United Heckathorn Superfund Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • March 2012

The U.S. Environmental Protection Agency (EPA) invites you to a community meeting to hear EPA's Action Plan for investigation and cleanup activities at the United Heckathorn Superfund Site and opportunities for community involvement.

- » Investigation and cleanup schedule
- » Community involvement opportunities including technical assistance and job training
- » Updated Fish Advisory by the State of California

There will be a short presentation on the Action Plan and community involvement from 6:00p.m. to 6:30p.m. There will also be a poster board session **before and after** the presentation to address any one-on-one comments and questions.

Community Meeting/ Open House

Monday, March 19, 2012
5:30p.m. - 7:00p.m.
(Presentation 6:00p.m. - 6:30p.m.)

at the

Richmond Community Foundation
1014 Florida Avenue
Richmond CA 94804

The United States Environmental Protection Agency (EPA) invites you to a community meeting to discuss the cleanup at the United Heckathorn Superfund Site located within the Inner Richmond Harbor in Richmond, California (Figure 1). In addition, this fact sheet discusses the results of the recent Five-Year Review (FYR) for the Site and updates you about EPA's investigation efforts.

Site History

From 1947 to 1966, several operators, who are collectively called United Heckathorn, used the Site to formulate and package pesticides. United Heckathorn received technical grade pesticides from chemical manufacturers, ground them in air mills, mixed them with other ingredients such as clays or solvents, and packaged them for final use in liquid or powder formulations. During these operations, pesticides, including DDT which accounted for 95% of its operations, were released to nearby soil and the adjacent waterway, the Lauritzen Channel.

United Heckathorn Company went bankrupt and vacated the Site in 1966. Between 1966 and 1970, the United Heckathorn buildings were demolished and cleared from the Site. In the 1970s, the Site was used primarily for bulk storage. In 1981, the Levin Metals Corporation purchased the property to operate a bulk shipping facility. In 1980, the United Heckathorn Site was inspected and sampled by the California Department of Health Services. Chlorinated pesticides and metals were detected in soil samples, and the area was designated a State Superfund Site in March 1982. In March 1990, EPA placed the Site on its National Priorities List, and in August of that year assumed lead agency status.

Cleanup

Interim response actions were conducted from 1982 to 1993 in the upland and embankment areas of the United Heckathorn Site, which included excavation of 3,300 cubic yards of DDT-contaminated soil from these areas to levels acceptable for industrial use (Figure 1).

EPA developed a cleanup plan, which was documented in a 1994 Record of Decision (ROD). The cleanup, which was conducted between 1996 and 1998, included:

1) Dredging over 100,000 cubic yards of contaminated sediments from the Lauritzen Channel and Parr Canal and adding clean sand to improve habitat;

2) Capping the upland area with concrete, where the former facility was located, so there is no contact with the waste and to prevent erosion; and,

3) Recording a deed restriction that prohibits future residential use of the property.

The 1994 ROD also established the following cleanup goals, which are used to monitor conditions at the Site.

Table 1:
Cleanup Goals in the 1994 Record of Decision

Surface Water	DDT (0.59 ng/L)
Surface Water	Dieldrin (0.14 ng/L)
Sediment	DDT (average 590 ug/kg)

The sediment cleanup goal in Table 1 was calculated based on the National Ambient Water Quality Criteria (NAWQC) available in 1994 for DDT for surface water for protection of human health from consumption of DDT-contaminated fish. The NAWQC for DDT for human health for consumption (0.59 ng/L) was more stringent than for protection of marine organisms, so the human health goal was adopted as the cleanup standard for surface water. The NAWQC for dieldrin for protection of human health was also adopted as a cleanup goal. Although DDT and dieldrin were collocated in sediment, DDT concentrations were generally 10 to 100 times higher and detected over a wider area, so a cleanup level in sediment was only established for DDT.

What are the Risks and How is Exposure Prevented?

DDT (dichlorodiphenyltrichloroethane) and dieldrin accumulate in the tissues of edible marine organisms (e.g., fish, mussels). People and fish-eating birds and mammals are exposed when they eat the fish and other biota. DDT and dieldrin are man-made pesticides that were widely used in the agriculture industry. In 1972, the U.S. banned the use of DDT because of its damaging affect on wildlife, and the EPA also considers it a probable human carcinogen. In 1987, the U.S. banned all uses of dieldrin, which can affect the nervous system.

