

California Regional Water Quality Control Board, Los Angeles Region

**Tissue, Sediment and Benthic Infauna Data
LA Harbor-Consolidated Slip**

Summary of Proposed Action

Proposed New Listings

- “Not Supporting” (Impaired) for arsenic in sediments due to exceedances of Effects Range-Median (ERM) and/or Probable Effects Level (PEL).
- “Not Supporting” (Impaired) for cadmium in sediments due to exceedances of ERM and/or PEL.
- “Not Supporting” (Impaired) for copper in sediments due to exceedances of ERM and/or PEL.
- “Not Supporting” (Impaired) for mercury in sediments due to exceedances of ERM and/or PEL.
- “Not Supporting” (Impaired) for nickel in sediments due to exceedances of ERM and/or PEL.
- “Not Supporting” (Impaired) for dieldrin in tissue due to exceedances of Maximum Tissue Residue Levels (MTRLs).
- “Not Supporting” (Impaired) for toxaphene in tissue due to exceedances of MTRLs.

Proposed New Delistings

- Delist TBT in tissue and sediment because the listing was based on exceeding background levels rather than valid assessment guidelines. Delisting applies to LA Harbor Consolidated Slip (tissue only), Fish Harbor (sediment only), Inner Breakwater (sediment only) and Main Channel (sediment only).
- Delist zinc in tissue because the listing was based on exceeding background levels rather than valid assessment guidelines.

These actions all affect the aquatic life beneficial uses.

Table 1. 303(d) Listing/TMDL Information

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|-----------------------------|-------------------------------|--------------------------------|---|
| Waterbody Name | Consolidated Slip – LA Harbor | Pollutants/Stressors | See Above |
| Hydrologic Unit | | Source(s) | Historical use for pesticides and lubricants. Stormwater runoff, aerial deposition, and historical discharges for metals. |
| Total Waterbody Size | | TMDL Priority | Dieldrin & toxaphene: 73 TBT: 79 Others: 75 |
| Size Affected | | TMDL Start Date (Mo/Yr) | Dieldrin & Toxaphene: 2005 Others: 2004 |
| Extent of Impairment | | TMDL End Date (Mo/Yr) | Dieldrin & Toxaphene: 2008 |

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| | | | Others: 2007 |
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Watershed Characteristics

The Los Angeles and Long Beach Harbors are located in the southern portion of the Los Angeles Basin. Along the northern portion of San Pedro Bay is a natural embayment formed by a westerly extension of the coastline which contains both harbors, with the Palos Verdes Hills the dominant onshore feature. Historically, the area consisted of marshes and mudflats with a large marshy area, Dominguez Slough, to the north, and flow from the Los Angeles River entering where Dominguez Channel now drains. Near the end of last century and during the beginning of this one, channels were dredged, marshes were filled, wharves were constructed, the Los Angeles River was diverted, and a breakwater was constructed in order to allow deep draft ships to be directly offloaded and products be swiftly moved. The Dominguez Slough was completely channelized and became the drainage endpoint for runoff from a highly industrialized area. Eventually, the greater San Pedro Bay was enclosed by two more breakwaters and deep entrance channels were dredged to allow for entry of ships with need of 70 feet of clearance. The LA/LB Harbor complex together is now one of the largest ports in the country.

Both harbors are considered to be one oceanographic unit. Despite its industrial nature, contaminant sources, and low flushing ability, the inner harbor area supports fairly diverse fish and benthic populations and provides a protected nursery area for juvenile fish. The California least tern, an endangered species, nests in one part of the harbor complex.

Similar to LA Inner Harbor in many respects, LB Inner Harbor is dissimilar to the other Port in the higher number of privately-owned waterfront parcels which the Port has recently been in the process of the buying up and converting to Port-related uses, generally container terminals. Also, basins and slips in LB Inner Harbor are somewhat more separated from each other than in LA Inner Harbor which may possibly prevent contamination from spreading easily.

The outer part of both harbors (the greater San Pedro Bay) has been less disrupted and supports a great diversity of marine life. It is also open to the ocean at its eastern end and receives much greater flushing than the inner harbors.

