



Since cleanup of the early action areas (see map inside), EPA continues to make progress on phased sediment cleanup at the Lower Duwamish Waterway Superfund site.

## Baseline sampling

Last year and this year, we collected and analyzed samples, to establish “baseline” conditions. The sampling provides updated information since the remedial investigation and early action cleanups were done, and will be the starting point for comparison as cleanup continues.

Baseline fish and crab samples were collected in 2017, and in 2018 baseline samples were collected of:

- Underwater sediment in the Lower Duwamish Waterway,
- Beach sediment in clam habitat areas,
- Beach sediment in beach play areas, and
- Clams.

Eight rounds of baseline water samples are being taken during winter high flow, heavy storms, moderate storms, and summer flow in 2017 and 2018. We'll complete the baseline sampling this summer.

Data from last summer's fish and crab sampling are now available in a data report on [www.ldwg.org](http://www.ldwg.org) under the “Resource Library” tab. Results of other sampling should be available this fall. In early 2019, the baseline data will be summarized and discussed in a data evaluation report.

This summer, we will be reviewing three other pre-design reports: Waterway Users Survey and Structures Assessment, Design Strategy Recommendations, and Recovery Category Recommendations.

## Upper Reach Remedial Design

In July, the Lower Duwamish Waterway Group agreed to design the cleanup for the Upper Reach, the southernmost two miles of the Lower Duwamish Waterway. Sampling to support engineering is first, following by engineering designs. EPA is currently convening a roundtable of affected residents, fishers, businesses, Tribes, and local government to provide input to the design. While design work continues, EPA is preparing to negotiate an agreement for the remaining cleanup work.

For more information about the cleanup, please contact **Elly Hale** • 206-553-1215 • [hale.elly@epa.gov](mailto:hale.elly@epa.gov)

## Come talk to us!

EPA and Ecology are partnering in informal coffee chats in the communities of South Park and Georgetown. This is your opportunity to ask your questions and get updates, and give your feedback on the cleanup. We alternate the chats between the two neighborhoods each month. Please check EPA's Duwamish Facebook page: ([facebook.com/epaduamish](https://facebook.com/epaduamish)) for the next date and location of the chat.

## Duwamish Roundtable

During this and all phases of the cleanup, we will continue to work with and involve communities in the cleanup. We are looking for community representatives to join the Duwamish Roundtable, which will provide recommendations for the design and implementation of the cleanup. The Roundtable will have its first meeting on October 11, 2018.

*If you are interested in participating in the Roundtable, please contact **Julie Congdon** • 206-553-2752 [congdon.julie@epa.gov](mailto:congdon.julie@epa.gov)*

## What about fishing on the Duwamish?

Many people enjoy fishing on the Duwamish River. The safest fish to eat in the Duwamish are salmon because they do not live in the river year-round. Fish that live year-round in the Duwamish have pollution in them and are not safe to eat.

EPA's "Fun to Catch, Toxic to Eat" Program for the Lower Duwamish Waterway Superfund Site uses innovative community-based approaches to promote safe seafood consumption. Pollution has greater impacts on immigrant and refugee fishing communities because of their consumption of resident fish. EPA's Fisher Study found a need to improve the public health advisory communications to Duwamish fishers who speak little to no English. To meet that need, Public Health Seattle King County is leading EPA's "Fun to Catch, Toxic to Eat" Program and working with its Community Health Advocates to promote the public health advisory and develop more effective tools to help fishers make informed choices when eating fish. This work is part of EPA's Duwamish Seafood Consumption Institutional Controls program – a component of our plan to clean up the Superfund Site. Launched in 2017, this program is informed by our 2016 Fishers Study, and builds upon Just Health Action (JHA)'s 2014-2017 pilot projects. The purpose of the program is to promote healthy seafood consumption before, during, and after the cleanup.

The Latino, Vietnamese, and Cambodian CHA team members are promoting safe fish consumption from the Duwamish Superfund Site within their communities through outreach activities and events. In 2017 alone, the CHA teams performed 20 outreach events, reaching 793 community members. The CHAs have also developed "digital stories" as a tool for promoting healthy seafood consumption, and are integral to the Healthy Seafood Consumption Consortium efforts to coordinate and collaborate across agencies and organizations to promote healthy seafood consumption. PHSKC is also developing and hosting a website for EPA's "Fun to Catch, Toxic to Eat" program. PHSKC will be pilot testing the website with community members before the anticipated launch in September.

