

## Frequently Asked Questions

Toxics Cleanup Program

April 2013

### Ecology's Plan for Controlling Pollution in the Lower Duwamish Waterway

In 2001 and 2002, the U.S. Environmental Protection Agency (EPA) and Department of Ecology (Ecology) added the Lower Duwamish Waterway to the federal Superfund list and state contaminated sites list, due to high concentrations of contaminants in waterway sediments. Contaminants include polychlorinated biphenyls (PCBs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), arsenic and phthalates. Both current and historical activities have contributed to contamination of the river.

EPA is the lead agency for investigating sediment contamination and determining options for cleanup. Ecology is the lead for controlling sources of pollution. Ecology, in cooperation with several other local agencies, is working to investigate and control sources of pollution to the Lower Duwamish Waterway.

Ecology has developed a strategy to continue source control efforts over the next several years. This document, the Source Control Strategy (Strategy), is an appendix to EPA's Proposed Cleanup Plan and is currently available for public review and comment.

This list of Frequently Asked Questions provides information about the purpose and content of the Strategy. It also describes how Ecology and EPA will work together to accomplish the cleanup and source control.

#### Q: What is the Strategy and what will it do?

**A:** The Source Control Strategy is Ecology's long-term plan for coordinating source control with other agencies. It describes:

- Ecology's source control goals.
- The origin of sources and their pathways to the river.
- The regulations used to control or reduce sources.
- The agencies that have authority over source control and the relationships between them.

#### Q: How will Ecology coordinate source control work with the other agencies?

**A:** Inter- and intra-agency coordination and communication are critical to successful source control. One of the goals of the Strategy is to increase the level of communication within and between each involved agency.

#### For More Information

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For more information about Ecology's efforts to clean up the Lower Duwamish, visit:

[http://www.ecy.wa.gov/programs/tcp/sites\\_brochure/lower\\_duwamish/lower\\_duwamish\\_hp.html](http://www.ecy.wa.gov/programs/tcp/sites_brochure/lower_duwamish/lower_duwamish_hp.html)

For information about EPA's efforts to clean up the sediments, visit their website at:

<http://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish>

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To be effective at managing the complexities of source control:

- **Ecology has recommended that EPA, City of Seattle and King County develop their own long term agency plans for source control.** These plans, called Implementation Plans, describe how each agency will develop and organize their source control efforts. Ecology will also develop an Implementation Plan. Generally, the plans will contain information about:
  - The agency’s goals and priorities for source control.
  - How an agency will organize resources for source control.
  - The regulations each agency will use toward controlling sources.

The agencies have started working on these plans, with Ecology’s guidance. They will be finalized over the next year or so. When the plans are finalized they will be added as an appendix to the Strategy and updated as needed.

- **Ecology will continue to lead the Source Control Work Group (SCWG).** This multi-agency group is made up of staff members from Ecology, EPA, City of Seattle, King County and the Port of Seattle. The purpose of the group is to share data; develop, coordinate and implement source control measures; and report progress on source control activities.

**Q: How will Ecology implement or enforce source control? Which regulations will be used?**

**A:** Ecology, EPA and the other SCWG partners must work together and use existing regulatory tools to minimize recontamination of the Lower Duwamish sediments. As an agency, Ecology’s programs (Water Quality, Toxics Cleanup and others) are working together to make the best use of current regulations and resources to accomplish source control.

Agencies will use a combination of local, state and federal regulations to enforce source control including:

<b>Model Toxics Control Act</b>	State cleanup regulations
<b>Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)</b>	Federal Superfund cleanup regulations
<b>Federal Clean Water Act and State Water Pollution Control Act (NPDES permits)</b>	<ul style="list-style-type: none"> <li>• Municipal Stormwater Permits</li> <li>• Municipal (Sanitary) Wastewater and Combined Sewer Overflow Permits</li> <li>• Industrial Stormwater Permits</li> </ul>
<b>Sediment Management Standards</b>	State regulations for managing contaminated sediments
<b>Municipal codes</b>	Local stormwater and sewage regulations

In some cases, a combination of regulations will be used at a location or area to control sources. An example of this might be using NPDES permits for managing discharges to the river along with a MTCA agreed order to address site contamination.

Each agency's Implementation Plan will be tailored to the different regulatory obligations that apply to their agency (for example, NPDES permits, orders), programmatic approaches (for example, local business inspections, implementation and enforcement of local codes and rules), and property-specific information (for example, MTCA cleanups).