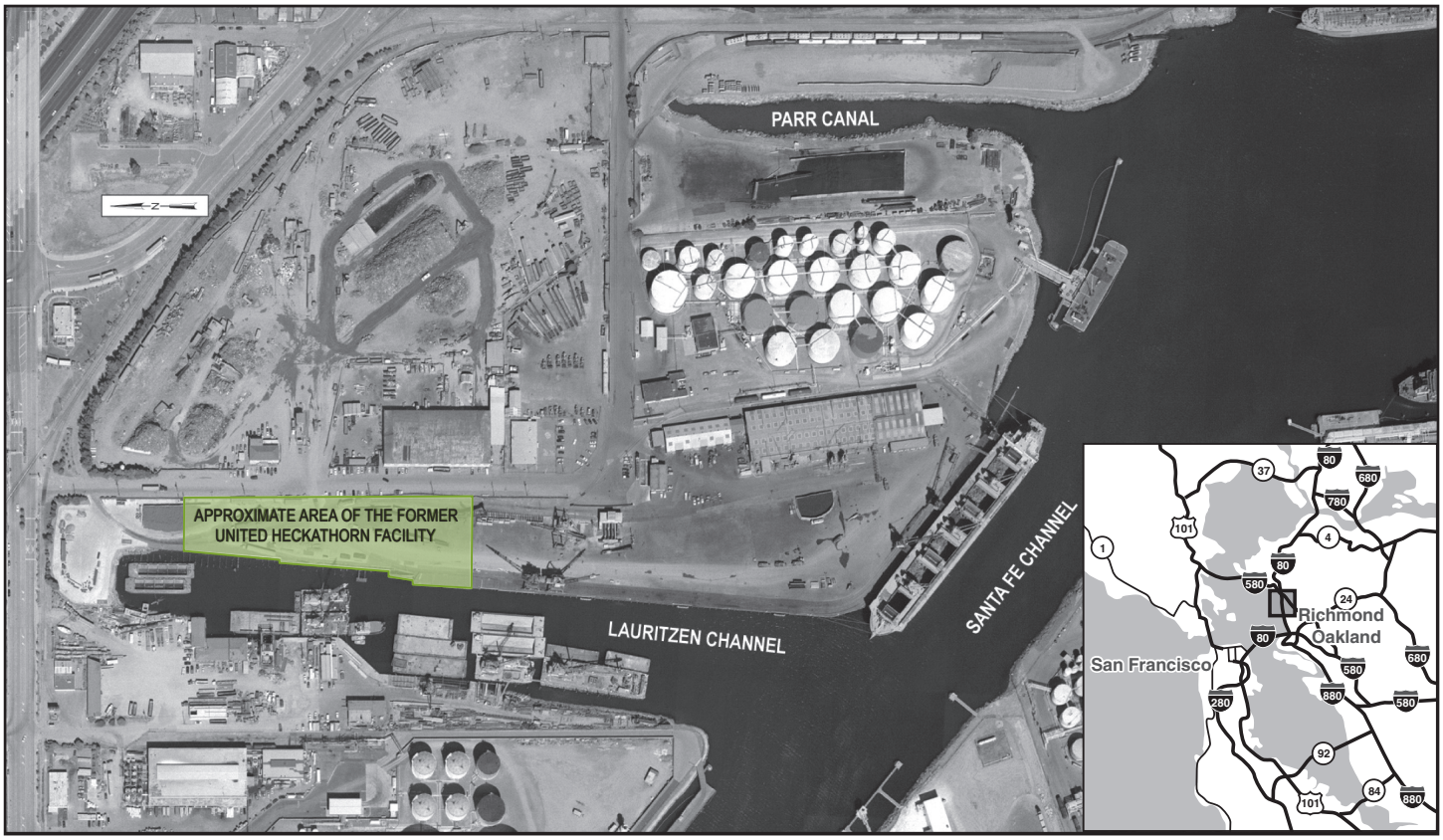


Figure 1: *United Heckathorn Superfund Site Location*

The area adjacent to the Lauritzen Channel is an active marine terminal subject to homeland security requirements and is not a likely place for fishing. However, even with these limitations and warning signs against fish consumption, illegal trespassing can occur.

2011 Five-Year Review

The purpose of the Five-Year Review (FYR) is to determine whether a cleanup remedy at a Site remains protective of human health and the environment and is functioning as designed. FYRs are completed on Sites where contamination is left in place as part of the remedy. In 2011, EPA completed its third Five-Year Review report for the Site. It is available at the Site's information repositories (see Page 6), and on the EPA web page: **http://www.epa.gov/region09/Unitedheckathorn**

Conclusions and Recommendations

EPA found that the cleanup in the area adjacent to the former facility (the upland area) is protective of human health and the environment, because the concrete cap is preventing erosion of any soils beneath the cap and any contact with the contaminated soils. There is a deed restriction in place limiting the property to non-residential uses.

