



Technical Advisory Group

## Cleanup Alternatives Fact Sheet & Assessment

### Draft Duwamish River Superfund Cleanup “Feasibility Study” and Proposed Cleanup Alternatives

*This Fact Sheet & Assessment is provided as a companion piece to EPA and Ecology’s Lower Duwamish Waterway Superfund Cleanup Fact Sheet.*

The Duwamish River Cleanup Coalition is EPA’s Community Advisory Group for the Duwamish River Superfund Site; DRCC/TAG is DRCC’s Technical Advisory Group – DRCC/TAG hires independent science advisors to review proposed cleanup studies and plans and provide technical advice and information to the affected community.

The Draft Feasibility Study and proposed Cleanup Alternatives have been reviewed by DRCC/TAG’s science advisors and stakeholder organizations. This Fact Sheet & Assessment outlines key issues and recommendations from this review. Community input at this stage is critical – your comments are vital to the effectiveness and value of the final cleanup plan.

**Attend EPA’s Public Meetings on the Cleanup Alternatives on December 7 and 9, or email your comments to EPA: [r10Lowerduwamish@epa.gov](mailto:r10Lowerduwamish@epa.gov) (see back page).**

Seattle’s Duwamish River was listed as a federal Superfund site in 2001. The Lower Duwamish Waterway Group (City of Seattle, King County, Port of Seattle and Boeing) have stepped forward as the four largest potentially responsible parties for the site and have proposed 12 alternatives for cleanup of the river. EPA and the WA Department of Ecology will seek public comment on a proposed cleanup plan in 2012, and is inviting public comment *now* to help in their assessment and selection.



The differences between the alternatives are in the degree to which they rely on **dredging** (removal) or **capping** (containment) to actively reduce exposure to toxins, and in the degree to which they rely on “**natural recovery**” – upriver sediments slowly burying and diluting toxins in place. Cost, speed, short term impacts, certainty (will it work?) and permanence (will it last?) vary with each alternative. *Continued on back page...*

## KEY ISSUES & RECOMMENDATIONS

### None of the proposed cleanup alternatives fully protect human health



Protecting the health of people eating *resident seafood*\* from the Duwamish is one of EPA’s objectives of the cleanup, but none of the proposed alternatives meet this goal. While even “global” background levels of some toxins may cause health risks, predicted levels of contamination will be much higher still because pollution source controls are not expected to be adequate to fully protect human health. As a result, threats to Duwamish fishermen – especially tribal, immigrant, low-income and homeless people – are expected to be unacceptably high, putting them at risk for cancers, immune system and reproductive disorders, and other chronic disease.

\* resident seafood are the fish and shellfish that live in the river year round and do not include salmon that migrate through the river.

**RECOMMENDATION: Upriver and other ongoing pollution sources must be controlled to ensure a successful and equitable cleanup.**

### Telling people not to fish is not a substitute for cleanup

All proposed alternatives rely on fishing advisories and other “institutional controls” to protect people from chemicals left behind in the river. Fishing advisories are issued in order to discourage people from eating contaminated fish, but are notoriously ineffective in places where people rely on eating seafood in order to put dinner on the table. While important prior to and during the cleanup to help protect people, the advisories are instead proposed to be *permanent* and greater than that required by background pollution alone, requiring significant changes in culturally-important practices. This places unfair burdens on immigrant and tribal fishermen and may violate tribal Treaty Rights to fish in the river.



**RECOMMENDATION: Fishing advisories must be temporary and not used as a permanent substitute for cleanup.**

### All alternatives leave toxins behind, may require additional future cleanup

Alternative 6R removes the most historic toxins from the river, but all proposed alternatives leave behind harmful levels of toxins at the surface, as well as significant deeper chemical deposits that could escape into the river in the future through disruptions such as ship scour and earthquakes. The likelihood that chemicals will re-enter the river and its food chain is greatest for “natural recovery,” while removal of toxins is the most certain and permanent of the cleanup strategies. Washington State rules call for cleanup to natural background and permanent remedies to the maximum extent feasible.

**RECOMMENDATION: Toxins should be removed from the river to the greatest extent possible for an effective and permanent cleanup – an alternative that cleans up to natural background is missing and must be added to the options.**



### The financial benefits of a thorough cleanup are not assessed

The monetary costs, but not the benefits, of the cleanup alternatives are included in the feasibility study. A cleanup that results in greater certainty and permanence with fewer “institutional controls” (such as shipping restrictions and fishing advisories) may have a higher long-term monetary value than a lesser cleanup with lower short-term costs.