### **Q: What are the chemicals of most concern in the Lower Duwamish? Why?**

**A:** EPA identified four main chemicals of concern, polychlorinated biphenyls (PCBs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), arsenic, and dioxins/furans. These four chemicals or groups of chemicals present the greatest health risk to humans. In addition to these, EPA identified 39 other chemicals that present some level of risk to humans or organisms living in the water or sediment. Ecology's source control efforts will address all of the chemicals the EPA identified and potentially more.

#### **Most of the human health risk comes from these four chemicals:**

**PCBs.** Production of these manmade chemicals was banned in the late 1970s. PCBs were widely used in coolants and oils, paints, caulking, and building materials. PCBs stay in the environment for a long time and can build up in sediment, fish and shellfish, and can affect river otters. Children exposed to PCBs may develop learning and behavior problems later in life. PCBs are known to impact the immune system and may cause cancer in people who have been exposed to them over a long time.

**Arsenic.** This metal is associated with industrial uses such as lumber treatment and watercraft repair. Industrial activities have spread additional arsenic over much of the Puget Sound Region. It is also naturally present at low levels in Puget Sound area rock and soil. Long-term exposure to toxic forms of arsenic may cause skin, bladder, and other cancers.

**Carcinogenic PAHs.** These chemicals are formed during the burning of substances such as coal, oil, gas, wood, garbage and tobacco, and during the charbroiling of meat. Historical industrial activities are a known source of cPAHs, such as treating timber with creosote. Long periods of breathing, eating, or having skin contact with high levels of some of the cPAHs may increase a person's risk of cancer.

**Dioxins/furans.** These chemicals are by-products of burning (either in natural or industrial settings), chemical manufacturing, and metal processing. Historically, dioxins/furans were byproducts of pentachlorophenol (used in wood treating), pesticide, and PCB production. Other sources of dioxins/furans are diesel exhaust and incinerators (industrial and backyard burn barrels). Dioxins last a long time in the environment and, like PCBs, can build up in fish and fatty foods. Specific health impacts related to dioxins can include: reproductive problems, problems in fetal development or in early childhood, immune system damage, and cancer.

## Q: Why does it take so long to control sources of pollution?

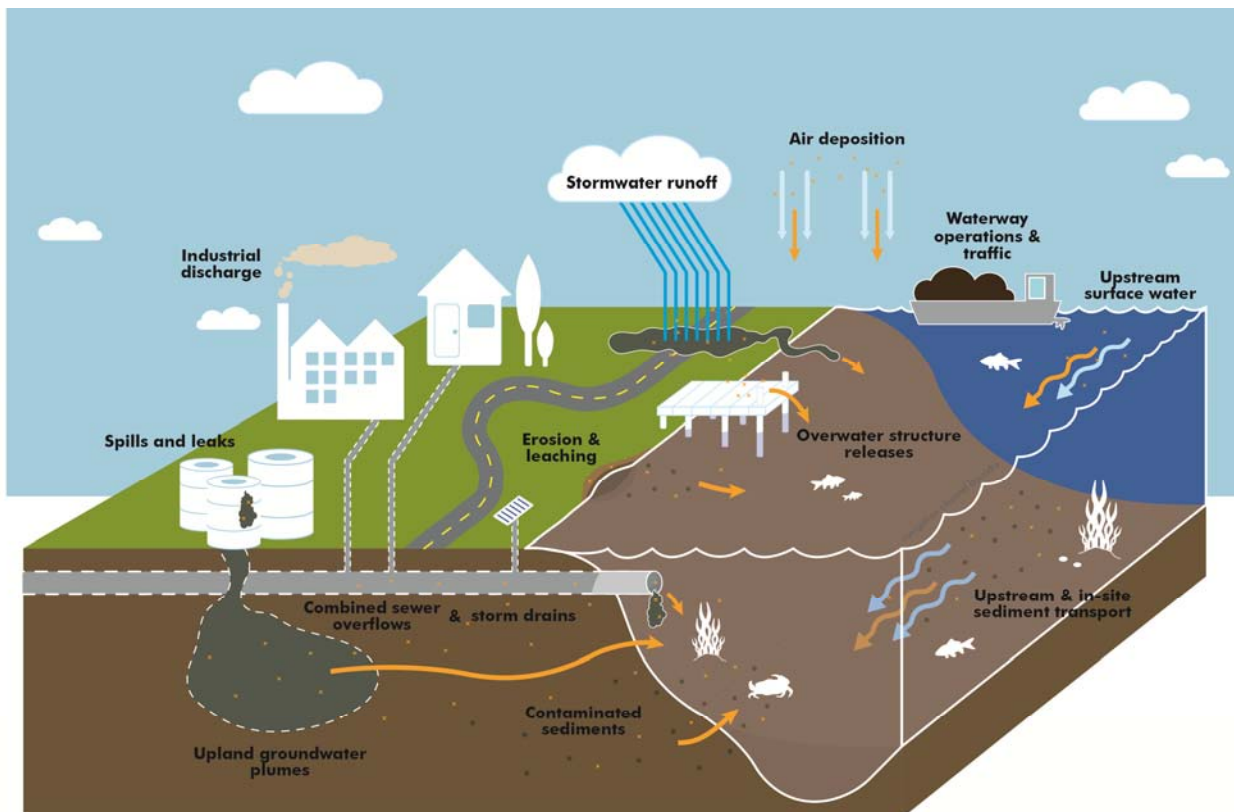
**A:** Locating, reducing and controlling sources is extremely complicated. There are a lot of different contaminants entering the river from many different pathways (Figure 1). Contaminants can enter the river through distinct points like outfall pipes or more diffuse or widespread paths like air deposition (for example, automobile exhaust).

