EPA United States Environmental Protection Agency Region 10

Environmental Justice Impacts

Cleaning up the Lower Duwamish Waterway Superfund Site

Seattle, Washington | April 2013

Over a century of industrial and urban use has contaminated the sediments (mud on the river bottom), water, and marine life in the Lower Duwamish Waterway. Highways, railroads, King County airport, and a busy port exist alongside two of the most diverse and low income residential neighborhoods in Seattle: South Park and Georgetown. These neighborhoods bear the burden of air pollution and noise from nearby transportation sources and industry.

The U.S. Environmental Protection Agency and the Washington Department of Ecology are responsible for overseeing the cleanup of the contaminated sediment in the Lower Duwamish Waterway. These agencies recently published their recommendations for cleaning up the Duwamish. Community members asked the Environmental Protection Agency to conduct an environmental justice analysis of the cleanup options and their potential impacts on the nearby communities.

The Environmental Justice Analysis for the Lower Duwamish Waterway is the first such analysis written for a Superfund site. The Superfund program has already begun implementing some of the recommendations made in the Lower Duwamish Waterway Environmental Justice Analysis.

Public Comment Period Ends June 13, 2013

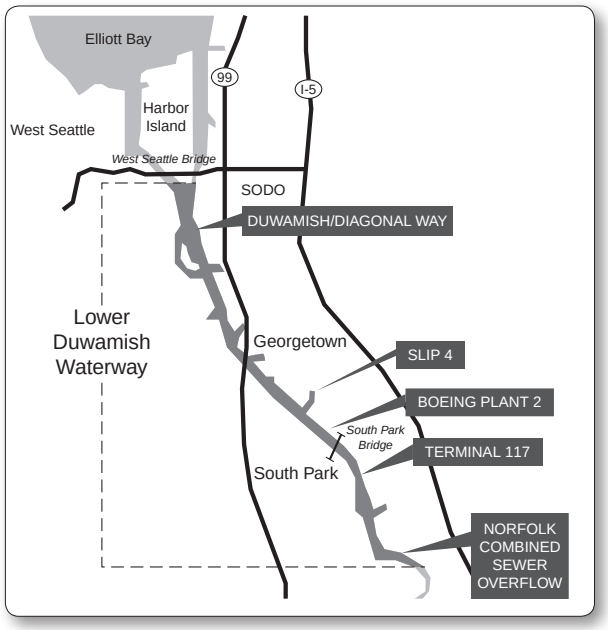
Find the Proposed Plan, Source Control Strategy, and Environmental Justice Analysis as well as information on the upcoming public comment meetings at:

www.epa.gov/region10/duwamish.html

Provide written comments at:

www.resolv.org/site-ldpc

For more information, call **Renee Dagseth** at ☎ 206-553-1889



The Environmental Justice Analysis:

- Summarizes known environmental justice concerns in the community which could be affected by the cleanup.
- Examines the cleanup options to determine where disproportionate adverse impacts may occur
- Provides guidance to the Superfund program regarding selection of the proposed cleanup plan
- Provides recommendations for mitigating disproportionate adverse impacts .

The **Proposed Plan** for the cleanup, the **Source Control Strategy** (the plan for controlling source of pollution to the Duwamish) and the **Environmental Justice Analysis** are available for review and comment. This is your chance to influence the future of the Duwamish cleanup.

In addition, since this is the first environmental justice analysis for a Superfund site in the country, your comments on the analysis could help the EPA design the content and scope of similar analyses for other cleanup sites in the United States.

What is "Environmental Justice"?

The equal distribution of environmental burdens and benefits is the heart of the idea of environmental justice. The EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and has equal access to decision-making processes.

President Clinton signed Executive Order 12898 in 1994 to require all federal agencies to consider environmental justice in their programs, policies, and activities.

Federal agencies, including EPA, must identify and address, as appropriate, the ways their work has negative human health or environmental effects that disproportionately fall on minority and low-income communities.

For more information on EPA's environmental justice policies, visit: **www.epa.gov/environmentaljustice**

Who is affected by the Lower Duwamish Superfund site?

People who live near the River

Communities within a mile of the Lower Duwamish Waterway will be most directly affected by the activities related to the cleanup. This includes both Georgetown and South Park, which are next to the Lower Duwamish Waterway, and parts of other neighborhoods within a mile of the river. Communities within a mile of the Lower Duwamish Waterway are, on average, more diverse in terms of ethnicities, incomes and languages than Seattle or the rest of King County. Per capita incomes are 34-42% lower in the Lower Duwamish Waterway corridor than for other regions in the area. Additionally, 31.9% of residents in the area are foreign born, as compared with 19.0% in King County.

The table below compares other demographic data for South Seattle with averages for Seattle and King County:

Demographic Characteristic	South Park: Census Tract 112	Georgetown: Census Tract 109	Seattle	King County
Total Population	3,906	1,287	620,778	1,969,722
% Minority	55.4%	29.8%	30.5%	28.1%
% Hispanic	37.3%	12.3%	6.6%	9.2%
% of Households with Income below $25,000	27.3%	37.5%	20.4%	18.4%

Demographic data for South Seattle Neighborhoods of South Park and Georgetown, Seattle, and King County (U.S. Census 2010 and ACS 2005-2009).

