



**FISH CONTAMINATION EDUCATION COLLABORATIVE**

**PIER SIGN SUMMARY**

**February 2015 – July 2017**

**Palos Verdes Shelf Superfund Site**

**Los Angeles County, California**

**EPA IDENTIFICATION NO. CAD008242711**

**REMEDIAL ACTION CONTRACT 3 FULL SERVICE**

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*Prepared for*

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## ACRONYMS AND ABBREVIATIONS

Cabrillo	Cabrillo Marine Aquarium
DNC	Do Not Consume
EA	EA Engineering, Science, and Technology, Inc.
EPA	United States Environmental Protection Agency
FCEC	Fish Contamination Education Collaborative
HTB	Heal the Bay
LACDPH	Los Angeles County Department of Public Health Environmental Health Division Toxics Epidemiology Program

## 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, and community-based organizations that carry out various outreach and education activities. The goal of the outreach activities are to protect the most vulnerable populations from the health effects of consuming contaminated fish related to the Palos Verdes Shelf Superfund Site. Pier signs containing Do Not Consume (DNC) fish messaging are posted on piers to help anglers identify which fish are on the DNC list and therefore should not be eaten.

In February 2015, the EPA contracted EA Engineering, Science, and Technology, Inc. (EA) to coordinate with the angler outreach groups, Heal the Bay (HTB) and Cabrillo Marine Aquarium (Cabrillo), to monitor pier sign conditions while performing angler outreach activities. HTB and Cabrillo performed pier sign condition assessments on a periodic basis and reported the status to EA. Based on the results, EA worked with the Los Angeles County Department of Public Health Environmental Health Division Toxics Epidemiology Program (LACDPH) and City of Long Beach to replace or repair missing and/or damaged signs, as necessary. The locations of the DNC fish signs on the piers were also evaluated to determine if certain locations were problematic and in need of evaluation for new placement.

## 2.0 PIER SIGN CONDITIONS (FEBRUARY 2015 – JULY 2016)

A previous pier sign condition summary was prepared by EA for the period between February 2015 and July 2016. The assessments were performed at piers located between Santa Monica and Seal Beach (Figure 1). During the assessments, information such as the number of signs posted at each pier and condition (e.g., excellent, good, okay, poor) were recorded. As of June/July 2016, a total of 63 signs were reported at piers between Santa Monica and Seal Beach. Of the 63 signs, 9 signs needed replacement.

During a FCEC partners meeting in November 2015, HTB pointed out the some of the DNC fish signs are located in Marine Protection Areas. The FCEC partners agreed that overlap of the DNC fish signs in the Marine Protection Areas could potentially send mixed messages and should be removed. EA evaluated the overlap and determined that signs at four piers should be removed. EA worked with LACDPH to remove signs from Point Vincent, Long Point, Portuguese Bend, and Abalone Cove. In May 2016, LACDPH removed two signs, one each in Portuguese Bend and Point Vincent.

## 3.0 PIER SIGN CONDITIONS (APRIL/MAY AND JULY 2017)

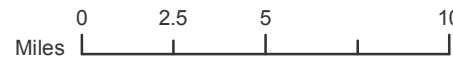
In April 2017, LACDPH and HTB conducted an evaluation of pier signs located at the piers. In May 2017, Cabrillo conducted an evaluation of the pier signs. Tables A-1 through A-3 in Appendix A present the pier sign condition assessments from 2017. Based on the evaluations, a total of 67 signs were tracked. Of these signs, 19 were identified for replacement at Santa Monica (3), Venice (3), Manhattan Beach (2), Redondo Beach (3), Ballona North Creek/Playa



**Legend**

- ◆ Pier/Coastal Structure

August, 2017  
 Data Sources: CSMW, 2007; esri, 2006, 2017;  
 Los Angeles County, 2016; US Census Bureau, 2016



**Palos Verdes Shelf Superfund Site**  
 Los Angeles County, California

Figure 1  
 Pier Locations Map

del Rey Jetty (1), Rainbow Harbor (5), and Pier J (2). Eleven of the 19 signs were replaced by LACDPH and City of Long Beach. The evaluations are further discussed below.

LACDPH evaluated piers between Santa Monica and Seal Beach (Figure 1). During the FCEC partners meeting in April 2017, the LACDPH reported 49 signs were present, of which 15 needed cleaning and 12 needed replacement. Damaged signs were primarily due to location on the pier and environmental conditions (e.g., storm events, rust, sunlight). In April 2017, LACDPH replaced 9 of the 12 signs at Santa Monica (2), Venice (2), Manhattan Beach (2), and Redondo Beach (3) piers. Two of the remaining 3 signs requiring replacement could not be replaced due to construction (Santa Monica) and remodeling of the fishing platform (Ballona North Creek/Playa del Rey Jetty). The last sign, located on Venice pier, was not replaced because there was not another location to secure the sign. During the FCEC partners meeting in April 2017, partners agreed to remove this sign (sign #6) at Venice pier (Appendix B) from further monitoring activities. See Table A-1 in Appendix A for LACDPH's pier sign evaluation.

