

Lower Duwamish Waterway Superfund Site

October 2004

This fact sheet provides an update on the Lower Duwamish Waterway, including information about a public meeting this month, investigation of sediment contamination, early cleanup actions, and control of pollution sources.

Sediment Investigation Update

Earlier this year, the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology), and the Lower Duwamish Waterway Group (King County, City of Seattle, Port of Seattle, and The Boeing Company) completed the first phase of the Lower Duwamish Waterway sediment contamination investigation. This phase was a preliminary assessment that looked mainly at existing data.

The second phase, now under way, includes a more in-depth assessment of risks to human health and the environment. Extensive environmental sampling will fill data gaps. Some field work already done includes surveying and sampling waterway seeps, and collecting fish, clams, crabs, and other animals to analyze contaminant levels in their tissues. Future work will include testing sediments for contamination and evaluating whether the sediments are toxic to animals that live in the mud. The second phase sampling results will become available to the public during 2004 and 2005. Draft reports summarizing the data and findings will be available for public review in 2006.

You Are Invited to a Community Meeting

**October 21, 2004
South Park Community Center
8319 Eighth Avenue South, Seattle**

5:30 – 6:30 p.m.
Open house with displays and refreshments
6:30 – 8:00 p.m.
Presentations, questions and answers
8:00 – 8:30 p.m.
Open house with displays and refreshments

Presentations will include:

- Control of pollution sources
- Sediment contamination study and early cleanup actions
- Community involvement activities

Childcare will be provided.

For childcare information, please call the Duwamish River Cleanup Coalition at 206-954-0218.

Spanish, Chinese and Vietnamese interpreters will be available.



Sediment Investigation

As part of the investigation, EPA and consultants for the Lower Duwamish Waterway Group collected fish and crabs from the Lower Duwamish Waterway so that their tissue could be tested for contamination.



“Early Action” Cleanup and Source Control Update

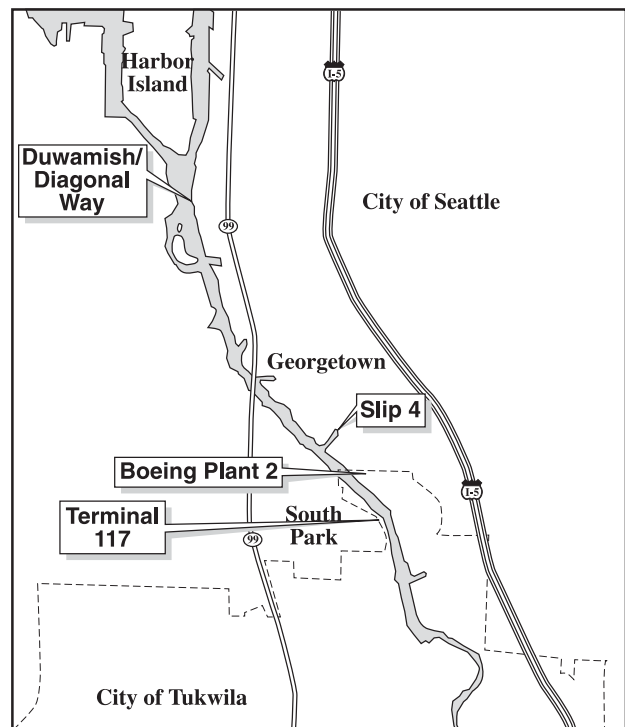
During the first phase of the sediment investigation, four high-priority areas were selected for early cleanup actions. Significant progress has been made at these areas during the past year. Once complete, the cleanup of these areas will be a major improvement in the environmental conditions in the waterway.

Another priority is controlling ongoing sources of pollution in the early action areas so that clean areas are not recontaminated. However, even with aggressive source control, some recontamination may occur.

The Source Control Work Group (Ecology, City of Seattle, King County, Port of Seattle and EPA) is looking closely at the areas that drain into each of the early action sites to identify where business inspections, monitoring, and other work is needed. Source control plans are being developed, and some source control work has already begun.

Below is an update on cleanup and source control activities in each of the early action areas. More information about source control can be found in the insert to this fact sheet.

These four areas of the Lower Duwamish have been selected for early cleanup and source control: Duwamish/Diagonal Way Combined Sewer Overflow and Storm Drain, Boeing Plant 2, Terminal 117, and Slip 4.



