sign #2 is not restorative, recommend using EL Porto/El Segundo's removed sign as a replacement.



#1



#2



Piers at Ballona Creek

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### El Porto/El Segundo

One sign is located at this location. Sign 1 is in good condition, but this area is recommended to be removed from the DNC Sign program as it is ineffective. This sign can be cleaned and relocated to the Ballon North Creek/Playa del Rey Jetty second fishing pier location, as needed.

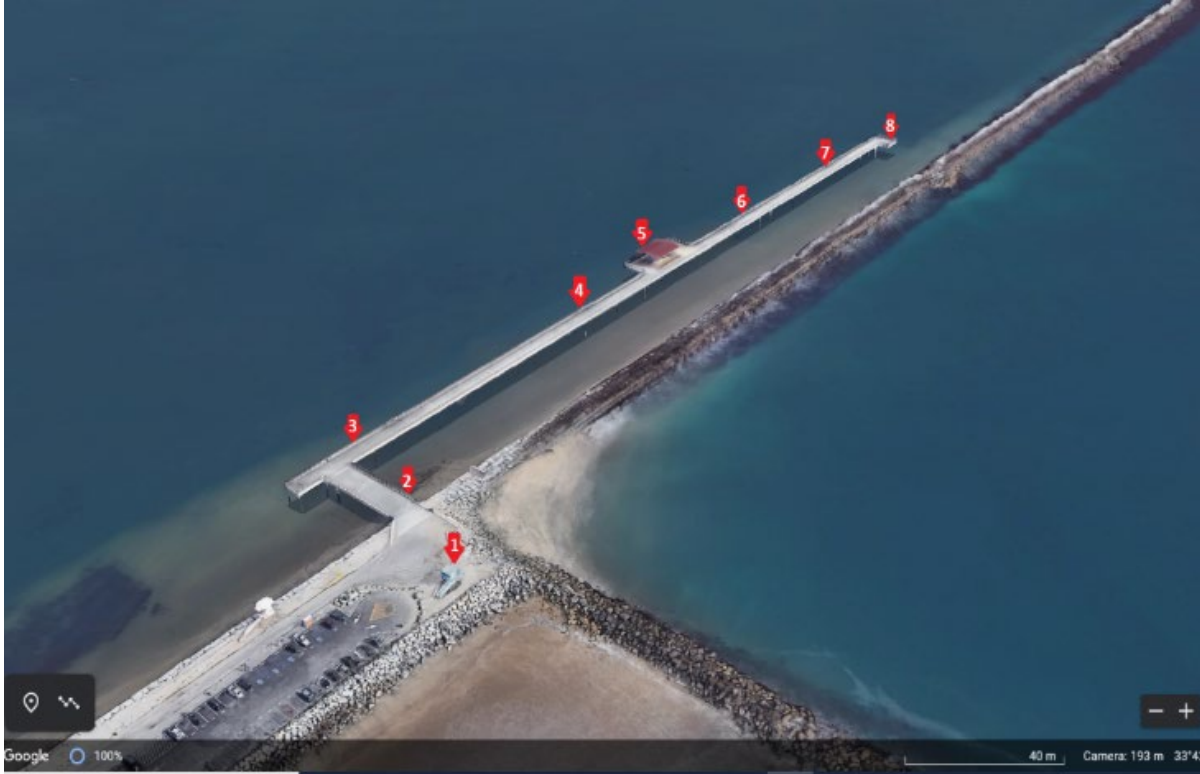


#1

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Cabrillo Pier

Eight total signs are located at this pier, and all were present and inspected during this reporting period. Sign #1 and Sign #7 are recommended for replacement. Sign #s 2, 3, 4, 5, 6, and 8 are recommended for cleaning.



#1



#2



#3



#4



#5



#6



#7

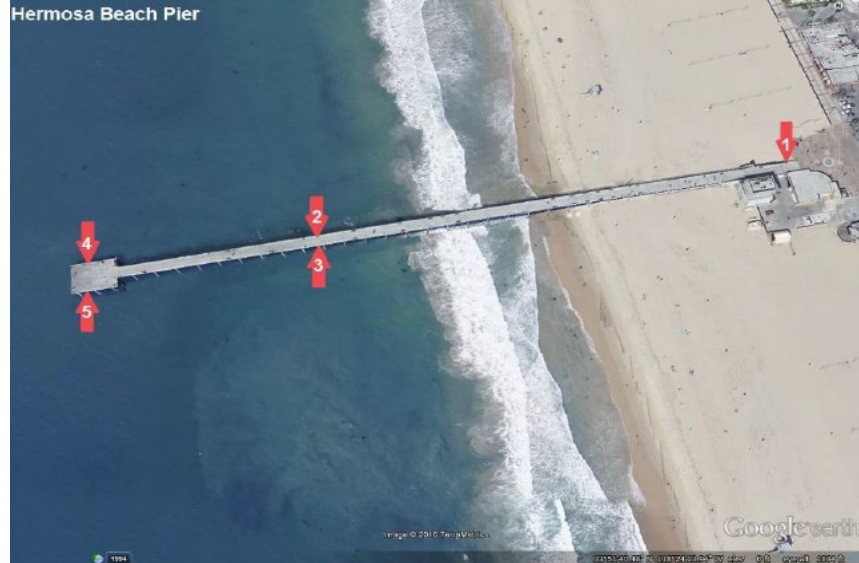


#8

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Hermosa Beach Pier

Five signs were previously located at this pier. Two signs (#3 and #4) were inspected during this reporting period and are recommended for cleaning. Sign #2 is severely weathered and #5 is damaged; these are no longer readable and, along with Sign #1 (missing), are recommended for replacement.



