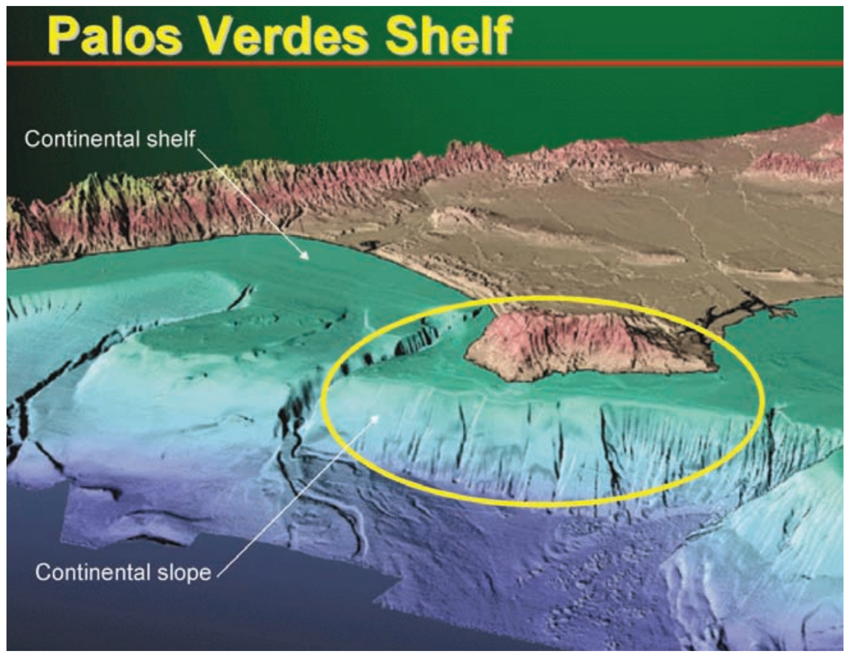
Remedial Investigation (RI)/Feasibility Study (FS) Status (cont.)

EPA is preparing a Feasibility Study (FS) that assesses available technologies and potential remedial actions to reduce the risk to human health and the environment posed by the site. The alternatives evaluated in the FS include monitored natural recovery, enhanced natural recovery, and capping the area of PV Shelf with the most contaminated sediment. Dredging was ruled out because of the depth and size of the contaminated sediment deposit. A draft of the FS has undergone internal review. Once the Draft FS is completed, it will undergo review by the PV Shelf Technical Information Exchange Group. The Final FS will be used to prepare the PP that selects EPA's preferred alternative. The PP will be available for public review and comment at public meetings in the PV Shelf area.



Contacts

Carmen White, SFD-7-1
Remedial Project Manager
(Remedial Investigation and Cleanup)
(415) 972-3010
white.carmen@epa.gov

Sharon Lin, SFD-7-1
Remedial Project Manager
(Institutional Controls)
(415) 972-3446
lin.sharon@epa.gov

Jackie Lane, SFD-3
Community Involvement Coordinator
(415) 972-3236
lane.jackie@epa.gov

U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105
Toll Free Hotline: (800) 231-3075

Websites:
http://www.epa.gov/region09/features/pvshelf/
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EPA Palos Verdes Shelf Superfund Site