Water Quality Objectives Not Attained

MTRLs
ERM/PEL

Beneficial Uses Affected

Aquatic Life
Fish Consumption

Data Assessment

Tissue (93): chlordane, DDT, PCB, toxaphene
 Tissue (94): DDT, PCB
 Tissue (95): dieldrin, PCB, toxaphene
 Tissue (96): DDT, PCB
 Tissue (98): dieldrin, DDT, PCB
 Sediment toxicity (92, 94, 96)
 Benthic community degradation (96)
 Sediment Chemistry (92): copper, lead, mercury, nickel, zinc, chlordane, DDT, PCB
 Sediment Chemistry (93): chlordane, DDT, PCB
 Sediment Chemistry (94): copper, mercury, nickel, zinc, chlordane, DDT, PCB
 Sediment Chemistry (96): cadmium, copper, chromium, lead, mercury, silver, zinc, chlordane, DDT, PCB

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Table 2. Summary of Tissue and Sediment Data for Consolidated Slip, LA Harbor

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|----------------------------------|---|
| Dates of Sampling | 7/31/92 1/6/93; 11/9/93 2/1/94; 2/8/94 1/31/95 1/18/96; 7/17/96 3/24/98 |
| Number of Samples (n) | 1992: 2 (sediment) 1993: 1 (sediment) + 1 (tissue) 1994: 3 (sediment) + 1 (tissue) 1995: 1 (tissue) 1996: 14 (sediment) + 1 (tissue) 1998: 2 (tissue) 19 (sediment toxicity) 8 (benthic infauna) |
| Minimum Data Value | Copper (sed): 58 ppm Chromium (sed): 47 ppm Cadmium (sed): 1.0 ppm Lead (sed): 40 ppm Mercury (sed): 0.115 ppm Nickel (sed): 23 ppm Zinc (sed): 140 ppm Total chlordane (sed): nd Total DDT (sed): 63.3 ppb Total PCB (sed): 91.8 ppb Total chlordane (tis): 5.0 ppb Dieldrin (tis): 0.6 ppb p,p'-DDD (tis): 5.9 ppb p,p'-DDE (tis): 24.0 ppb p,p'-DDT (tis): 1.9 ppb Total PCB (tis): 48.3 ppb |
| Maximum Data Value | Copper (sed): 1740 ppm Chromium (sed): 552 ppm Cadmium (sed): 14.5 ppm Lead (sed): 1590 ppm Mercury (sed): 3.28 ppm Nickel (sed): 53.6 ppm Zinc (sed): 1010 ppm Total chlordane (sed): 246 ppb Total DDT (sed): 1317 ppb Total PCB (sed): 2118 ppb Total chlordane (tis): 8.8 ppb Dieldrin (tis): 1.5 ppb p,p'-DDD (tis): 9.8 ppb p,p'-DDE (tis): 48.0 ppb p,p'-DDT (tis): 15.0 ppb Total PCB (tis): 150.0 ppb |
| Median Data Value | |
| Arithmetic Mean Value | |
| Standard Deviation | |
| Number (Percent) above Objective | Sediment toxicity: 16 (84 %) Benthos: 3 (38 %) Copper (sed): 19 (95 %) |

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| | Chromium (sed): 4 (20 %) Cadmium (sed): 6 (30 %) Lead (sed): 13 (65 %) Mercury (sed): 5 (25 %) Nickel (sed): 5 (25 %) Zinc (sed): 18 (90 %) Total chlordane (sed): 17 (85 %) Total DDT (sed): 20 (100 %) Total PCB (sed): 20 (100 %) Total chlordane (tis): 1 (17 %) Dieldrin (tis): 3 (50 %) DDTs (tis): 4 (22 %) Total PCB (tis): 6 (100 %) |
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This table may summarize additional data not relevant to this factsheet that supports a continued listing for this waterbody.

Potential Sources

Historical use for pesticides and lubricants. Stormwater runoff, aerial deposition and historical discharges for metals.

References

State Mussel Watch Program database
Bay Protection and Toxic Cleanup Program database