Duwamish/Diagonal Way Combined Sewer Overflow and Storm Drain

In March 2004, King County completed a seven-acre cleanup at this site. With funding provided by the Elliott Bay/Duwamish Restoration Program, the county removed about 66,000 cubic yards of sediments contaminated with polychlorinated biphenyls (PCBs), metals, plasticizer compounds, and other contaminants. Nearly 400 pounds of PCBs were removed from the river. For more information, visit King County's web site: <http://dnr.metrokc.gov/wtd/duwamish/diagonal.htm>.

From March 2003 to June 2004, 780 businesses were inspected in this area. Pollution control

actions were required at 345 facilities. The City of Seattle is monitoring storm drains for chemicals that could recontaminate sediments. The Container Care facility, next to the waterway, has improved its practices and maintenance of catch basins to prevent pollution from entering the river. Ecology is working with the General Service Administration to determine if work is needed at Federal Center South. A sampling plan for Terminal 108 is expected soon from the Port of Seattle. A source control plan for this early action area is scheduled to be completed in October.

Terminal 117

In May 2003, the Port of Seattle and the City of Seattle agreed to work with EPA and Ecology to investigate the riverbank soils and sediments at Terminal 117, which includes the former Malarkey Asphalt property in South Park. The Port of Seattle has conducted four rounds of bank soil and sediment sampling, as well as sampling of groundwater, seeps, catch basin and ditch soils, and outfall effluent. The samples were analyzed for PCBs, which are the primary contaminants of concern at the terminal, and several other contaminants. The Port has also collected more surface sediment samples in the marina to the north of the terminal. The Port will use the sampling results to prepare a draft report proposing cleanup boundaries and

alternatives for Terminal 117. The report should be available for public comment in spring 2005.

In addition to the work at Terminal 117, source control in this area focuses on Basin Oil, a waste oil recycling facility. This company recently sold its business, and all structures will be removed by the end of October. Analysis of samples collected from the oil-water separator and a sump in the tank farm found no significant levels of PCBs. If Ecology adds Basin Oil to its list of contaminated sites and determines that cleanup is needed, that cleanup would likely occur in the summer of 2005. Other sources in the Terminal 117 area are still being investigated. A source control plan for this early action area is scheduled to be completed by the end of 2004.

Slip 4

In October 2003, the City of Seattle and King County agreed to work with EPA to investigate existing sediment contamination and ongoing sources of contamination to Slip 4. The City of Seattle sampled surface, subsurface, and intertidal beach sediments. All samples were analyzed for PCBs, the primary contaminants of concern at Slip 4, and some were analyzed for a longer list of contaminants. The parties agreed to expand their work in Slip 4, and are now evaluating the proposed boundaries of the cleanup area and developing

cleanup alternatives. This analysis will be available for public comment in 2005.

In August 2004, the City of Seattle and King County began source control inspections of the King County Airport storm drain system and surrounding areas. To date, 22 inspections have been completed. About 30 more are needed. A source control plan for this early action area is scheduled to be completed by the end of 2004.

Boeing Plant 2

The Boeing Company (Boeing) has done extensive sampling of sediments in the area of Plant 2, including sampling sediments in front and upstream of the facility, in April 2004, to help define the early cleanup area. EPA is working with Boeing to further investigate and clean up contaminated soil and groundwater at the Boeing Plant 2 facility, as well as contaminated sediments in the waterway near Plant 2.

A source control plan for this early action area is scheduled to be completed in 2005.

EPA recently mailed a fact sheet detailing work at Plant 2. This fact sheet is available on EPA's web site: <http://yosemite.epa.gov/R10/CLEANUP.NSF/LDW/Boeing+Plant+2>.

Site Background

The Lower Duwamish Waterway Superfund site is located south of Elliott Bay, near downtown Seattle. Boat manufacturing and repair, marina operations, airplane parts manufacturing, metals fabrication, combined sewer overflows, and over one hundred storm drains have contributed to contamination of the waterway. In addition to industry, important uses of the waterway include fishing, recreation, and wildlife habitat. The river plays an essential role in supporting commercial navigation, employment, and the economy.

Based on assessments of risks to human health, fish, wildlife, and the environment, associated with contaminants in the river sediments, EPA placed the site on its Superfund list of hazardous waste sites that are the nation's top priorities for investigation and cleanup. EPA, Ecology, and other partners are investigating and cleaning up sediment contamination under Superfund and other programs.