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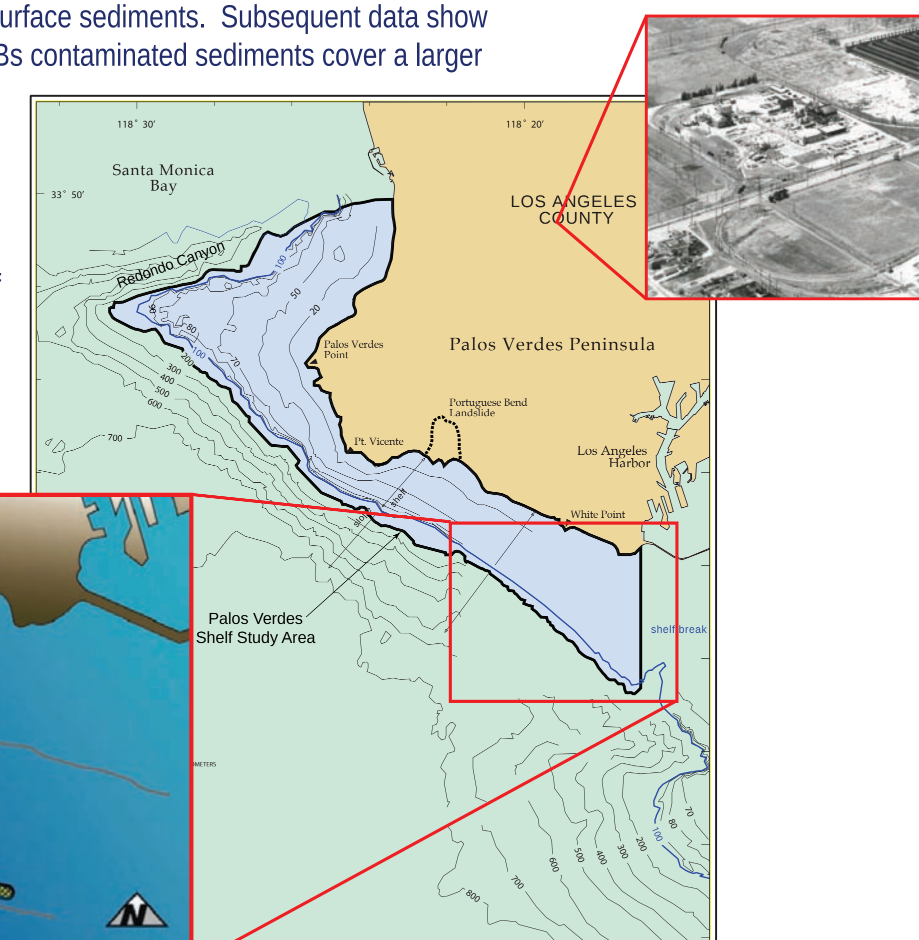
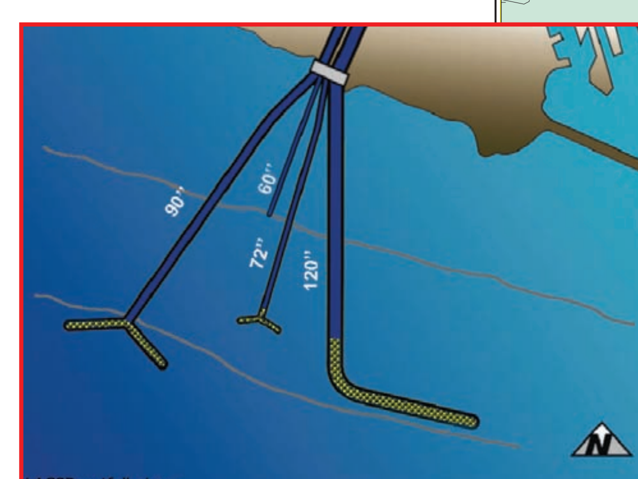
Overview

The EPA Palos Verdes Shelf (PV Shelf) Superfund site is an area of contaminated sediment off the Palos Verdes Peninsula. The contaminated sediment lies in the Pacific Ocean and fish found in the PV Shelf area contain high concentrations of DDT and PCBs. In 1990, the State of California and the United States filed suit against Montrose and other businesses claiming natural resource damages and response costs with respect to the PV Shelf and surrounding environment. The final settlement was reached in 2000.

