

Site Redevelopment Profile

Lower Duwamish Waterway

Duwamish River Mile 0-5
Seattle and Tukwila, Washington

Property Overview

Size

5 miles of the Duwamish River (includes about 412 acres of sediment in the waterway and contaminant sources in the 32-square-mile drainage basin)

Current Site Uses

- Commercial navigation, shipping and fishing
- Recreation

Use Restrictions

- Washington State Department of Health seafood consumption advisory restricting consumption of resident fish and shellfish from the Lower Duwamish Waterway.
- Lower Duwamish Waterway Fun to Catch, Toxic to Eat program encourages catching and eating salmon.

Surrounding Population

5,917
1 MILE

127,734
3 MILES

301,220
5 MILES

The Duwamish Valley is the ancestral home of the Duwamish people. It is one of the most diverse areas in Seattle. Roughly 42% of the Duwamish Valley's population today are people of color and roughly 21% of the population lives below the poverty line.

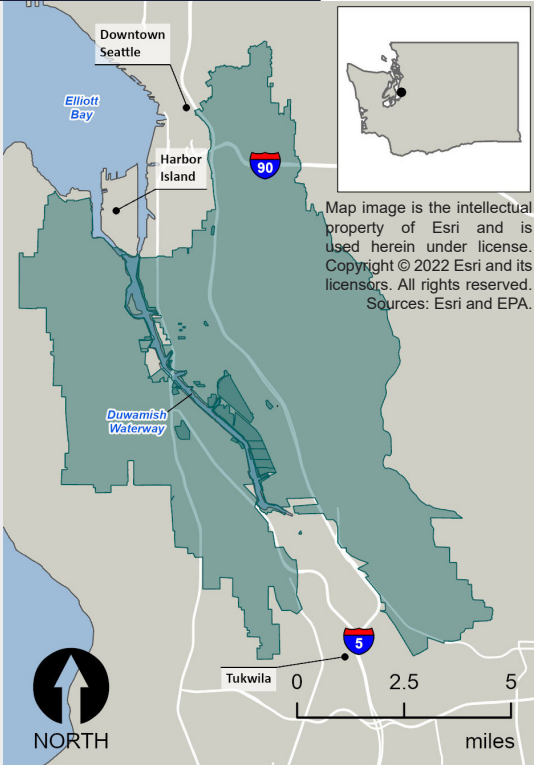


Figure 1. The location of the Lower Duwamish Waterway site in Seattle, Washington

Site History and Redevelopment Timeline

Pre-1900s

The Duwamish River sustained indigenous communities for millennia prior to the arrival of western settlers in the early 1900s.

1909

To control floods and ensure access for ships, a project to straighten the river and fill meanders, marshes and mudflats began. Waterfront industries soon followed, spreading into residential and farming lands, to create what is now the commercial and industrial core of Seattle.

1990s

Studies showed chemicals in waterway sediment, fish and shellfish.

2001

EPA added the Lower Duwamish Waterway site to the Superfund program's National Priorities List (NPL).

2012

Boeing Company (Boeing) started sediment cleanup and habitat restoration at Plant 2, one of five early action areas.

2014

After considering public comment, EPA selected the cleanup plan for remaining waterway sediments. The cleanup plan included fisher institutional controls (ICs) to reduce consumption of certain types of fish and shellfish.

2017

EPA partnered with Public Health – Seattle & King County to implement the Fun to Catch, Toxic to Eat program of community-based ICs.

2020-2022

The Port of Seattle began construction of Duwamish River People's Park and shoreline restoration in the footprint of the completed soil cleanup at the Port of Seattle's Terminal 117 property. The park opened in summer of 2022.

Present

EPA continues to work with state, local and private stakeholders to clean up the site. The site supports commercial navigation, fishing and shipping activities as well as recreational activities.

History

The Lower Duwamish Waterway Superfund site is a 5-mile stretch of the Duwamish River, which flows into the East and West Waterways (part of the [Harbor Island Superfund site](#)) and then into Elliott Bay in Seattle, Washington. The site consists of about 412 acres of sediment, waterway and surrounding land. The South Park and Georgetown neighborhoods and Seattle's most concentrated commercial and industrial area flank the waterway.

For thousands of years, the region's tribes lived along the river. After settlers arrived in the early 1900s and began to build what is now Seattle, they filled and dredged the river, turning the river's mudflats and oxbows into a straight channel, or waterway, for ships and industry. Through World War I and World War II, Seattle's population and industries boomed. A century of heavy industrial and urban use left the waterway contaminated with toxic chemicals. Pollution reached the water through spills and dumping, pipes carrying industrial wastewater, sewage and stormwater from the 32-square-mile drainage basin, and direct runoff. As environmental awareness increased, studies found harmful chemicals in the Duwamish River sediments, fish and shellfish. These chemicals posed a significant risk to people's health and the environment. In response, EPA added the site to the NPL in 2001.

Cleanup

EPA and the Washington Department of Ecology (Ecology) worked collaboratively to oversee the comprehensive study of the site undertaken by the City of Seattle, King County, the Port of Seattle and Boeing. Between 1999 and 2015, these parties, along with others, completed sediment cleanup at five early action areas. Thanks to these actions, about 29 acres of sediment were cleaned up, reducing the average level of polychlorinated biphenyls throughout the area by half.