However, EPA concluded that the cleanup within the marine area was not yet protective of human health and the environment because DDT and dieldrin concentrations are elevated in sediment and biota (plant and animal life in the water) collected from the Lauritzen Channel.

Based on data collected at the Site, average DDT and dieldrin concentrations in sediment from the Lauritzen Channel are higher than the average reported following dredging, and exceed cleanup levels. Fish caught in the Lauritzen Channel in 2008 had elevated concentrations of DDT compared to the adjacent waterways (Figure 2). Also, DDT in mussel tissue that was analyzed from the Lauritzen Channel in 2007 and 2009 showed an increasing concentration trend compared to the initially decreasing trend observed following remedial dredging in 1997. Analyzing mussel gives an indication of the amount of pesticides that can bioaccumulate in a living organism.

Previous FYRs (2001 and 2006) also concluded that the remedy was not completely effective in the marine area. EPA since that time has been evaluating potential sources of DDT re-contaminating the Lauritzen Channel, including investigating the embankments adjacent to the Channel and the storm water system, and monitoring biota. In addition, the 2001 FYR indicated that the source of the recontamination may be areas that could not be dredged during the initial cleanup.

The 2011 FYR included recommendations for continued preparation of a feasibility study to evaluate cleanup options to address the contamination in the Lauritzen Channel, and updating warning signs at the Site with a new fish advisory (see box at right).

What is the New Fish Advisory?

In 2011, the State of California, Office of Environmental Health Hazard Assessment revised its fish advisory for the Lauritzen Channel to now recommend "**no consumption of fish**" from the Lauritzen Channel, based on its analysis of fish tissue data provided by EPA.

New signs warning against consumption of fish will replace the present signs posted in the vicinity of Lauritzen Channel. There is still a fish advisory of no consumption of bottom feeding fish from the Richmond Harbor based on the presence of heavy metals and polychlorinated biphenyls, which are unrelated to the United Heckathorn Site. Fish in the harbor are exposed to multiple contaminants. Please take these signs seriously! Information on the fish advisory and safe fish eating guidelines for the San Francisco Bay Area is posted on: **http://www.oehha.ca.gov/fish/nor_cal/pdf/SFBayAdvisory21May2011.pdf**

Location	DDT Concentration Range in Fish Tissue (ug/kg)	Dieldrin Concentration Range in Fish Tissue (ug/kg)
Lauritzen Channel North	25 to 11,000	12 to 550

Location	DDT Concentration Range in Fish Tissue (ug/kg)	Dieldrin Concentration Range in Fish Tissue (ug/kg)
Parr Canal	89 to 1,291	6.5 to 32

Location	DDT Concentration Range in Fish Tissue (ug/kg)	Dieldrin Concentration Range in Fish Tissue (ug/kg)
Santa Fe Channel	26 to 272	1.1 to 43

Location	DDT Concentration Range in Fish Tissue (ug/kg)	Dieldrin Concentration Range in Fish Tissue (ug/kg)
Richmond Inner Harbor	7.45 to 111	<0.80 to 7.9

Fish Tissue Advisory Levels

Contaminant	Three 8-ounce servings/week (ppb wet weight)	Two 8-ounce sevings/week (ppb wet weight)	One 8-ounce serving/week (ppb wet weight)	No Consumption (ppb wet weight)
DDT	520	>520-1,000	>1,000-2,100	>2,100
Dieldrin	15	>15-23	>23-46	>46

Source: Advisory and Safe Eating Guidelines for San Francisco Bay Fish and Shellfish, Prepared by California Environmental Protection Agency, Office of Environmental Health Hazard Asessment. May 2011.

Figure 2: *2008 Fish Tissue Results*

What are EPA's Next Steps?