In addition to LACDPH, HTB and Cabrillo monitored sign conditions while performing angler outreach activities. HTB tracked signs located at Santa Monica Pier, Venice Pier, Hermosa Pier, Redondo Pier, Pier J, Rainbow Harbor, Belmont Pier, and Seal Beach Pier. Cabrillo monitored signs located at Cabrillo Pier. Signs needing replacement were reported to EA. EA then coordinated the replacement with EPA, LACDPH, and the City of Long Beach. See Appendix B for photographs of pier sign locations.

Based on Cabrillo and HTB pier monitoring activities, 5 of the 12 signs tracked by LACDPH were identified for replacement as discussed above. The signs were identified on the Santa Monica (2) and Venice (3) piers. As mentioned above, these signs were reported to LACDPH who replaced the signs in April 2017. HTB also identified 3 signs needing replacement at Pier J (2), and Rainbow Harbor (1) piers in the City of Long Beach. In July 2017, the City of Long Beach identified 2 additional signs that needed replacement at Rainbow Harbor. Therefore, a total of 7 signs were identified for replacement by the City of Long Beach. The City of Long Beach replaced the signs at Pier J in May 2017. The remaining signs at Rainbow Harbor are pending replacement by the City of Long Beach.

Table 1 summarizes the recent pier sign conditions as of April/May and July 2017.

**Table 1. Pier Sign Conditions – April/May and July 2017**

Location	Total No. of Signs	Sign Condition				Notes
		Excellent	Good	OK	Poor	
Santa Monica Pier	6	2	3	-	-	2 signs replaced by LACDPH. 1 sign needs replacement when construction is completed.
Venice Pier	6	2	4	-	-	2 signs replaced by LACDPH. (Previously 7 total signs, 1 sign removed based on FCEC partners meeting in April 2017.)
Marina Del Rey/ Burton Chase Platform	0	-	-	-	-	1 sign removed by LACDPH in 2015. No fishing at this location.
Ballona North Creek/Playa del Rey Jetty	5	-	4	-	1	1 sign needs replacement by LACDPH on fishing platform after remodeling is completed.
Ballona South	4	-	4	-	-	Signs in good condition.
Dockweiler Beach	1	-	1	-	-	Signs in good condition.
El Porto/El Segundo	1	-	1	-	-	Previously had two signs. One removed by LACDPH in 2017 because there is nowhere to place it.
Manhattan Beach	4	2	2	-	-	2 signs replaced by LACDPH due to vandalism.
Rocky Point	1	-	1	-	-	Sign in good condition
Cabrillo Pier	7	-	-	7	-	Signs in good condition
Hermosa Beach Pier	5	-	5	-	-	Signs in good condition
Redondo Beach Pier	6	3	3	-	-	3 signs replaced by LACDPH due to vandalism.
Pier J	5	5	-	-	-	2 signs replaced by the City of Long Beach.
Rainbow Harbor	5	-	-	0	5	5 signs will be replaced by the City of Long Beach.
Belmont Pier	5	1	4	-	-	Pier closed since February 2017 due to rain damage.
Seal Beach Pier	2	-	-	2	-	Signs in OK condition.
Torrance Beach	2	-	1	1	-	1 sign needs cleaning by LACDPH.
Royal Palms/White Point	2	-	2	-	-	Signs in good condition.
<b>Total</b>	<b>67</b>	<b>15</b>	<b>35</b>	<b>10</b>	<b>6</b>	11 of 19 signs replaced.

#### 4.0 STATUS AND RECOMMENDATIONS

As part of the monitoring activities, DNC pier signs were most frequently replaced at the popular piers (e.g., Santa Monica and Venice). Damaged and/or missing signs were primarily due to environmental damage, location, and/or vandalism. Compared to the June/July 2016 pier sign conditions assessment, the number of signs needing replacement (9) increased to 19 in April/May and July 2017. The heavy rains and storms in 2017 may have contributed to the increase. As of the date of this report, LACDPH and City of Long Beach replaced 11 of the 19 signs slated for replacement, as discussed above.

Coordination between LACDPH, HTB, Cabrillo, and City of Long Beach is recommended to determine overlap in DNC fish sign monitoring activities. Some of the piers are monitored by LACDPH and HTB or Cabrillo. By coordinating monitoring activities duplicate efforts may be split and devoted to another area. Additionally, coordination between these groups is recommended to resolve discrepancies on pier sign accounting and reporting. As part of pier angler outreach, HTB monitors 3 of the 5 piers located at Rainbow Harbor in the City of Long Beach. It is recommended that the City of Long Beach track the two piers that are not being monitored by HTB. Signs that are located too low are more easily removed or vandalized. However, signs located too high are not easily read by pier anglers. During the FCEC partners meeting in April 2017, HTB suggested that the ideal height is 9 feet off the ground.