People who Use the Waterway

Many people use the waterway for fishing and recreation. Fishing includes net-fishing and clamming, which bring people into direct contact with contaminated sediment. Playing on the beach also brings people in contact with contaminated sediment. Two federally recognized tribes, the Muckleshoot and Suquamish Tribes, have fishing rights in and just north of the Lower Duwamish Waterway. In addition, the Duwamish Tribe has a presence in the area and uses the waterway.

What are the environmental justice issues in the Lower Duwamish Waterway?

In the analysis of background environmental conditions along the Lower Duwamish Waterway, the study identifies many environmental justice issues.

These include:

- high rates of seafood consumption for both tribal and non-tribal community members
- high levels of air pollution caused by industrial sources and nearby highways
- soil contamination and river sediment contamination
- a lack of nearby grocery stores and parks and
- higher rates of asthma hospitalization and other chronic diseases such as diabetes than residents in other Seattle neighborhoods.

The Lower Duwamish Waterway Environmental Justice Analysis

The EPA identified existing environmental justice issues in the communities that may be further affected by the cleanup. The study also looked at ways different proposed cleanup alternatives might affect those environmental justice issues or create new ones. Based on that analysis, the study provides information to assist in the selection of the 'preferred' cleanup alternative. It also suggests ways to reduce negative impacts related to the cleanup where possible.

A range of alternatives has been developed to clean up the sediments in Lower Duwamish Waterway. All alternatives are predicted to reduce the risks to people's health and the environment. The alternatives use different combinations of dredging, capping, enhanced natural recovery (covering contaminated sediments with a thin cap of clean sediment), and monitored natural recovery (monitoring contaminant concentrations to ensure that cleaner sediments from upstream gradually cover the contaminated sediments).

The alternatives vary in:

- how long they take to achieve reductions in risks to people's health
- their short-term environmental and health impacts
- how permanent and effective they are
- certainty that they will reduce human health risks cost and
- their community-related impacts, including the duration of cleanup activities.

Environmental Justice Analysis recommendations for selecting a cleanup alternative:

The Environmental Justice Analysis concludes that a cleanup plan which is most supportive of environmental justice goals reduces risks to people from eating contaminated fish as much as possible, minimizes impacts to cultural and recreational uses of the Duwamish, and avoids or minimizes long-term use of institutional controls. Where disproportionate adverse impacts exist, EPA should consider mitigation and secondly, compensation or substitution for any loss of access to fisheries or other resources.

Recommendations for mitigating disproportionate adverse impacts:

Address Seafood Consumption

None of the cleanup alternatives will reduce contamination enough to make all seafood safe to eat in unlimited amounts at the end of the cleanup. Institutional controls – such as seafood warnings – will continue to play a role in reducing long-term risks.

The Environmental Justice Analysis recommends starting an advisory group to involve the community in finding ways to reduce health risks from eating seafood. Additional surveys should be done to learn more about who is eating seafood from the Lower Duwamish Waterway. EPA has begun working on this recommendation.

Recommendations for mitigating disproportionate adverse impacts

⇨ *Continued*

Minimize the Need for Institutional Controls

Institutional controls are non-engineered, administrative or legal tools that reduce the chance of people's exposure to contamination. They may prohibit or restrict activities that expose people to risks, or restrict the use of a resource. An example of an engineered control is placing a fence around a site. Institutional controls also can require that people be provided with information about risks.

Relying on institutional controls places a burden on the affected community rather than on those responsible for cleaning up the river. The Environmental Justice Analysis recommends choosing a cleanup alternative that reduces the need for long-term institutional controls as much as possible. Where institutional controls are necessary they should take into account the way communities use the waterway. For example, seafood advisories should be developed together with the affected communities, and be culturally relevant.

Control Air Quality Impacts During Construction

Trains are likely to be the main way to move sediments taken out of the river. This will reduce the need for truck traffic during construction and contribute less air pollution. To make sure air pollution impacts during construction are as low as possible, the Environmental Justice Analysis recommends using equipment with the cleanest technologies available, avoid idling equipment close to sensitive populations and residences, and tree planting.

Address Economic Impacts; Provide Economic Benefits

Some people are concerned that long-term construction connected to the cleanup will affect local businesses or reduce the number of jobs available in the area. The cleanup may also provide jobs; the study notes that the King County job training initiative and Superfund Jobs Training Initiative are available to train locals so they have the qualifications needed for the cleanup-related jobs. EPA is pursuing training opportunities through these programs.

Reduce Sources of Pollution

For the Lower Duwamish Waterway to stay clean in the future, sources of pollution entering the river must be reduced. The Environmental Justice Analysis suggests a joint-agency program that addresses sources of pollution and educates the community on ways to protect the river.

Excellent Communication and Coordination

Continued communication and coordination with the community is essential. Communication should continue to be culturally appropriate, targeted, and allow for discussion. Tribal consultation, participation, and early involvement are necessary.

What do you think of the Environmental Justice Analysis?

The Environmental Justice Analysis for the Lower Duwamish Waterway is the first written for a Superfund site. Did it capture the appropriate topics? What would you like to see in future environmental justice analyses? As you consider the environmental justice issues associated with the cleanup of the Lower Duwamish Waterway, which factors are most important to you:

- time to achieve reductions in risks to people's health
- short-term environmental and health impacts
- permanence and effectiveness
- certainty that human health risks are reduced
- cost
- community-related impacts, including how long construction will take
- something else?