



LONG BEACH NAVAL COMPLEX

LONG BEACH, CALIFORNIA

FACT SHEET No. 3

JANUARY 1999

What's Inside This Issue...

This fact sheet presents information on the environmental cleanup activities being conducted as part of the Installation Restoration (IR) Program for the Long Beach Naval Complex (LBNC) for IR Site 7, the Long Beach Harbor West Basin sediments. A summary of the history of IR Site 7 and environmental investigations conducted as part of the IR Program are included as well.

This fact sheet is the third in a series designed to provide timely information about the environmental cleanup activities underway at LBNC.

The Navy is the lead agency responsible for cleanup activities at IR Site 7. The agencies working in conjunction with the Navy at IR Site 7 are the United States Environmental Protection Agency (US EPA), the California EPA (Cal-EPA) Department of Toxic Substances Control (DTSC), the Los Angeles Regional Water Quality Control Board (RWQCB), the National Oceanic & Atmospheric Administration (NOAA), the US Fish & Wildlife Service (US FWS), and the California Department of Fish & Game (DFG).

Detailed information, including other program-related documents, and the documents discussed within this fact sheet are available at the Information Repository and Administrative Record listed on the back of this fact sheet.



Aerial photograph of IR Site 7 at LBNC

Harbor Sediments

The Long Beach Harbor West Basin, known as IR Site 7, has been jointly used by Naval Station Long Beach (NAVSTA) and Long Beach Naval Shipyard (LBNSY), referred to collectively as LBNC. It is bounded on the west and the south by the Navy Mole, on the north by NAVSTA and LBNSY, and on the east by the ship-turning basin, which is part of the Port of Long Beach (POLB) complex.

IR Site 7 is approximately 700 acres, with water depths averaging 45 feet. At present, there are eleven piers in IR Site 7. The piers and three drydocks were constructed for ship maintenance activities and fueling. The piers, generally constructed with concrete pilings, range from approximately 30 to 125 feet in width and 250 to 1,200 feet in length.

Since the designation of IR Site 7 in 1983, dredging has been conducted for the purpose of construction or relocation of piers. Maintenance dredging has also been conducted within the site.

From the early 1940s to the mid-1970s, drainage from various industrial areas within LBNC

and from cleaning and process tanks was discharged into IR Site 7. Wastes were discharged through the storm drain system and from flushing of the drydocks.

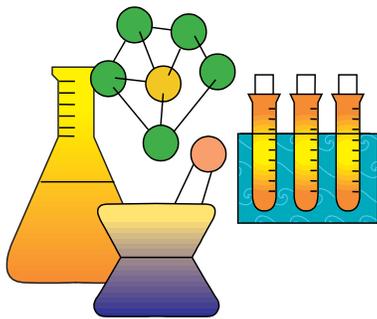
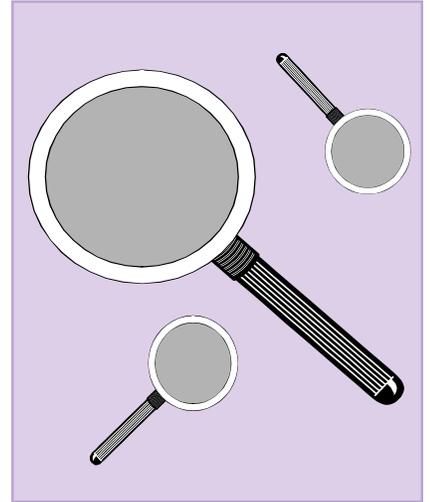
The environmental investigation for IR Site 7 is being conducted under the Navy's IR Program, defined by the Department of Defense (DoD) in 1981 to comply with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

The Navy completed an Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), in August 1983 for LBNC and identified IR Site 7 as a potentially contaminated site. A Site Inspection (SI) was conducted in 1991 and the Final SI Report, issued in November 1992, recommended further investigation at IR Site 7. The Remedial Investigation (RI) for IR Site 7 was completed in December 1997 and is described inside this fact sheet.

The Remedial Investigation

Implementation of the RI Work Plan for IR Site 7, which was designed to investigate the surface sediment within the site, began in June 1994. Field investigation activities were completed in September 1994. The Draft RI Report was released in February 1996. The regulatory agencies provided their comments on the Draft RI Report to the Navy in May and June 1996. The comments included a request for additional statistical data analyses. In response, the Navy completed the analyses.