**APPENDIX A**

**Pier Sign Evaluations April/May 2017  
(LACDPH, Cabrillo, and Heal the Bay)**

Los Angeles County Department of Public Health  
Environmental Health Division  
Toxics Epidemiology Program

Table A-1: Pier Signage Update 2017

Pier Location (North to South)	Date Inspected	Total No. of Signs	No. Signs Need Cleaning	No. New Signs Needed	NOTES
Santa Monica	4/13/17	6	2	3	Multiple signs were missing. Spoke with pier management and gave them 3 new signs to put up. Directed pier management on best placement locations
Venice (Washington Blvd)	4/12/17	5	1	4	Multiple signs were vandalized and had to be replaced
Burton Chafe Park (Marina Del Rey)	X	X	X	X	In 2015, there was one sign, but it was taken down. No more fishing due to expansion of the boating bay.
Ballona North Creek/ Playa del Rey Jetty	4/12/17	5	3	1	One sign located on a fishing platform needs to be replaced, however we're going to wait until the platform is remodeled.
Ballona South	4/12/17	4	2	0	In good condition
Dockweiler Beach	4/12/17	1	0	0	In good condition
El Porto/El Segundo (near Manhattan)	4/12/17	1	0	0	Previously had two signs total, however the pole of the second sign was taken down and there is no longer a spot to hang up the sign.
Manhattan Beach	4/12/17 and 4/13/17	4		2	Replaced two signs that were vandalized
Hermosa Beach	4/12/17	5	0	0	In good condition
Rocky Point (King Harbor Marina (100 Marina Drive, Redondo Beach)	4/12/17	1	0	0	In good condition

Los Angeles County Department of Public Health  
Environmental Health Division  
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Table A-1: Pier Signage Update 2017

Pier Location (North to South)	Date Inspected	Total No. of Signs	No. Signs Need Cleaning	No. New Signs Needed	NOTES
Redondo Beach	4/12/17 and 4/13/17	6	3	3	Replaced three signs that were vandalized
Torrance Beach	4/12/17	2	1	0	In good condition
Bluff /Malaga Cove	X	X	X	X	Limited beach and parking access. Not a likely place for people to fish. No sign needed
Lunada Bay	X	X	X	X	Unable to attach sign at beach access. No Utilities post on site or other surfaces where one can attach signs.
Point Vicente	X	X	X	X	FCEC Partners decided to remove DNC signs in Marine Conservation Area
Long Point	X	X	X	X	FCEC Partners decided to remove DNC signs in Marine Conservation Area
Abalone Cove	X	X	X	X	Limited Access. No Signs were placed in 2015 and 2016 due to unstable ground. FCEC Partners decided to remove DNC signs in Marine Conservation Area.
Portuguese Bend	X	X	X	X	FCEC Partners decided to remove DNC signs in Marine Conservation Area
Royal Palms/White's Point	4/12/17	2	0	0	In good condition
Point Fermin	4/12/17	X	X	X	No coastal access
Cabrillo Pier	4/12/17	5/7	2	0	Construction was underway at the pier, so we were unable to verify the remaining 2 signs.

Los Angeles County Department of Public Health  
Environmental Health Division  
Toxics Epidemiology Program

Table A-1: Pier Signage Update 2017

	<b>Total No. of Signs</b>	<b>No. Signs Need Cleaning</b>	<b>No. New Signs Needed</b>
<b>2015</b>	59	16	25
<b>2016</b>	53	24	9
<b>2017</b>	49	15	12

Tables prepared by Los Angeles County Department of Public Health

Heal the Bay  
Pier Angler Outreach Program

Table A-2: Pier Signage Update 2017

Pier Location	Date Inspected	Total No. of Signs Present	NOTES
Santa Monica	04/2017	6	<ol style="list-style-type: none"> <li>1. Replace. No sign.</li> <li>2. Good condition.</li> <li>3. Fairly good, scratches on fish images, but still readable.</li> <li>4. Replace. No sign.</li> <li>5. Good.</li> <li>6. New sign installed by Los Angeles County Department of Public Health Based on FCEC Partner Meeting in April 2017.</li> </ol>
Venice	04/2017	7	<ol style="list-style-type: none"> <li>1. Good condition, bent due to leaning.</li> <li>2. Broken, needs replacement.</li> <li>3. Good condition, residue from stickers placed on the sign. Readable.</li> <li>4. Good condition.</li> <li>5. Broken, needs replacement.</li> <li>6. Replace. No sign.</li> <li>7. Good condition, some graffiti in the upper right corner. Readable.</li> </ol>
Hermosa Beach	04/2017	5	<ol style="list-style-type: none"> <li>1. Good condition.</li> <li>2. Good condition.</li> <li>3. Good condition.</li> <li>4. Good condition, but the bottom right corner is peeling off. Readable.</li> <li>5. Good condition, but slightly dirty. Readable.</li> </ol>
Redondo Beach	04/2017	6	<ol style="list-style-type: none"> <li>1. Fairly good with widespread scratching on the sign. Readable.</li> <li>2. Fairly good with widespread scratching on the sign; dirty but readable.</li> <li>3. Fairly good, but dirty. Readable.</li> <li>4. Fairly good, although part of the top is peeling off. Readable.</li> <li>5. Good condition with a few scrapes and the bottom left corner is peeling off. Readable.</li> <li>6. Bad condition. Broken upper right and left corners. Sign is bent with scratches, but is readable.</li> </ol>