For More Information

Call one of our information repositories for an appointment to review documents:

Georgetown Gospel Chapel, 6606 Carleton Avenue South, Seattle, WA, 206-767-3207
EPA Region 10 Records Center, 1200 Sixth Avenue, Seattle, WA, 206-553-4494
Washington State Department of Ecology, 3190 160th Avenue SE, Bellevue, WA, 425-649-7190

Visit EPA's website:

<http://www.epa.gov/r10earth/>

Click on Index, then "L," and then "Lower Duwamish Waterway Site."

Call or e-mail one of these contacts:

General Information:

Cindy Colgate Schuster, EPA Community Involvement Coordinator
206-553-1815, toll-free at 1-800-424-4372, or schuster.cindy@epa.gov

Sediment Study:

Allison Hiltner, EPA Project Manager
206-553-2140, toll-free at 1-800-424-4372, or hiltner.allison@epa.gov

Source Control:

Dan Cargill, Ecology Project Manager
425-649-7023 or daca461@ecy.wa.gov

Boeing Plant 2:

Anna Filutowski, EPA Project Manager
206-553-5122, toll-free at 1-800-424-4372, or filutowski.anna@epa.gov

Duwamish/Diagonal Way:

John Phillips, King County Community Relations
206-263-6543 or john.phillips@metrokc.gov

Slip 4:

Karen Keeley, EPA Project Manager
206-553-2141, toll-free at 1-800-424-4372, or keeley.karen@epa.gov

Terminal 117:

Ravi Sanga, EPA Project Manager
206-553-4092, toll-free at 1-800-424-4372, or sanga.ravi@epa.gov

Community Advisory Group:

B.J. Cummings, Duwamish River Cleanup Coalition
206-954-0218 or info@duwamishcleanup.org

Si desea hablar con alguien que habla español, llame a **Pamela Emerson**, EPA, 206-553-1287.



Alternative formats are available. For reasonable accommodation, please call Cindy Schuster. TTY users, please call the Federal Relay Service at 1-800-877-8339 and give the operator Cindy Schuster's phone number.

Lower Duwamish Waterway Superfund Site: Pollution Source Control



The Washington State Department of Ecology (Ecology) has prepared this fact sheet about pollution source control for the Lower Duwamish Waterway Superfund Site in Seattle.

Site Background

The Lower Duwamish Waterway Superfund site is approximately 5.5 miles long and flows into Elliott Bay near Harbor Island (see map on page 4). The waterway is used for commercial shipping, fishing, recreation, and as habitat for wildlife. Several runs of salmon pass through the waterway every year.

In 2001, the U.S. Environmental Protection Agency (EPA) added the waterway to the Superfund list (EPA's list of the nation's most contaminated hazardous waste sites) due to contamination in sediments on the bottom of the waterway and the potential threat posed to human health and the environment. Contaminants include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), mercury and other metals, and phthalates.

PCBs were commonly used in electrical equipment and hydraulic fluids, until their manufacture was banned in 1976. Though much has been done to clean up PCB sources on properties along the Duwamish, work is still underway to discover and handle any remaining PCB sources. PAHs and metals are common pollutants from fuel combustion, autos, and commercial and industrial processes. Phthalates are plasticizers, found in a wide variety of products, including personal care products and some auto brake pads and belts.

Ecology and the EPA, in cooperation with the City of Seattle, King County, the Port of Seattle, and The Boeing Company, are working to investigate and clean up contaminated sediments in the Lower Duwamish Waterway. EPA is the lead for investigating sediment contamination and determining options for cleanup. Ecology is the lead for source control.

What is source control?

Source control is the process of finding and then stopping or reducing releases of pollution to waterway sediments. The point of source control is to keep sediments from becoming polluted again after being cleaned up. Finding and controlling sources is difficult and even with aggressive source control, some recontamination may occur.

Ecology's January 2004 Source Control Strategy describes the goals, priorities and process used to address source control work. This document is available at Ecology's web site and the information repositories (see box on this page).

Early action sites and source control

High-priority areas of the waterway, called *early action sites*, have been identified for sediment cleanup (see map). Some cleanup work has been done at Duwamish/Diagonal Way Combined Sewer Overflow/Storm Drain (CSO/SD), and more cleanup is planned in the waterway.