The Navy prepared a Draft-Final RI Report for IR Site 7 in June 1997. The report concluded that approximately 390 acres of sediment, including all sediment under the piers (approximately 56% of the Long Beach Harbor West Basin), are considered an Area of Ecological Concern (AOEC). The AOEC will be further investigated to delineate the vertical and horizontal extent of contamination during the Feasibility Study (FS). An AOEC is an area that exhibits adverse biological effects and contains reported chemical compounds which have the potential to cause adverse biological effects. The Final RI Report was issued in December 1997.



Results of the RI indicate that within the 390-acre AOEC, concentrations of chemical contaminants (such as organics, pesticides, and metals) in sediments beneath the piers are generally higher than those of the central areas of the Long Beach Harbor West Basin. Sediments in areas along the northern seawall and the Mole appear to contain chemical contaminant concentrations greater than those in the central areas of the Long Beach Harbor West Basin as well.

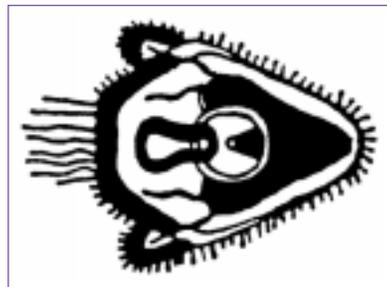
The infaunal community (the chief ecosystem of concern for basin areas) appears to be healthy in parts of the basin in terms of number of species, ecological function of different species, number of organisms, and total biomass. Since abatement of chemical discharges to the Long Beach Harbor West Basin was implemented over the last 30 years, the infaunal community appears to have improved significantly, and there does not appear to be an ecological risk from sediment chemical concentrations.

Bioassay Species Tested at IR Site 7

Ecological Risk Assessment



Rhexonyx abronius
Infaunal amphipod



Dendraster excentricus
Sand dollar larvae

In addition to the sediment chemical analyses, toxicity tests, and benthic (species that feed from the bottom of the ocean) community analysis performed as part of the RI, an ecological risk assessment of IR Site 7 was performed to assess the condition of organisms in the Long Beach Harbor West Basin. The ecological risk assessment considered clam bioaccumulation test results and the chemical analyses of fish tissues. The Navy also performed a toxicological evaluation of the possible effects of ingestion of Long Beach Harbor West Basin fish with known tissue chemical concentrations

on an aquatic predator, the harbor seal. In addition, bioassay tests were conducted using the species shown on the left.



Neanthes arenaceodentata
Polychaete worm

The ecological risk assessment for the Long Beach Harbor West Basin suggests that ecological risk may be present in the area identified as an AOEC. In the AOEC, sediment toxicity or impaired benthic infaunal community was noted. The ecological risk assessment also suggests that the infaunal community beneath the piers does not appear to be at risk from detected sediment chemical contaminants and seems to contain a wide variety of species taking advantage of a diversity of micro-habitats. In addition, sediments within IR Site 7, if left undisturbed, appear to present no risk to other pelagic (species that feed from the open ocean) or benthic communities in the Long Beach Harbor West Basin.

The Feasibility Study

The Final FS Work Plan for IR Site 7 was completed in August 1998 as part of the RI/FS process. It serves as the mechanism for the development, screening, and detailed evaluation of remedial action alternatives, including the no further action alternative.

The FS is divided into five phases described in the box to the right. After a comparative analysis of alternatives using the EPA's nine criteria based on implementability, effectiveness, and cost is completed, the most promising alternatives are evaluated against a range of factors and a preferred alternative is selected.

Phases of the Feasibility Study

- Development of general response actions and identification of remedial technologies
- Screening of the remedial technologies
- Development of viable remedial alternatives
- Detailed analysis of remedial alternatives
- Comparative analysis of remedial alternatives

additional information supports the Navy's evaluation of the potential remedial action alternatives developed in the FS Report.

The sampling design includes sediment sample collection and analysis at the sampling stations identified by the RI and additional sampling stations requested by the regulatory agencies. The sampling field work was performed in Fall 1998, and surface and subsurface sediment samples were collected and analyzed for chemical constituents (metals, organics, and pesticides) and physical parameters (particle size and moisture). The Final FS Report will contain the results of the sampling field work, evaluate the remedial alternatives, provide the recommended remedial alternative, and address ecological concerns related to the recommended remedial alternative. This report is expected to be completed in Spring 1999.