Heal the Bay  
Pier Angler Outreach Program

Table A-2: Pier Signage Update 2017

Pier Location	Date Inspected	Total No. of Signs Present	NOTES
Pier J	04/2017	5	<ol style="list-style-type: none"> <li>1. Good condition. Above 12 feet, somewhat difficult to read.</li> <li>2. Replace. No sign.</li> <li>3. Replace. No sign.</li> <li>4. Good condition with a few scratches. Bleached by the sun, above 12 feet high but readable.</li> <li>5. Good condition. Bleached by the sun and slightly cracked. Above 8 feet high but readable.</li> </ol>
Rainbow Harbor	04/2017	3	<ol style="list-style-type: none"> <li>1. Fair, damaged at the bottom end, decals placed on the bottom in non-informative areas. Readable.</li> <li>2. Replace, half of the sign has been vandalized.</li> <li>3. Bad condition, extensive cracking, badly damaged along the bottom. Readable.</li> </ol>
Belmont	06/2016	5	<ol style="list-style-type: none"> <li>1. Good condition. Few scratches</li> <li>2. Good condition.</li> <li>3. Good condition.</li> <li>4. Good condition.</li> <li>5. Excellent condition.</li> </ol> <p><i>Assessment based on June/July 2016 due to pier closure in February 2017 due to heavy rains.</i></p>
Seal Beach	04/2017	2	<ol style="list-style-type: none"> <li>1. Fair condition. Sun bleached, extensive cracks all over it, admiration sign scraped off. Readable.</li> <li>2. Fair condition. Scrapes on white croaker's image, scrape graffiti on top right area, admiration sign scraped off. Readable.</li> </ol>

Cabrillo Pier  
Pier Angler Outreach Program

Table A-3: Pier Signage Update 2017

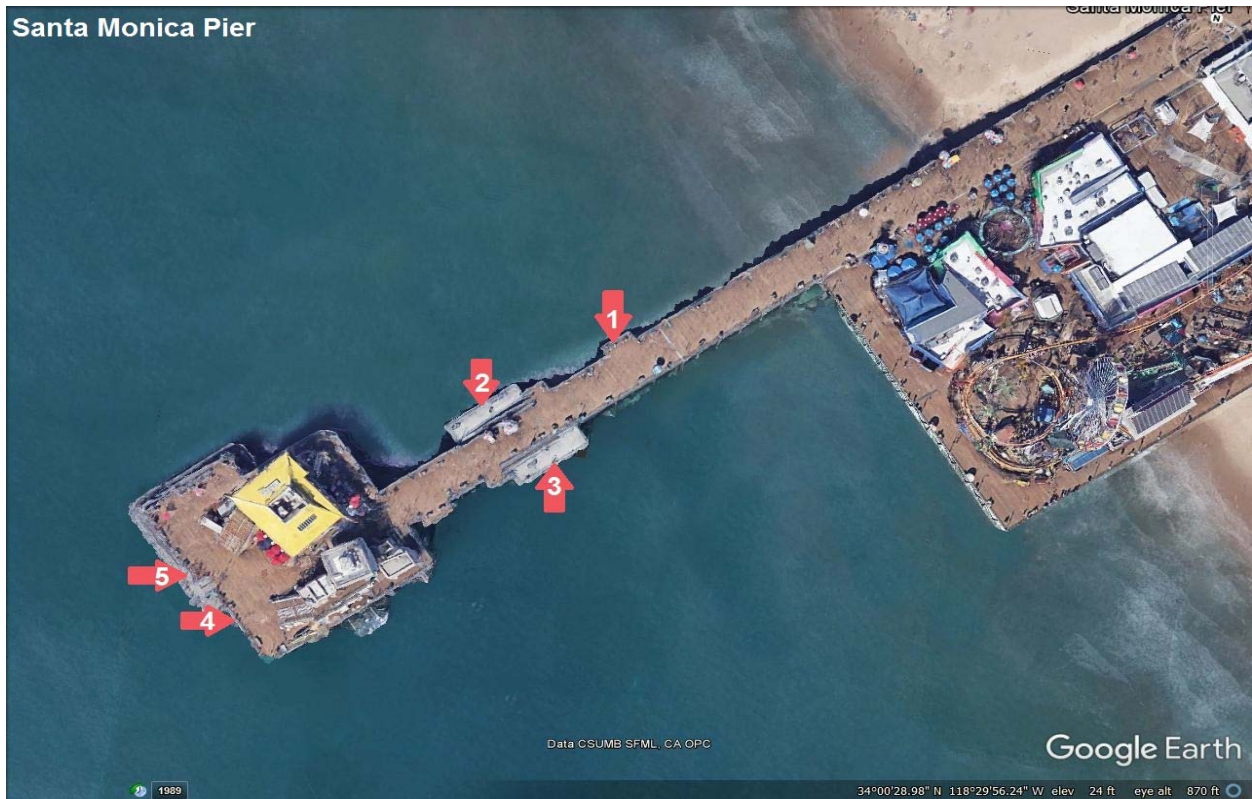
Pier Location	Date Inspected	Total No. of Signs	Notes
Cabrillo Pier	5/26/17	7	<ol style="list-style-type: none"><li>1. OK. Worn, still readable</li><li>2. OK. Graffiti scratches.</li><li>3. OK. Few graffiti scratches, still readable.</li><li>4. Dirty but readable.</li><li>5. OK. Has some marker graffiti but is still readable.</li><li>6. OK. Has graffiti scratches, marker graffiti and a sticker.</li><li>7. OK. Has graffiti scratches but is still readable.</li></ol>