Top priorities for source control include the Duwamish/Diagonal Way CSO/SD, Terminal 117, Slip 4, and Boeing Plant 2 early action sites (see map). Ecology's approach is to look at

October 2004

For more information:

Lead Agency—WA Dept. of Ecology
Dan Cargill
Source Control Project Manager
WA Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7023
E-mail: daca461@ecy.wa.gov

***Additional contacts listed on page 3**

To be added to the mailing list:

Rick Huey, Project Manager
WA Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7256
E-mail: rhue461@ecy.wa.gov

Documents can be reviewed at the following locations:

Ecology's Web Site:
http://www.ecy.wa.gov/programs/tcp/sites/sites_information.html

Georgetown Gospel Chapel
6612 Carleton Avenue South, Seattle
(206) 767-3207
(Call for an appointment)

WA Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7190
(Call for an appointment)

Superfund Records Center
U.S. Environmental Protection Agency
1200 Sixth Avenue ECL-076
Seattle, WA 98101
(206) 553-4494
(Call for an appointment)

the “source areas” that discharge to each early action site. As the extent of each of these areas is determined, source control action plans for each area are developed. These action plans present information on the source areas, the source control work and monitoring that are needed, and how progress for each area will be reported.

Source control action plans will be adapted to fit the different kinds of work that will be needed in each source area. The plans require all of the public agencies with the authority and responsibility for source control to share information and coordinate their efforts to help business, government, and the public make changes to control contamination reaching the waterway.

The Source Control Strategy provides more detail about why the source control process must be flexible, and why teamwork is important to accomplish this work. As the source control action plans are published, they will be made available at Ecology’s web site and at the information repositories.

Who’s who in source control?

Ecology is leading an interagency team called the Source Control Work Group that is working toward controlling sources of pollution that may contaminate waterway sediments. The team shares information, discusses strategy, develops action plans, implements source control measures, and tracks progress. The team includes:

- Ecology: lead for source control at properties that discharge directly to the waterway and for source control work at contaminated properties;
- City of Seattle and City of Tukwila: leads for source control within their storm drain systems;
- King County: lead for source control for discharges to wastewater or combined wastewater and storm water systems;
- Port of Seattle: lead for source control and contaminated property issues for Port properties; and
- EPA: technical assistance to the Source Control Work Group, source control coordination with EPA sediment investigation and cleanup activities, and lead for Boeing Plant 2 and Rhone/Poulenc cleanup sites.

The Source Control Work Group also works with the site community advisory group, the Duwamish River Cleanup Coalition, and other stakeholders on source control issues.

Potential sources of pollution

Potential sources of pollution to the waterway include:

- Direct discharges from commercial, industrial, private, or municipal sewage/wastewater and storm drain outfalls;

- Contaminated groundwater, and erosion of contaminated bank soils into the waterway;
- Spills, illegal dumping, and leaks directly to the waterway, combined sewers, or storm drains; and
- Contaminants from riverside docks, wharves, and piers, as well as discharges from vessels.

Sewage/wastewater and storm water sources

There are three types of systems in Seattle and greater King County that carry sewage, wastewater, and storm water away from homes and businesses. These are referred to as the *sanitary*, *combined sewer*, and *storm drain* systems.

Sanitary sewers carry only wastewater from homes and businesses. Combined sewers carry both wastewater and storm water (runoff from roadways, parking lots, rooftops, and yards) in a single pipe. Sanitary and combined sewer flows go to the West Point wastewater treatment plant on Puget Sound. During heavy rainfall, when the combined sewers have reached their capacity, the combined sewer system may have a “CSO event” where discharges of storm water, municipally permitted industrial discharges, and untreated sewage are released directly into the waterway.

Storm drains carry only storm water runoff. Storm water may pollute the waterway when rain washes pollutants from roads and other surfaces via storm drains, ditches, creeks, or directly from properties adjacent to the waterway. For the Lower Duwamish Waterway, the combined sewer service area covers 19,800 acres and the storm water basin covers 9,100 acres. For more information see the first two links in the “additional source control links” box on page 3.

Much has already been done

Since the 1960s, significant progress has been made in controlling pollution sources to the waterway:

- Since 1960, the City of Seattle and King County have reduced the number and volume of CSO events to the waterway by about 90 percent, made possible through projects that send more wastewater and storm water to King County wastewater treatment plants. Drier weather patterns have also reduced the overflows.
- In 1969, flows from the former Diagonal Wastewater Treatment plant (near the Duwamish/Diagonal early action site) were diverted to the West Point treatment plant, ending 31 years of discharges to the waterway.
- In the last 25 years, the City of Seattle and King County have developed aggressive storm water, industrial waste permitting, and pollution prevention programs that help reduce pollution to the waterway and to Puget Sound. Many sites that once discharged

untreated wastewater to the waterway now discharge treated wastewater to the sanitary sewer.