The FS for IR Site 7 includes a sampling and analysis component, whereby information on recent conditions within surface sediments (upper 10 centimeters of sediment bed) is obtained. In addition, the sampling and analysis program provides information regarding the subsurface sediments of the AOEC. This

Final FS Report will contain the results of the sampling field work, evaluate the remedial alternatives, provide the recommended remedial alternative, and address ecological concerns related to the recommended remedial alternative. This report is expected to be completed in Spring 1999.



Lowering the corer in preparation of taking a sediment sample



Vibracore soft sediment sample



Benthic community organisms and shell hash remaining after sediment sieving

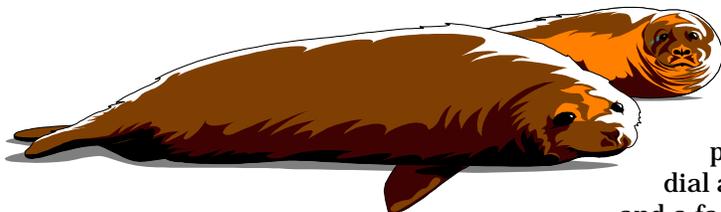
Upon completion of the FS for IR Site 7, a preferred cleanup alternative will be identified from those presented in the FS and will be distributed to the public in the form of a Proposed Plan (PP).

What's Next at IR Site 7?

The PP is developed to describe the cleanup alternatives evaluated during the FS and to provide the rationale that supports the preferred cleanup alternative.

The public and regulatory agencies have an opportunity to provide written and oral comments on the PP. The Navy will consider all comments received on the PP prior to making a final decision. All comments will be responded to in a Responsiveness Summary, which will be placed in the Information Repository and Administrative Record.

The selected cleanup alternative will be documented in a Record of Decision (ROD). The availability of the ROD will be publicized through a public notice in a local newspaper. If remedial action is required, the design for the cleanup will be prepared, and a fact sheet will be distributed to the LBNC Mailing List prior to beginning remedial action.



The Long Beach Harbor West Basin reverted back to the City of Long Beach in August 1998.

The lease in furtherance of conveyance (LIFOC) for LBNC was executed on August 11, 1998, between the Navy and the City of Long Beach. As agreed in the LIFOC, the POLB will be responsible for performing all remediation necessary for the Long Beach Harbor West Basin, with oversight by the regulatory agencies.

Restoration Advisory Board

The RAB for LBNC was established to provide a forum for the exchange of information and partnership among the community, Navy, US EPA and state regulatory agencies. RAB members, selected from the local community, are asked to review and comment on technical documents relating to the ongoing environmental studies and cleanup activities at LBNC. The RAB meets every other month (January, March, etc.) on the evening of the third Wednesday at 7 p.m. Meetings are open to the public and are advertised in the *Long Beach Press Telegram* and on the Navy web site.

Visit our web site!

<http://www.efdsweb.navy.mil/DEP/ENV/default.htm>

Cleanup Partners

The US EPA provides federal oversight for IR Program activities. The Cal-EPA DTSC is the lead regulatory agency for cleanup activities at LBNC. The RWQCB is the state lead agency for petroleum hydrocarbon related remediation and shares state oversight with DTSC for surface water and groundwater remediation issues. The Navy is the lead federal agency for the environmental cleanup activities at LBNC. The trustee agencies involved at LBNC are NOAA, US FWS, and California DFG.

For more information on the LBNC IR Program or the LBNC RAB, contact:

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Information Repository

An Information Repository is provided for the community to review current documents related to the environmental cleanup activities at LBNC. Additional documents are located at the Administrative Record.

Information Repository

Long Beach Public Library
101 Pacific Avenue
Long Beach, CA 90810
(562) 570-7500

Administrative Record

SWDIV NAVFACENGCOM
1220 Pacific Highway
San Diego, CA 92132
(619) 532-1144

The following agencies are working together with the Navy at LBNC. They can be contacted for any questions or concerns regarding the cleanup process at LBNC.

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Fact Sheet No. 3: IR Site 7 Environmental Investigations at the Long Beach Naval Complex

If you would like to be included on the Long Beach Naval Complex Mailing List or wish to be removed, please contact Michelle Gallice of CDM Federal Programs Corporation at: (619) 268-3383.