**APPENDIX B**

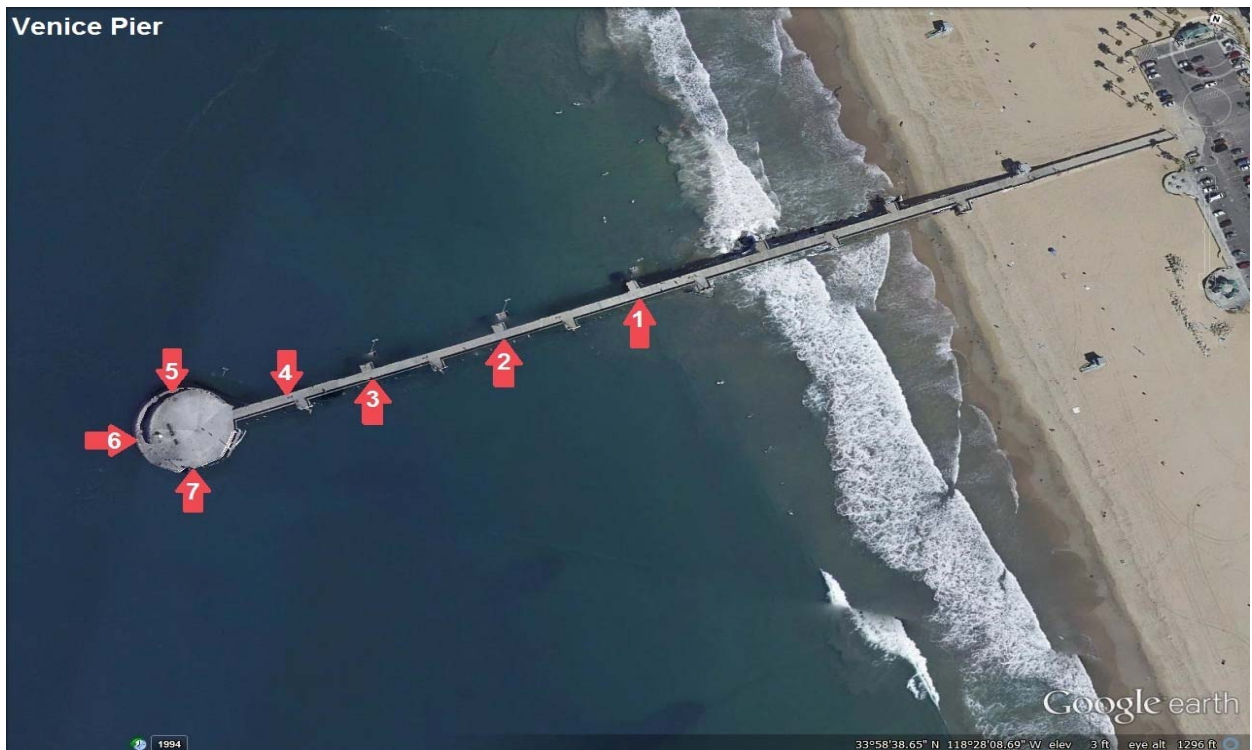
**Pier Sign Photographs 2017**

**(Heal the Bay and Cabrillo)**

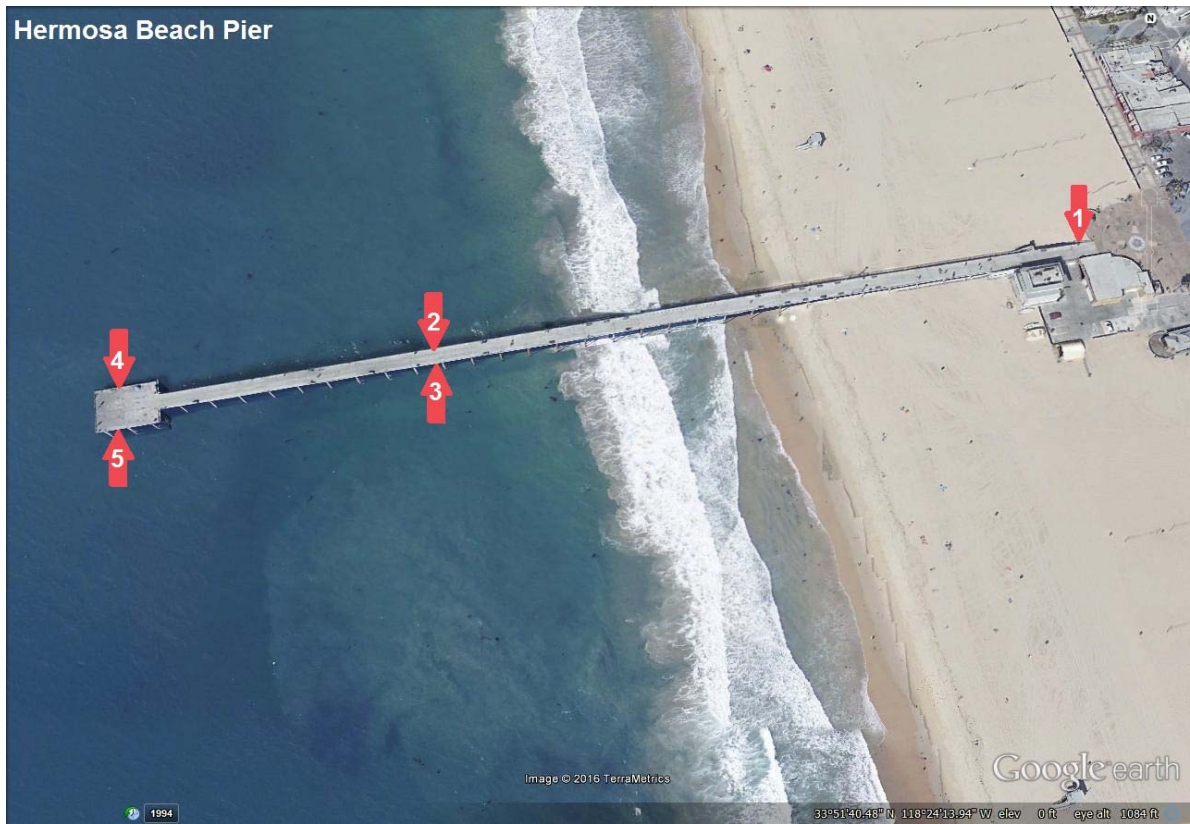




Santa Monica Pier: Five total signs present. Two signs (#1 and #4) need replacement.