EPA's Action Plan includes collecting additional data to be used to formulate a long term cleanup solution as well as implementing a short term immediate cleanup action. EPA retained national sediment experts to review existing data from the Site and make recommendations for filling data gaps to evaluate cleanup options. The sediment experts recommended collecting data to:

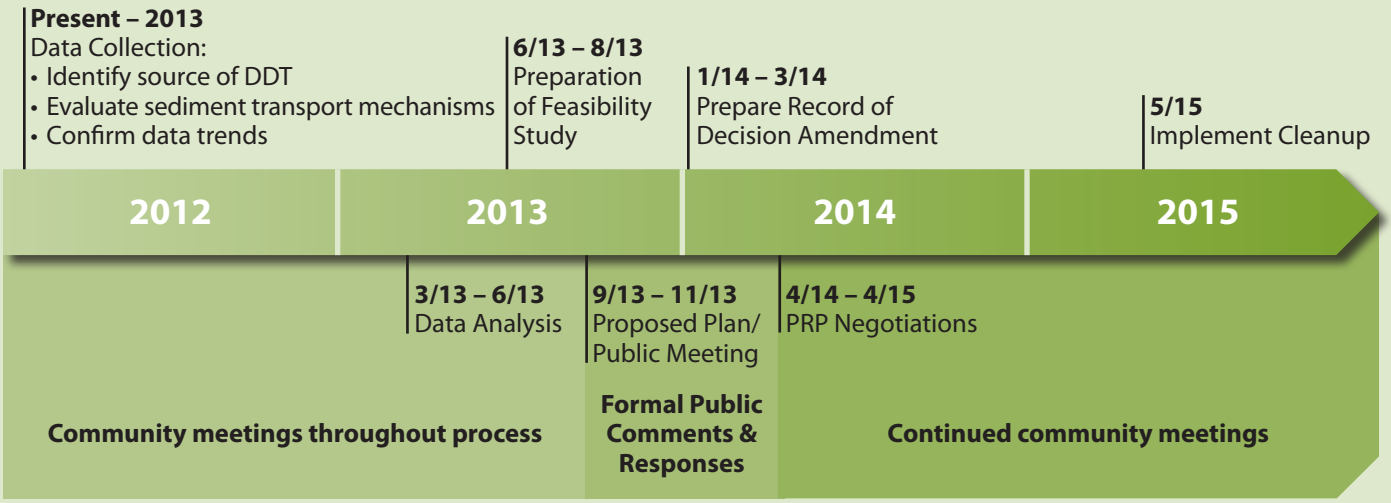
- Determine the source of DDT recontaminating the Lauritzen Channel
- Evaluate sediment movement in and out of the Channel.

EPA will also continue to collected sediment, mussel and fish samples to evaluate the trend of DDT and dieldrin in the environment.

This spring, in partnership with the City of Richmond, EPA will design and install a flap gate on the storm water outfall in the Lauritzen Channel to prevent DDT and dieldrin-contaminated sediment from moving in and out of the system during high tide. EPA will also remove any contaminated sediment from the system.

EPA plans to complete the rest of the field work in 2012 and 2013. If the results are conclusive, and there is no need for additional data collection, EPA will prepare a focused feasibility study (FFS) which will evaluate proposed cleanup options, referred to as alternatives. The EPA will then recommend its preferred alternative, which will be made available for public comment in a Proposed Plan prior to the final decision on the remedy.

The overall anticipated schedule for cleanup is shown below.



How will EPA involve the community in the cleanup?

After the March 19, 2012 community meeting, EPA will continue to conduct community involvement activities so the residents of Richmond are better informed and involved in the cleanup effort. The EPA also plans to brief the City Council periodically at its televised meetings, and also to brief established interest groups who keep a pulse on the environmental activities in the City.

Once the FFS is completed, EPA will release a Proposed Plan, open a formal 30-day public comment period to receive written comments on the proposed remedy, and hold a public meeting where the community's verbal comments can be formally recorded.

U.S. EPA Contact Information

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75 Hawthorne Street
San Francisco, CA 94105
Toll Free: (800) 231-3075,
your message will be promptly returned

EPA Invites Community to Meeting About the United Heckathorn Superfund Site

Site Information Repository

The following locations have the Site cleanup documents available for public review:

Richmond Public Library
325 Civic Center Plaza
Richmond, CA 94804
(510) 620-6561

As of 2/2012, Hours Open:
Mon. & Tues. 12p.m. - 8p.m.;
Wed. 10a.m. - 8p.m.;
Thurs. 10a.m. - 5p.m.;
Fri. & Sat. 12p.m. - 5p.m.

U. S. EPA Superfund Records Center
95 Hawthorne Street, Suite 403 S
San Francisco, CA 94105

Hours:
Mon. - Fri. 8a.m. - 5p.m.
To review site documents, call to make an appointment at (415) 820-4700. To request copies of administrative record documents an electronic order form is available.

For detail site information, go to EPA Web Page at:
www.epa.gov/region09/Unitedheckathorn

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Richmond CA 94804

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United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-6-3)
San Francisco, CA 94105
Attn: Jackie Lane (United Heckathorn 3/12)

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