- Over the past 15 years, improvements in Ecology permitting for boatyards, shipyards, storm water, and municipal CSO and storm water systems have helped reduce pollution to the waterway.
- In the last 15 years, the Port has worked with its tenants on source control and industrial waste compliance, and with Ecology to reduce storm water pollution.

What the agencies are doing to control sources

Source Control Work Group members are working with other agencies to control sources affecting waterway sediments. This work includes:

- **Business inspection program:** King County, the City of Seattle, Public Health—Seattle King County, the Port of Seattle and Ecology are conducting surveys and inspections of businesses in the Duwamish area to evaluate where pollutants are discharged and whether they are getting into storm water runoff. Inspectors provide advice to businesses about management practices that help control and reduce pollutants. Since March 2003, over 800 businesses that discharge through storm drains or CSOs into the waterway have been inspected. These inspections will continue. For more information see the third link in the “additional source control links” box.
- **Monitoring:** The City of Seattle is collecting sediments from the storm drain system to track sources of pollution for further investigation.
- **Permitting:** Ecology is working with businesses to prevent direct discharges to the waterway.
- **Contaminated Site Cleanup:** Ecology and EPA are leading cleanup of Boeing Plant 2, Rhone-Poulenc, Philip Services and other sites. Ecology is looking at additional sites in the area to determine if they may contaminate waterway sediments.
- **Testing:** King County is testing various household products/materials to determine if they contain chemicals found in waterway sediments.

What can you do to help?

While agencies are working with businesses to stop sources and prevent new pollution from reaching the waterway, you too can be part of the solution:

- Properly dispose of paints, soaps, and oil. Don't put these into city storm drains.
- Don't wash cars in the street where soapy water can enter a storm drain; wash on your lawn or go to a professional car wash where the waste water is treated and often recycled.

- Keep your car well-maintained to reduce leaks that could enter storm drains.
- Minimize or eliminate use of home and garden chemicals, and please follow the instructions. Overuse can harm your lawn and garden, as well as the waterway.
- Use public transit when possible, or carpool or bike to reduce the impacts of automobiles.

For more information see the fourth and fifth links in “additional source control links” box.

Additional source control links:

CSOs and wastewater treatment

<http://dnr.metrokc.gov/WTD/Duwamish/>

Storm water sources

<http://www.seattle.gov/util/services/>

Business inspection program

<http://dnr.metrokc.gov/wlr/indwaste/duwamish.htm>

Preventing pollution

<http://www.govlink.org/hazwaste/house/>

<http://www.seattle.gov/util/services/>

To learn more and get involved:

- Review documents at the locations listed on page 1.
- Get on the site mailing list.
- Contact the Duwamish River Cleanup Coalition (see box below).
- Call Ecology at (425) 649-7000 to report a spill or dumping into storm drains in northwest Washington.
- Visit Ecology's Duwamish Source Control web page.

Additional source control contacts:

Source control coordination:

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1200 Sixth Avenue ECL-111
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(206) 553-8155 E-mail: flint.kris@epa.gov

Business inspection program:

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Elsie Hulsizer, King County Industrial Waste Program
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Seattle, WA 98109
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Duwamish River Cleanup Coalition:

5410 First Avenue NE
Seattle, WA 98105
(206) 954-0218 E-mail: info@duwamishcleanup.org
www.duwamishcleanup.org



Lower Duwamish Waterway

- Candidate Early Action Sites
 - CSO/Storm Drain Discharge Area*
 - River/Stream
 - Open Water
 - Incorporated Area
 - Roads
- 0 2 4 6 Miles

 April 2004

*This boundary depicts the area that discharges to the Lower Duwamish Waterway through either the combined sewer system and/or the storm drain system.



U.S. Environmental Protection Agency
1200 Sixth Avenue ETPA-081
Seattle, WA 98101-1128

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*LOWER DUWAMISH WATERWAY
SUPERFUND SITE FACT SHEET
COME TO A COMMUNITY MEETING
OCTOBER 21, 2004*

Habr  una Reuni n Publica el 21 de octubre de 2004 sobre la limpieza de contaminaci n en el R o Duwamish. Interpretes estar n disponibles. Para obtener m s informaci n en espa ol, favor de hablar con Antonio Valero, (509) 454-7840.

[Availability-of-interpreter message in Chinese and Vietnamese in hard copy.]