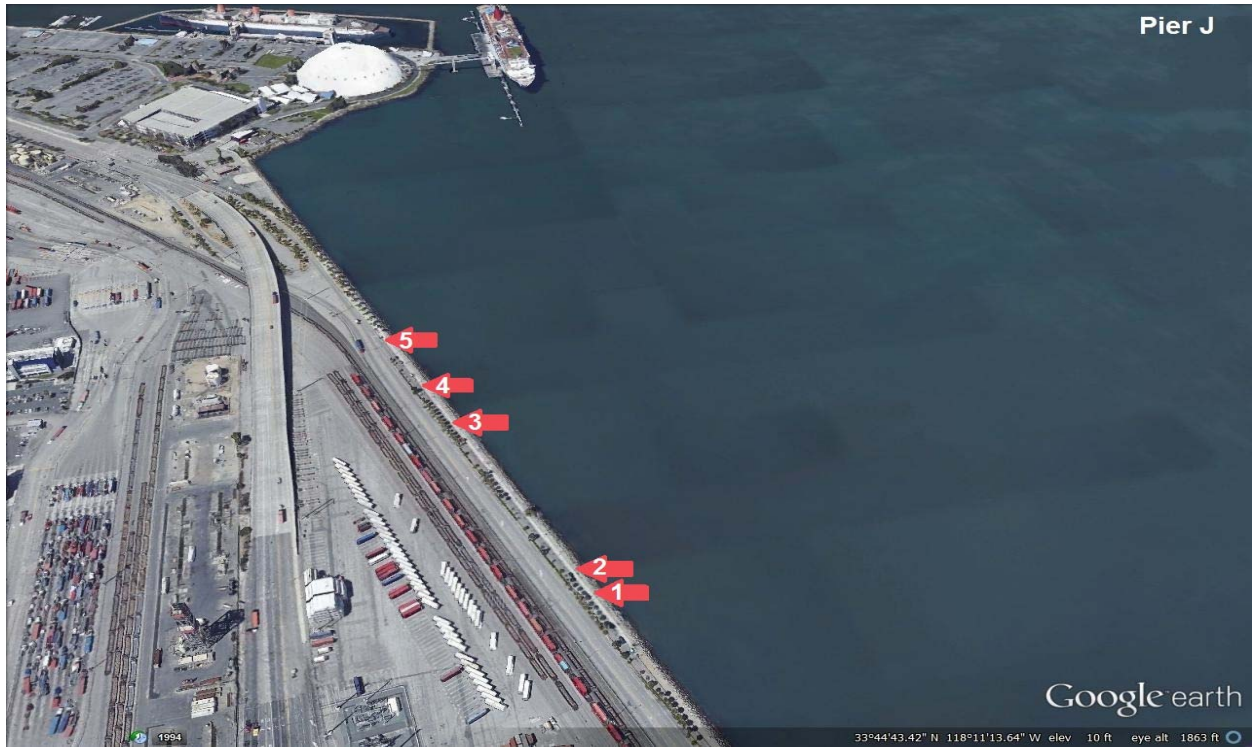
Venice Pier: Seven total signs present. Three signs broken (#2, #5, and #6,) need replacement. Sign #6 was removed from future monitoring activities.