Located near Torrance, Montrose Chemical Corporation (Montrose) released DDT into the sewer system for decades while PCBs were released by local industries. The chemicals eventually emptied into the ocean off the Palos Verdes Peninsula. DDT and PCB are no longer used; however, they remain in the ocean sediment and have contaminated the fish in the area. People who eat fish that were caught near the contaminated area face greater health risks because of prolonged exposure to the chemicals. The contamination off the PV Shelf is largely a historical but residual problem. Industrial wastewater was discharged from the facility through Los Angeles County Sanitation District (LACSD) outfalls. The discharges ended in the early 1970s and the Montrose manufacturing plant was closed in 1983. PCB compounds from various industrial waste sources were also discharged to PV Shelf through the same outfalls. The resulting area of DDTs and PCBs contaminated sediment constitutes the PV Shelf site.

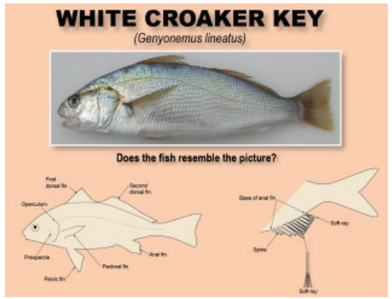
Approximately 110 tons of DDT and 11 tons of PCBs have been deposited on the ocean floor, impacting ocean sediments. The U.S. Geological Survey (USGS) characterized an area of 44 km^2 (17 sq. miles) on PV Shelf with elevated levels of DDT and PCBs in surface sediments. Subsequent data show that the effluent-affected DDT and PCBs contaminated sediments cover a larger area, and EPA has expanded the PV Shelf study area to include sediments from Point Fermin in the southeast to the southern edge of the Redondo canyon, northwest of the Palos Verdes peninsula. EPA's evaluation of potential cleanup actions is focusing on the areas of highest contamination within this study area.





Institutional Controls (ICs) Program Status

EPA's PV Shelf Superfund Institutional Controls (ICs) Program utilizes non-engineering controls to reduce risks associated with eating contaminated fish related to the PV Shelf contamination. The three program components are public outreach and education, ocean and market fish monitoring and enforcing existing fishing regulations. Current activities include:



• Public outreach and education (also known as the Fish Contamination Education Collaborative or FCEC): for the past 5 years, EPA has been educating populations at risk – anglers at piers (focusing on the following piers: Santa Monica, Venice, Hermosa, Redondo, Cabrillo, Pier J, Belmont, Seal Beach, and Huntington Beach), women of child bearing age in communities at risk, and the general population on PV Shelf fish contamination issues and measures that may reduce human health risks.

Note:
California Department of Fish and Game (Cal DFG)
California Department of Public Health (Cal DPH)
Community Based Organizations (CBOs)
Office of Environmental Health Hazard Assessment (OEHHA)
Santa Monica Bay Restoration Commission (SMBRC)

• Fish monitoring: (1) EPA and the Natural Resources Trustees completed a large scale fish survey in the Southern California coastal area (approximately 1,000 fish from 23 fish species were analyzed) in Summer 2007. EPA utilized the survey results to form the basis of its cleanup decision for the PV Shelf site. The State of California will use the data to update the existing fish advisory. (2) EPA will continue to monitor contaminant levels in ocean-caught fish as well as the fish in the market places to monitor risks related to eating these fish.