There are several reasons why source control takes a long time:

- The area that drains into the Lower Duwamish is large with a complex system of pipes.
- In many areas along the Lower Duwamish, contaminant levels are low and require intensive and precise monitoring to track the sources. This can take several months to several years.
- Multiple sources enter the river from hundreds of outfall pipes that receive water from a large area. It can be difficult to determine exactly where the contaminants are coming from and often, it's from several different locations.
- At upland cleanup sites, it can take years to determine the full nature and extent of soil and groundwater contamination and then design a remedy and put it in place.
- Agencies are often limited on how much funding and staff they have to dedicate to source control. Especially when budgets are tight, agencies have competing priorities and must balance funding for source control with many other projects.

Relatively few sources or pathways are subject entirely to a single agency or program authority. Solutions most likely to succeed require extra time and meetings to allow for multi-agency, multi-program coordination.

**Figure 1. Pathways of pollution to the Lower Duwamish Waterway.**



**Q: Are there more upland sites that need to be cleaned up on properties along the Duwamish?**

**A:** Yes. Ecology continues to identify upland sites along the Lower Duwamish that will require cleanup actions to remove contaminants. As we investigate new areas, we continue to identify both historical and current sources of contamination. Some of these sites will be addressed through better housekeeping practices and others may require extensive soil and groundwater cleanup through the formal cleanup program. As resources are available, Ecology will begin work on these new sites. Currently, there are 30 sites undergoing cleanup.

**Q: How will Ecology decide if source control is good enough to start the cleanup of sediments?**

**A:** Ecology is still determining the final procedures for these evaluations. Ecology's basic approach will be to provide a source control evaluation to EPA that details the contaminants, media, and potential pathways and whether source control activities have sufficiently reduced the potential for sediment recontamination.

The evaluation will be based on:

- Adequacy of the information and data gathered
- Characterization of sources.
- Level of controls in place for those sources.
- Completion of identified high priority source control actions.
- Long-term sediment monitoring results and trends.
- Water quality monitoring results and trends.

Ecology and EPA are working together to develop the procedures for prioritizing sites for cleanup in an agreement called a Memorandum of Understanding (MOU). Ecology and EPA entered into an earlier MOU for the remedial investigation and feasibility study in 2002. The new MOU should be finished over the next year and should define the roles and responsibilities of each agency and how they will work together.

**Q: How will Ecology and other agencies work with the businesses in the area?**

**A:** Many agencies offer technical assistance to help the business community comply with environmental regulations. Additionally, there are private organizations that offer technical assistance to the business community. Visit the links below for more information:

- Environmental Council of South Seattle  
[http://www.ecoss.org/business\\_overview.html](http://www.ecoss.org/business_overview.html)
- King County Local Hazardous Waste Management Program  
<http://www.lhwmp.org/home/>
- King County Industrial Waste Program  
<http://www.kingcounty.gov/environment/wastewater/IndustrialWaste.aspx>

- Seattle Public Utilities, Lower Duwamish Waterway  
[www.seattle.gov/util/protectduwamish](http://www.seattle.gov/util/protectduwamish)
- Ecology Hazardous Waste and Toxics Reduction Program  
<http://www.ecy.wa.gov/programs/hwtr/reducewaste.html>
- Ecology permit assistance website  
<http://www.ecy.wa.gov/permit.html>

**Q: What is MY role in source control? What can I do?**

**A:** Everyone can contribute to source control efforts, including business owners, municipalities, residential property owners, and people who work on or use the river in other ways. We all contribute to pollution and we should be part of helping reduce it. There are a lot of things that people can do to stop sources from reaching the river!