**RECOMMENDATION:** *The Study should include an analysis of the benefits as well as the costs of the cleanup alternatives.*

### An Environmental Justice analysis is needed

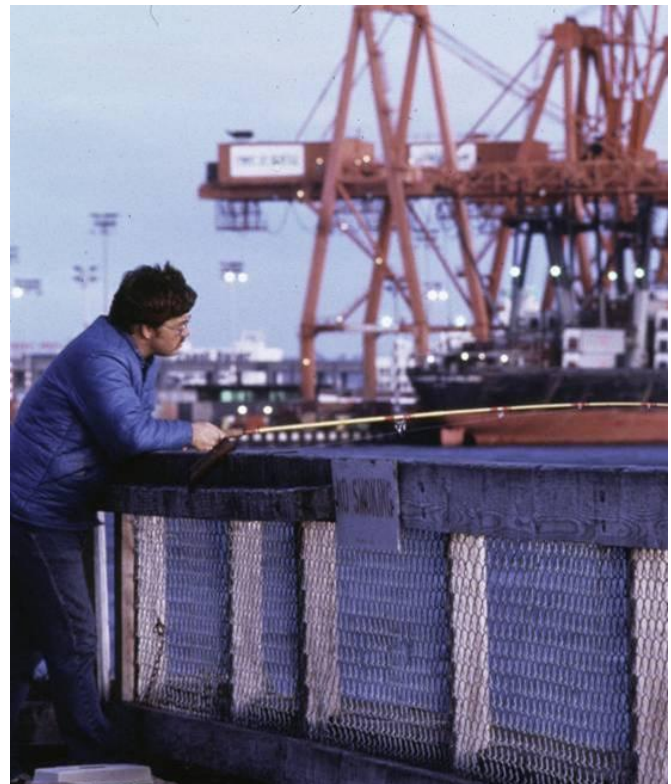
Environmental Justice\* is one of the EPA Administrator’s highest priorities, but is not considered in the alternatives study. Under the proposed alternatives, are the impacts equitable? Will all communities benefit equally? Are the most exposed and vulnerable communities adequately protected? Given the reliance on institutional controls such as fishing advisories in the proposed alternatives, these issues require a full assessment, but are not addressed in the draft study.

**RECOMMENDATION:** *The Study should include an Environmental Justice analysis to evaluate the impacts of the proposed alternatives on exposed communities.*

#### \* “ENVIRONMENTAL JUSTICE”

EPA defines environmental justice as the *fair treatment and meaningful involvement* of all people regardless of race, color, national origin or income.

Environmental justice refers to the equitable distribution of environmental benefits and burdens. Ensuring environmental justice requires identifying and correcting unfairly high adverse health and environmental impacts on minority and low-income communities.



On the Duwamish River, tribal, low-income and immigrant subsistence fishermen are more impacted because they are at higher risk from toxins in the river than other Seattle residents. EPA says that Environmental Justice will be achieved when everyone enjoys the same degree of protection from environmental and health hazards, and equal access to the decision-making process.

### What will be cleaned up?

The Superfund cleanup of the Duwamish River is focused on toxic chemicals in the mud, or sediments, at the bottom of the river. These contain high levels of PCBs (an industrial carcinogen), dioxins (often a by-product of industrial burning), arsenic, hydrocarbons, and 38 other chemicals that are currently entering the food chain and threatening the environment and/or human health.



### How will EPA choose a cleanup plan?

EPA considers many factors, including the certainty that the plan will work, whether it is expected to be permanent, and how much it costs. There are trade offs EPA needs to consider – for example: removing chemicals is considered to be more permanent, but costs more than building a cap or letting natural recovery bury the chemicals in place. *Community acceptance* is also a key factor that EPA must consider when choosing a cleanup plan.

### What are the choices?

The Lower Duwamish Waterway Group has proposed a “menu” of 12 choices for cleaning up the river. Some rely mostly on “natural recovery” while others emphasize either capping or dredging. Treatment is also considered in one of the alternatives. The cost estimates range from \$210 million to \$1.3 billion dollars, and the options are expected to take anywhere from seven to more than 40 years to implement.

### What about ongoing pollution?

A pollution “source control” plan is currently being implemented along the five-mile Superfund Site and is being overseen by the Washington State Department of Ecology. However, upriver sources of pollution are not included in the current plan. Pollution from upriver sources is predicted to exceed levels that would protect human health once the cleanup is finished.

## GET THE CLEANUP YOU WANT

### Attend a Public Meeting:

**December 7, 5:00–8:30 p.m.**

Concord Elementary School  
723 Concord Ave S. Spanish & English.  
Food & child care provided.

**December 9, 3:30–8:30 p.m. (2 sessions)**

South Seattle Community College –  
Duwamish Campus, 6737 S. Corson St.  
English & Vietnamese. Food provided.

### Send your comments to EPA:

EPA is requesting written comments through December 23, 2010 - send to: [r10Lowerduwamish@epa.gov](mailto:r10Lowerduwamish@epa.gov). (Sample letter posted at [www.duwamishcleanup.org](http://www.duwamishcleanup.org).)

### Get involved with DRCC/TAG:

EPA’s Community Advisory Group for the Duwamish River Superfund Site.  
Call us at (206) 954-0218 or email us at [contact@duwamishcleanup.org](mailto:contact@duwamishcleanup.org).

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*Advisory Group Members:*  
Community Coalition for Environmental Justice, The Duwamish Tribe, ECOSS, Georgetown Community Council, IM-A-PAL Foundation, People for Puget Sound, Puget Soundkeeper Alliance, South Park Neighborhood Association, Washington Toxics Coalition, Waste Action Project