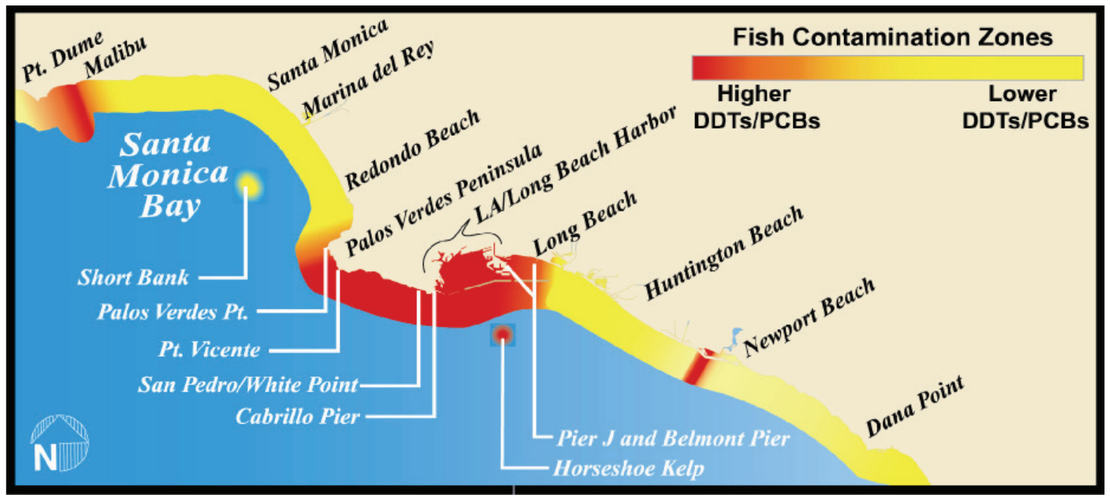
• Enforcement: (1) EPA is working with the State of California Department of Fish & Game to implement enforcement of the existing fishing regulations related to the PV Shelf site. (2) EPA has put together inspection/outreach programs with the local health department food inspection programs in Los Angeles County, Orange County and the City of Long Beach. The health inspectors will conduct market inspection of white croaker (the most contaminated fish in the Southern California coastal area due to the PV Shelf contamination) at select markets and wholesalers.

The three program components work in concert to help EPA achieve progress towards the goal of the risk reduction. Additional information about the ICs program can be found online at www.pvsfish.org.

Remedial Investigation (RI)/Feasibility Study (FS) Status

EPA issued a Proposed Plan (PP) in 2000 that recommended implementation of Institutional Controls (ICs) for a period of 10 years while EPA continued its investigation and evaluation of potential remedies for the PV Shelf. EPA undertook a pilot capping project in 2000. Additional monitoring studies and investigative reports followed in 2001 and 2004. EPA completed its Remedial Investigation Report (RI) in 2007. The report is available online at EPA Region 9's website: www.epa.gov/Region09/PalosVerdesShelf. The RI summarizes the nature and extent of contamination, the transport and fate of the contamination, and the current risk to human health and the environment from the site.

Although discharge of DDT and PCBs stopped over 30 years ago, these persistent pollutants remain in the sediment off Palos Verdes Peninsula. The RI found the quantity of DDT and PCBs has dropped over the years. Some of the contaminants have been carried off the shelf into deeper waters, some have been diluted by mixing with cleaner sediment, and within the contaminated sediment deposit EPA found evidence that DDT—but not PCBs—is slowly breaking down. The RI report used new fish data to recalculate the risk to human health posed by the site and found that fish, especially bottom-feeders like white croaker, still contain levels of DDT and PCBs that warrant fish advisories. The site still poses a threat to wildlife in the area as well, although we have seen some indications of recovery, like bald eagles nesting on the Channel Islands.



1943 Montrose begins DDT discharge in LA County sewer systems between 1943 and 1983.

1972 U.S. bans the use of DDT.

1983 Montrose ceases production of DDT.

1985 State of CA issues interim seafood consumption advisory, including "do not eat" recommendation for white croaker caught in PV Shelf area.

1989 EPA adds Montrose to the Superfund National Priorities List (NPL).

1991 State issues final seafood consumption advisory.

1996 EPA begins investigation and evaluation of DDT and PCB contaminated sediments off PV Peninsula.

1998 State sets white croaker daily bag limit.

1999 EPA starts outreach and education project – a precursor to FCEC.

2000 EPA begins pilot capping project.

2001 The U.S. settles legal claims against Montrose and other defendants; EPA establishes ICs program.

2002 EPA and the trustees initiate the fish in the ocean monitoring program.

2003 EPA begins implementation of public outreach and education programs through FCEC.

2007 EPA prepares Draft RI/FS for PV Shelf sediments.