

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

the "source

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For more information:

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*Additional contacts listed on page 3

To be added to the mailing list:

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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)

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.

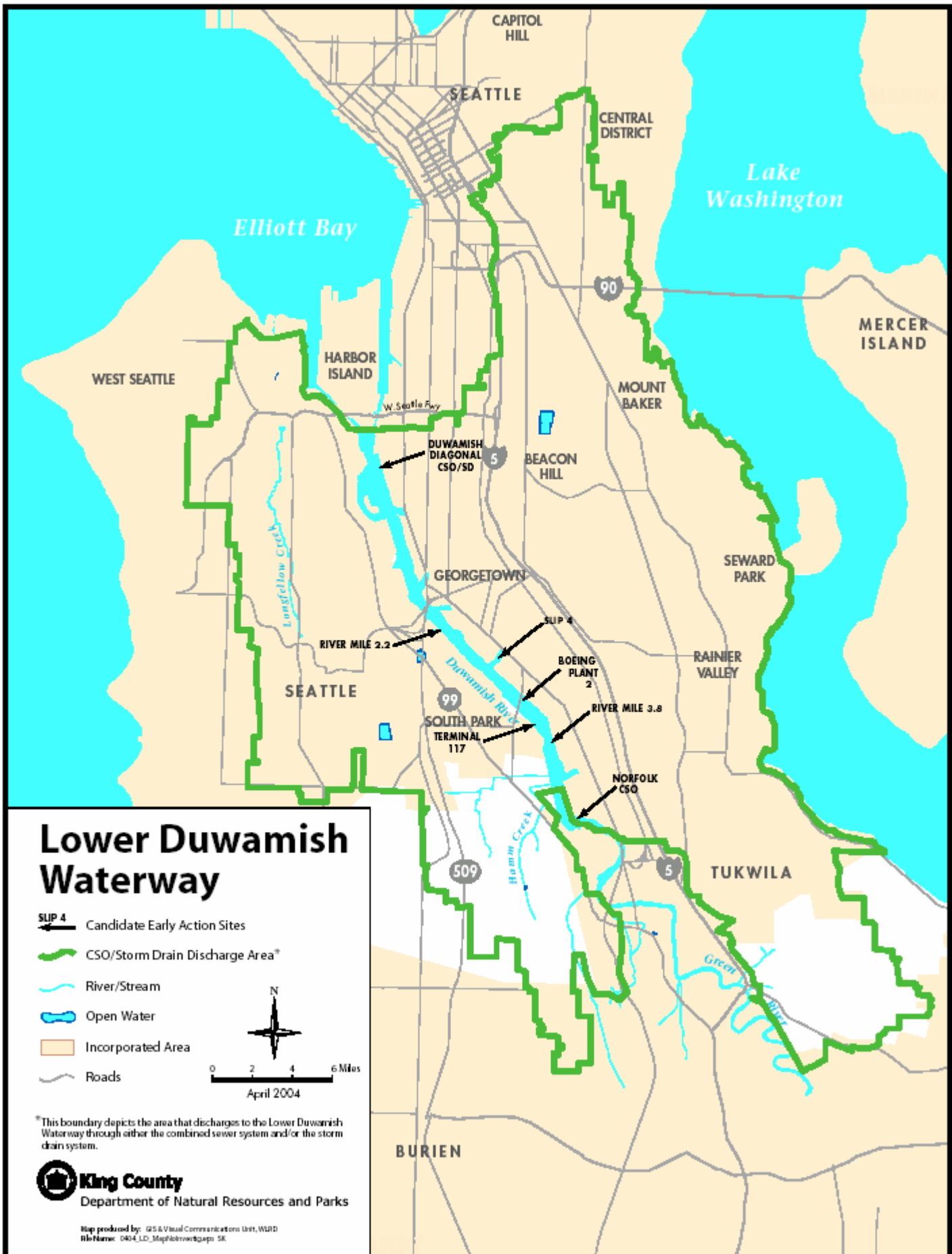
Additional source control contacts:

Source control coordination:
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Lower Duwamish Waterway

SLIP 4 ← Candidate Early Action Sites

CSO/Storm Drain Discharge Area*

River/Stream

Open Water

Incorporated Area

Roads

0 2 4 6 Miles

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

King County
Department of Natural Resources and Parks

Map produced by: GIS & Visual Communications Unit, WARD
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