In June, PHSKC kicked off the development of the Fish Consumption Institutional Control Plan for promoting healthy seafood consumption with its first meeting with the Community Steering Committee. The Community Steering Committee include CHAs, and is providing input on the Plan to PHSKC as it is being developed.

For more information about the Fishers Study and the next steps, please contact:

**US EPA:** Rebecca Chu • (206) 553-1774 • [chu.rebecca@epa.gov](mailto:chu.rebecca@epa.gov)

**Public Health Seattle & King County:** Sinang Lee • (206) 263-1192 • [sinang.lee@kingcounty.gov](mailto:sinang.lee@kingcounty.gov)



## What can I do?

1. The best way to avoid being exposed to contamination in the river is to eat salmon, not the resident fish that have the contaminants in their body. It is safer to eat salmon that come to the river because they visit the river for such a short time. More information on the Duwamish River Fish Advisory can be found at <https://www.doh.wa.gov/CommunityandEnvironment/Food/Fish/Advisories>.
2. Help keep pollutants from getting into the river. Don't put oil and other pollutants into storm drains. Report spills.
3. Help restore habitat, plant trees, and cleanup up trash along the river at parks and on the shoreline by participating in Duwamish Alive and other volunteer events. For more information, visit [www.duwamishalive.org](http://www.duwamishalive.org)

To learn more about how to get involved in the cleanup, contact  
**Julie Congdon** • 206-553-2752 • [congdon.julie@epa.gov](mailto:congdon.julie@epa.gov)

## For more information

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For information on **US Environmental Protection Agency's work** in the Lower Duwamish Waterway, please visit: <https://www.epa.gov/superfund/lower-duwamish>

To receive **regular updates** on EPA's cleanup work, please contact Julie Congdon ([congdon.julie@epa.gov](mailto:congdon.julie@epa.gov)) to subscribe to the **Duwamish cleanup listserv**.

Follow us on **Facebook** to stay informed about our cleanup activities and our programs related to the Duwamish area: [facebook.com/epaduamish](https://facebook.com/epaduamish)

For information on **Washington Department of Ecology's work** in the Lower Duwamish Waterway, please visit: <http://ecology.wa.gov/LowerDuwamish>

For information on the **Community Advisory Group**, please contact the Duwamish River Cleanup Coalition/Technical Advisory Group (DRCC/TAG) at [duwamishcleanup.org](http://duwamishcleanup.org) or [contact@duwamishcleanup.org](mailto:contact@duwamishcleanup.org) or 206-954-0218.

*EPA provides reasonable accommodation to individuals with disabilities where appropriate. If you need a reasonable accommodation, such as requiring information in a certain format (Braille, large print), please notify Julie Congdon, listed above.*

 TDD or TTY users, please call 1-800-877-8339 and give the operator Julie's phone number.



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- Lower Duwamish Waterway (LDW)  
Superfund Site Border**
- Early Action Area (EAA)**

#### Acronyms

PCB = polychlorinated biphenyls

EAA = Early Action Area: One of five areas where early cleanup was needed to address high levels of sediment contamination. Two EAAs (Duwamish Diagonal Combined Sewer Overflow [CSO] and the Norfolk CSO) were completed early on as part of a settlement with other federal agencies.

TCE = trichloroethene

VOC = volatile organic compounds

#### 1 Lockheed West Seattle

Lockheed Martin is conducting the cleanup work of the Lockheed West Seattle Superfund site. Beginning in August 2018, they will dredge the contaminated sediment at the site.

For more information, please contact  
Piper Peterson at 206.553.4951

#### 2 Terminal 108

Past site uses and sampling suggest that the area of T108 may require cleanup. The Port of Seattle is conducting a Preliminary Assessment Report for the site. Based on the findings of this report, an investigation work plan might be prepared to do additional sampling at the site and get more information about the site's condition.

For more information on this site, please  
contact Annie Christopher at 503.326.6554

#### 3 Slip 4

The City of Seattle completed Slip 4 cleanup in 2012. The results of the 2017 sediment cap monitoring are available in a report on EPA's website.