#1



#2



#3



#4



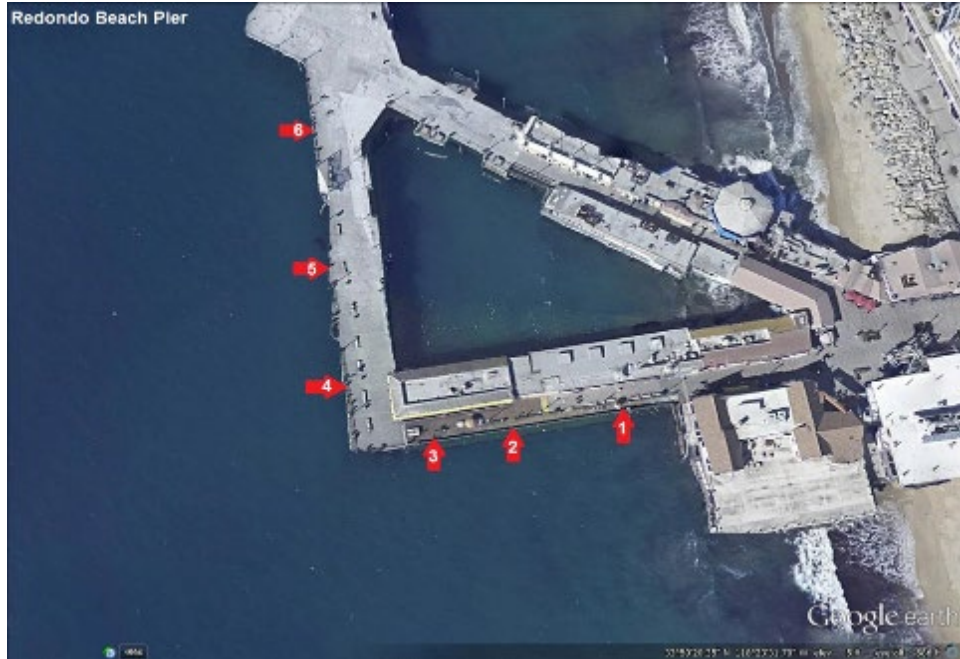
#5



## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Redondo Beach Pier

Six signs were previously located at this pier. Five total signs were inspected during this reporting period. One missing sign (#3) is recommended for replacement. Signs #1, #2, #4, #5, and #6 are recommended for cleaning. Sign #2 will require replacement soon but is still readable.