**At home:**

- Reduce the use of and properly dispose of household hazardous chemicals.
- Avoid spills by properly storing chemicals.
- Use less fertilizer on lawns.
- Wash cars on lawns instead of driveways.
- Visit local utility websites for tips to control pollutants at home:
  - <http://www.seattle.gov/util/EnvironmentConservation/index.htm>
  - <http://www.seattle.gov/util/MyServices/Garbage/SpecialorHazardousItems/index.htm>
  - <http://www.lhwmp.org/home/HHW/downsizing.aspx>
  - <http://your.kingcounty.gov/solidwaste/wdidw/index.asp>

**At work:**

- Seek environmental compliance assistance from various agencies and private organizations.
- Properly store chemicals.
- Keep a spill kit on site for chemical spills and leaks.
- Address historic contamination, if known.

**Q: Why should I give input? Will my comments make a difference?**

**A:** Ecology wants to hear what you think about the source control strategy. Comments from the public can give Ecology important information about possible sources or ideas on how to implement source control in a better way. Some comments may lead to a change in Ecology’s strategy and the way we approach source control.

We all play a role in controlling sources of pollution to the Lower Duwamish Waterway. It’s important that everyone who uses the river has a chance to comment on the strategy to protect it. If we are all going to work together on source control, Ecology needs to hear from you!

**Q: How can I comment on Source Control Strategy?**

**A:** There are several ways to submit comments for EPA’s Proposed Plan and Environmental Justice Analysis and Ecology’s Source Control Strategy including:

<b>Online</b>	<a href="http://www.resolve.org/site-ldpc">www.resolve.org/site-ldpc</a>
<b>Email</b>	<a href="mailto:ldpc@resolve.org">ldpc@resolve.org</a>
<b>Fax</b>	206-420-5999
<b>Mail</b>	Allison Hiltner, Environmental Protection Agency, 1200 6 <sup>th</sup> Avenue, Suite 900 ECL-111, Seattle, WA, 98101

EPA and Ecology are hosting several public meetings where you can find out more information about the Proposed Plan, Source Control Strategy and the Environmental Justice Analysis and submit comments. These meetings will be held on several dates throughout Seattle:

**April 30 Public Meeting:**  
 South Seattle Community College  
 6737 Corson Ave South, Seattle  
**1st meeting:**  
 Open house at 3:30 and presentation at 4:00 p.m.  
 or  
**2nd meeting:**  
 Open house at 6 p.m. and presentation at 6:30

**May 15 All Spanish Public Meeting**  
 English translation available  
 South Park Community Center  
 8319 8th Ave South, Seattle  
 5:30 p.m.

**May 29 Public Meeting:**  
 Seattle Town Hall,  
 1119 8th Ave, Seattle  
**1st meeting:**  
 Open house at 2:00 and presentation at 2:30 p.m.  
 or  
**2nd meeting:**  
 Open house at 6 p.m. and presentation at 6:30 p.m.

For more information about the public meetings, visit EPA’s website at <http://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish>.



DEPARTMENT OF  
**ECOLOGY**

State of Washington

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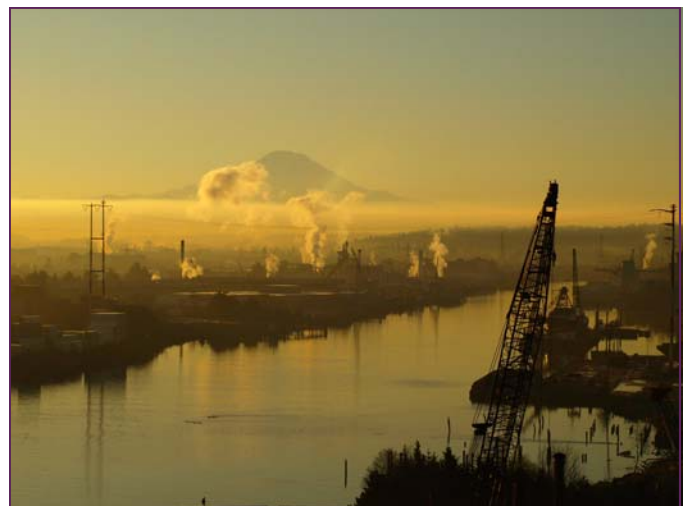
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## **Lower Duwamish Waterway Source Control Strategy Seattle, WA**

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**Want to get more involved with efforts to  
clean up the Duwamish River?**

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