For more information, please contact  
Elly Hale at 206.553.1215

#### 4 Boeing Plant 2

With EPA oversight, Boeing has prepared a final Corrective Measures Study for uplands areas at Plant 2, where a number of interim actions have been completed. The CMS evaluates a range of options for remaining contamination. The EPA uses the CMS to develop a Statement of Basis, or proposed cleanup plan. The EPA will invite public comment on the CMS and Statement of Basis this winter. Following completion of public comment, the EPA will make its final corrective action decision for the uplands area. Boeing continues to monitor the adjacent EAA sediment cleanup completed in 2015.

For more information on this site, please contact  
Dave Bartus at 206.553.2804

#### 5 Jorgensen Forge 24-inch Pipe

This underground pipe and the dirt below the pipe were contaminated with PCBs. Cleanup of this site was completed this past year.

For more information on this site, please contact Ravi Sanga at 206.553.4092

#### 6 Earle M. Jorgensen EAA

After initial dredging and backfilling, EMJ submitted a workplan to fill data gaps. If approved, sampling is likely this summer. The results will help EPA evaluate additional actions to clean up the remaining PCB contamination.

For more information on this site, please contact Joe Wallace at 206.553.4470

#### 7 Terminal 117 EAA

The uplands and off-shore sediments of Terminal 117 (T-117) and some streets and yards near the terminal were primarily contaminated with PCBs. Cleanup at this site is complete. The Port is developing habitat restoration plans for the site.

For more information, please contact Piper Peterson at 206.553.4951

#### Carbon Amendment Study

The Carbon Amendment Pilot Study is testing how adding activated carbon (material often used in water filters because it naturally traps certain kinds of contamination) to the sand used for sediment cleanup can lower contamination levels in fish and crabs faster. Data collected this spring at the test plots will assess the conditions of the test areas in the year since they were built. If the technology works well, activated carbon may be used to enhance natural recovery in less contaminated areas of LDW.

For more information, please contact Elly Hale at 206.553.1215

#### 8 Rhone Poulenc

The eastern half of the site has been cleaned up and is now owned by the Museum of Flight. Toluene, metals, and high pH affect groundwater and soil throughout the western half of the site, and PCBs are present in sediments in the tideflats. EPA is also working with the responsible parties on an onsite study to inject carbon dioxide into the groundwater to see if it will lower pH at the site.

For more information on this site, please contact Janette Knittel at 206.553.0483

#### 11 East Waterway

The Proposed Plan for the cleanup of the East Waterway is anticipated to be released in early 2019. The East Waterway is part of the Harbor Island Superfund site, located downstream of the LDW.

For more information on this site, please contact Ravi Sanga  
at 206.553.4092

#### 10 Rainier Commons

EPA continues to oversee the Rainier Commons LLC work to remove the PCB-laden paint from the outside walls of the buildings at the former Rainier Brewery.

For more information on this site, please contact  
Michelle Mullin at 206.553.1616

#### Cleanup of Contaminated Land in the Duwamish: Ecology's Source Control Work

Source control is crucial to the success of EPA's in-waterway cleanup. When the sources of pollution are sufficiently under control, cleanup of the river sediments can start. Ecology leads the effort to control sources of contamination from the land area surrounding the Lower Duwamish Waterway (LDW) Superfund Site. Ecology is managing 21 cleanup sites through its formal cleanup process. Many other sites are being cleaned up under Ecology's Voluntary Cleanup Program. These cleanups are part of source control – stopping or reducing contaminant sources before they reach the river. Source control also includes many other actions, such as business inspections, controlling stormwater runoff, coordination between agencies, and education.

For more information on Ecology's work in the LDW, visit:  
<http://ecology.wa.gov/LowerDuwamish>

#### 9 Boeing Electronics Manufacturing Facility (EMF)

The groundwater beneath the site was contaminated with TCE, which breaks down to vinyl chloride and other chlorinated VOCs. Groundwater treatment pilot testing began in 1997 and full treatment has since continued voluntarily. EPA proposed maintaining treatment of groundwater to destroy the VOCs and will issue an Action Memorandum requiring continued groundwater treatment.

For more information on this site, please contact Laura Castrilli  
at 206.553.4323

#### Norfolk CSO – completed