#1



#2



#3



#4



#5

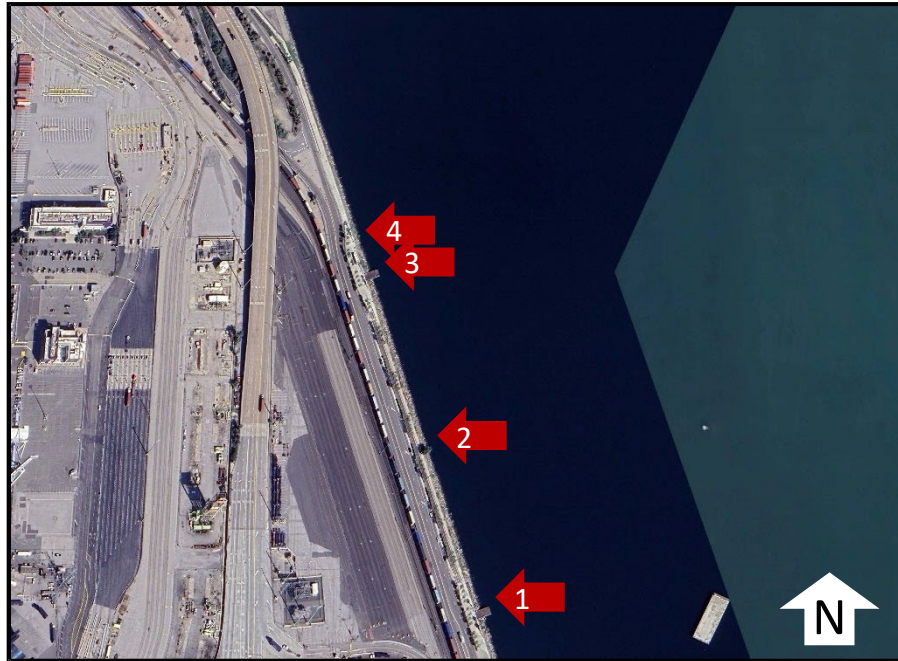


#6

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Pier J

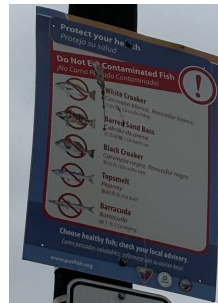
Four signs were previously located at this pier. Three total signs were inspected during this reporting period, and all are recommended for cleaning, then relocation at new/improved areas of Pier J. There are two new fishing piers at Pier J, where DNC signs are not currently located, and anglers are commonly encountered. Recommend that the signs that are mounted high on poles at Pier J be relocated to these two new piers and the third sign be mounted on the restroom structure near the northern fishing pier to improve visibility. The missing sign is recommended to be removed (ineffective location because the area is effectively covered by three signs).



#1



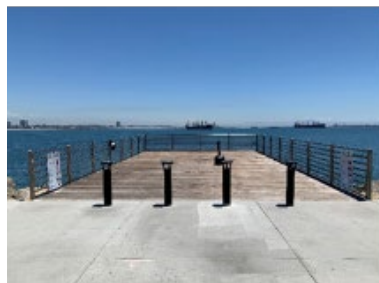
#2



#3



#4



Pier north of Sign #3

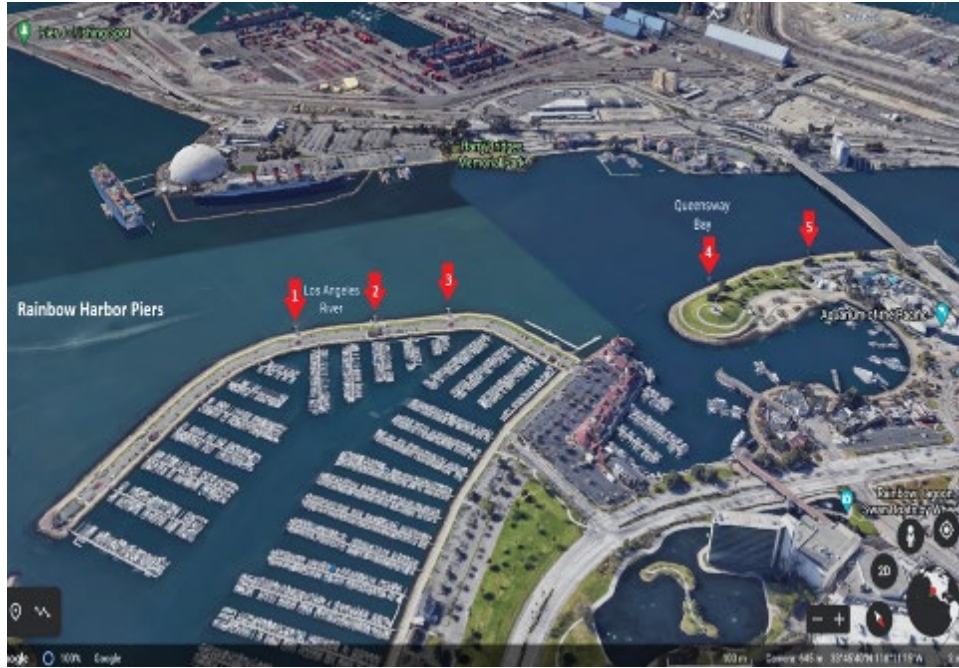


Pier south of Sign #1

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Rainbow Harbor Pier

Five total signs were inspected during this reporting period. Three signs (#1, #2, and #4) are missing and are recommended for replacement. The two remaining signs (#3 and #5) are damaged and not effectively able to be read and are also recommended for replacement.



#1



#2



#3



#4



#5

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Belmont Pier

Five total signs were inspected during this reporting period. Three signs (#3, #4, and #5) are recommended for cleaning. Two signs (#1 and #2) are damaged and difficult/not able to be read and are recommended for replacement.



#1



#2



#3



#4



#5

## Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)

### Seal Beach Pier

Five signs were previously located at this pier. Four signs (#1, #2, #3, and #4) are missing; they were mistakenly removed when the OEHHA signs were installed at these locations and now only the OEHHA signs are present. DNC Signage is recommended for replacement without obscuring or moving the OEHHA signs, and the Sign 5 (missing) location should be replaced with DNC Signage in the original location.



#1



#2



#3



#4



#5

**Appendix A Do Not Consume Sign Inspections (Sign Locations, Photographs, Conditions)**

**Royal Palm/White Point**

Two signs were previously located in this area. Sign #1 is in good condition and recommended for cleaning. Sign #2 is missing and recommended for replacement and relocation, ideally to be mounted to the second lifeguard tower as a more effective signage location. Sign #1 should be replaced soon, as it is very weathered/faded.



#1



#2