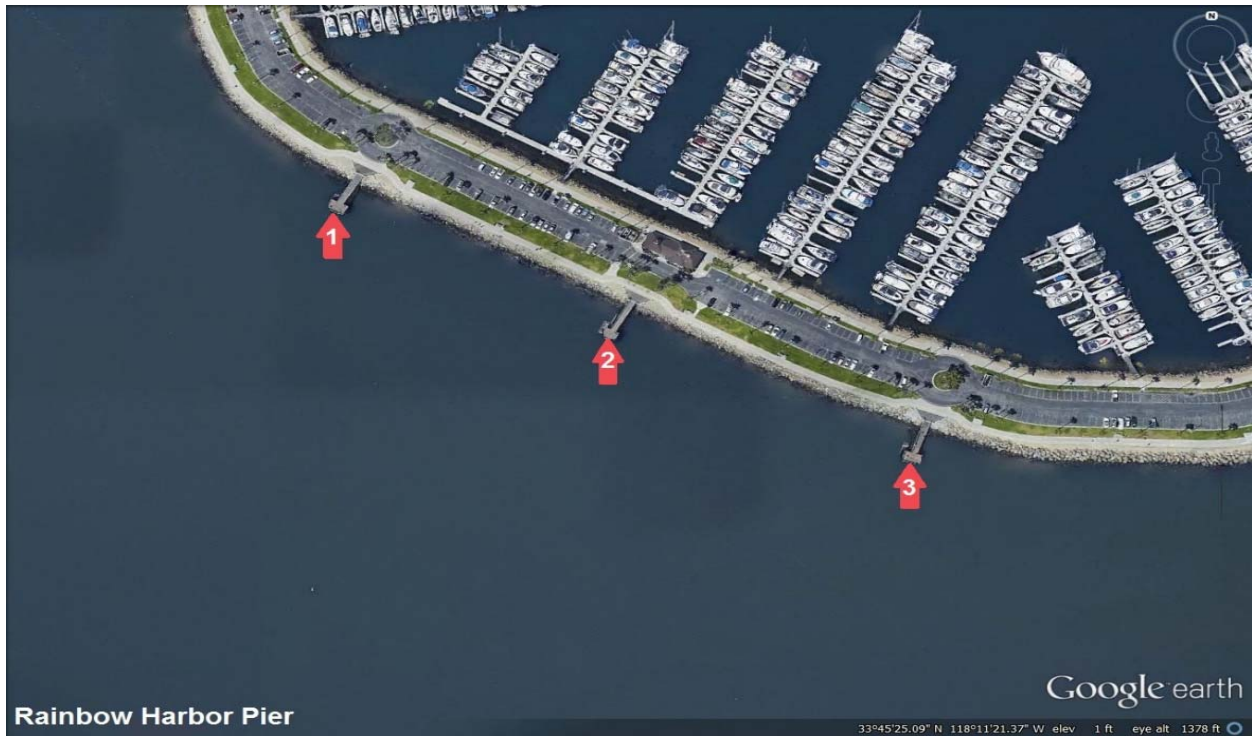
Hermosa Beach Pier: Five signs total. No signs need replacement.



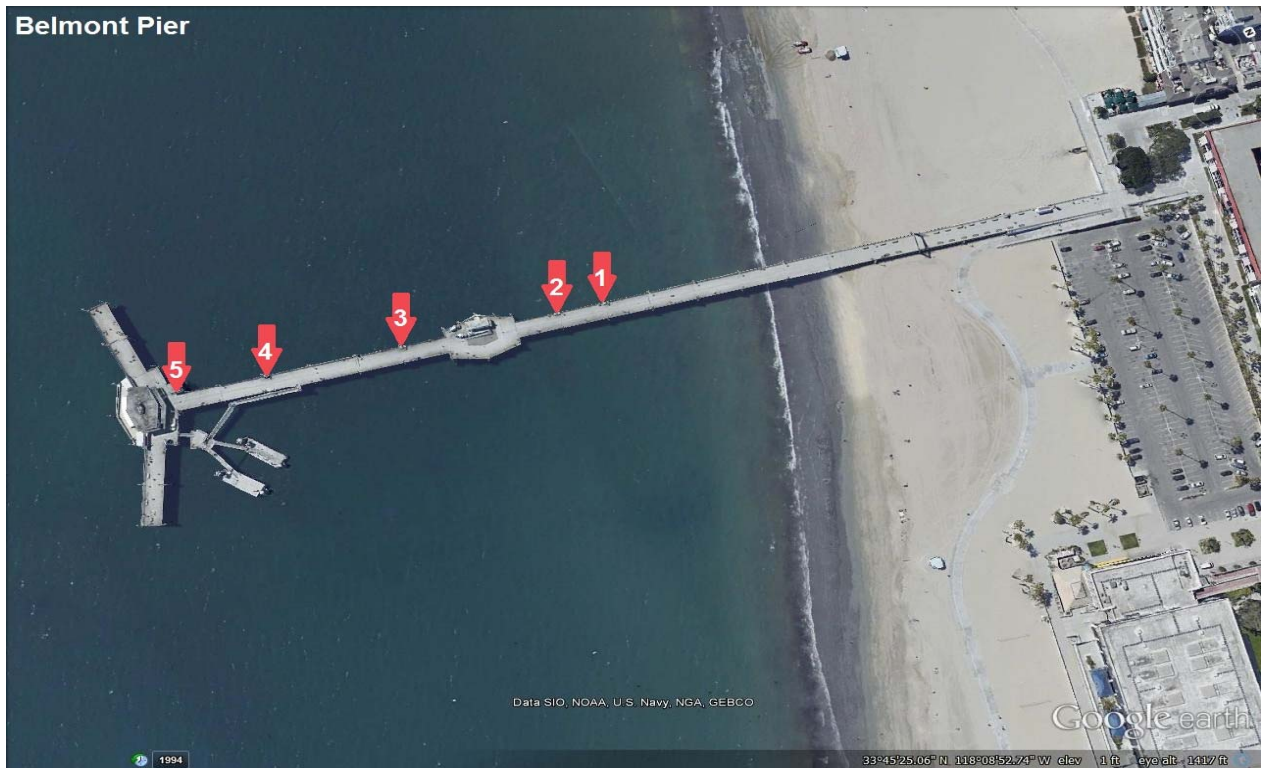
Redondo Beach Pier: Six signs total. No signs need replacement.



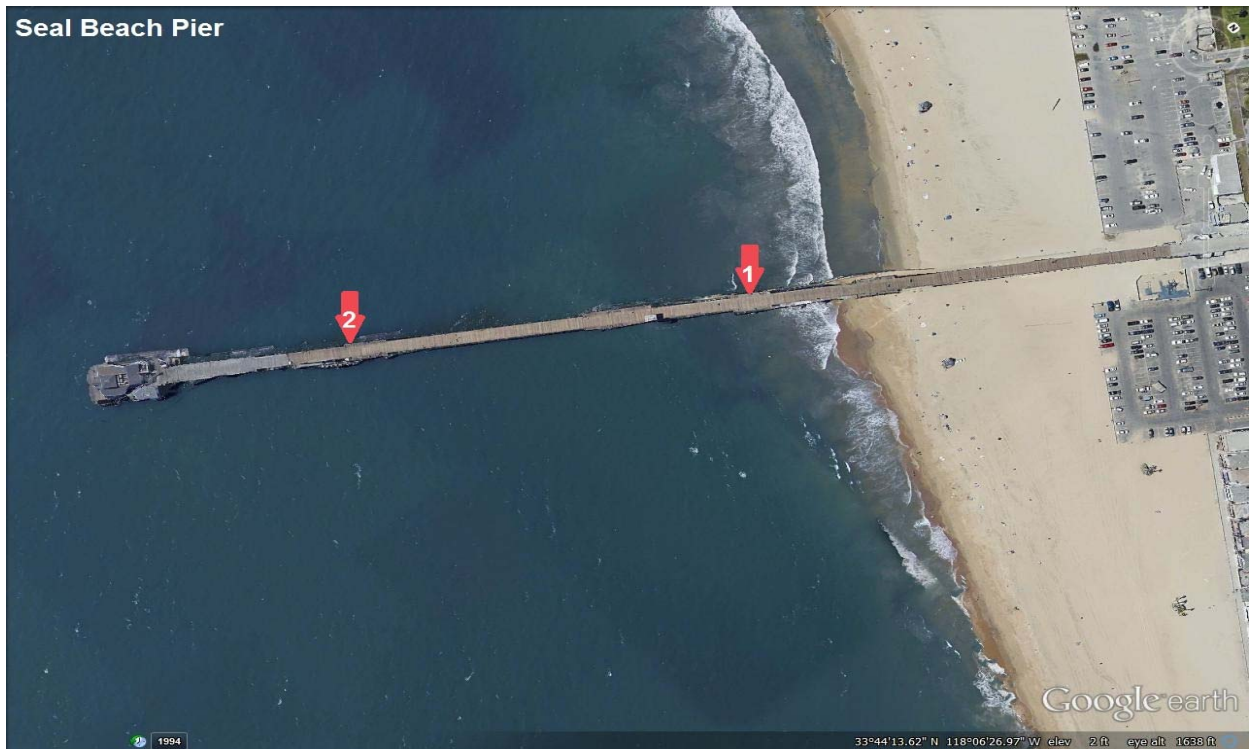
Pier J: Five signs total. Two signs (#2 and #3) need replacement.



Rainbow Harbor Pier: Three signs total. One sign (#2) needs replacement.



Belmont Pier: Five signs total. No signs need replacement.



Seal Beach Pier: Two signs total. No signs need replacement.



Cabrillo Pier: Seven signs total. No signs need replacement.