In 2014, EPA selected a cleanup plan to address river contamination. The plan includes active sediment cleanup in an estimated 177 acres, through dredging, capping and enhanced natural recovery, and monitored natural recovery in 235 acres of less-contaminated sediment. The long-term cleanup also includes institutional controls, such as covenants to protect sediment caps and public education for safer seafood consumption. The Washington State Department of Health issued a seafood consumption advisory for the site, focused on resident fish and shellfish, with fewer restrictions on migratory salmon, the safer choice.

Ecology uses state authorities to limit pollution from stormwater and industrial operations. Ecology also oversees cleanup at over 24 upland sites in the Duwamish Valley. This is part of an overall strategy for controlling pollution sources to the Lower Duwamish Waterway. Early sediment cleanup action, pollution source control, deposition of cleaner sediments from upstream, and final sediment cleanup will significantly reduce human health and ecological risks. EPA continues to work with Ecology and the potentially responsible parties on the phased implementation of the cleanup plan.



Figure 2. EPA preparing to oversee sampling in the river



Figure 3. Shipping operations at the site

Community Engagement

In addition to two residential communities next to the site, some people live on the river itself, in boats and houseboats anchored at marinas. EPA and Ecology have robust community outreach programs that include two-way communication with local stakeholder groups.

To aid in outreach to the area's diverse community, EPA, Public Health – Seattle & King County, and the Washington Department of Health translate signs, fact sheets and other materials into Spanish, Korean, Vietnamese, Russian, Laotian, Cambodian and Somali. EPA's outreach efforts also include a community roundtable that brings together different communities, tribes, government agencies, potentially responsible parties and other site stakeholders. The roundtable engages the community in understanding the sediment cleanup process and considering ways to mitigate local affects.

“People have seen “our Duwamish River” change for the better during their lifetimes. These changes aren’t just driven by government action but by community efforts and a shared vision of a healthy river for all.”

Elly Hale

EPA Region 10 Remedial Project Manager

Using Partnerships to Keep Fishing Fun and Safe for the Community

The Fun to Fun to Catch, Toxic to Eat program for the Lower Duwamish Waterway Superfund site uses innovative community-based approaches to promote safe seafood consumption. Public Health – Seattle & King County leads the program. Launched in 2017, it focuses on developing and putting in place ICs required by EPA for safe seafood consumption as part of the site's cleanup plan. The goal of the program is to promote culturally appropriate healthy actions that protect the health and wellbeing of fishing communities, especially pregnant women, nursing mothers and young children, from contaminated resident seafood in the Lower Duwamish River.

Pollution disproportionately affects immigrant and refugee fishing communities. Historically, even when presented in a variety of languages, health warning signs have not been effective in reaching fishers. The program instead focuses on reaching fishers and consumers through a community-based approach that includes peer-to-peer outreach and community input. Currently, over 30 members of the Latino, Vietnamese, Khmer and Laotian communities have been trained as community health advocates and are delivering culturally relevant information to encourage safer seafood choices.

LOWER DUWAMISH RIVER ADVISORY

DO NOT EAT crab, shellfish, or bottom-feeding fish due to high levels of toxic chemicals.

Debido a la contaminación, NO CONSUMA cangrejos, mariscos o pescados que se alimenten en el fondo.

계, 조개 또는 바닥에서 서식하는 생선류는 오염의 문제가 있으니 절대로 먹지 마십시오.
 由於水質的污染，切勿食用在水底覓食的魚、螺類或貝類。
 Khing nien an cua, nghien du hoc lai ca sinh song hay an nhing thu o day nuoc vi bi nhien ban.

В связи с загрязнением воды нельзя употреблять в пищу крабов, моллюсков и рыбы, которая обитает или питается у дна.
 由于水质污染，切勿食用在水底觅食的鱼、螺类或贝类。
 Ha cunin sualqoy, xhaaxeyya badda, ama kaluunka badda boocceeda wax la cuna sababta oo ah waabihayanka badda.



EAT SALMON ONLY.

Limit: 1-4 meals per month.



OR

EAT SALMON ONLY. 8-12 meals per month. It's the healthiest choice.



Limitar el Chinook: 4 comidas por mes.

限食帝王鮭：每月4次。
 제한 종류: 한달 식사 4회.
 限制食用帝王鮭的數量：每月4次。
 限制食用帝王鮭的數量：每月4次。
 Yaree Chinook: 4 cunin bishii.
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Chinook (King)

Chinook have a dark mouth and black gums. The upper and lower tail is covered with spots, and silver is prominent.

Blackmouth Salmon

Blackmouth are immature resident Chinook (King) caught during winter.

Opción saludable: 12 comidas por mes.

健康選擇：每月12次。
 건강에 안전한 분량: 한달 식사 12회.
 Sù chon lya lánh manh: Mói tháng 12 bữa.
 健康選擇：每月12次。
 健康選擇：每月12次。
 Правильный выбор: 12 порций в месяц.
 Doorasho Caafmaad Leh: 12 cunin bishii.



Washington State Department of Health
 Toll-free 1-877-485-7316 • www.doh.wa.gov/fish

Port of Seattle

Health

Public Health Seattle & King County

Figure 4. Fish and seafood advisory sign for the Lower Duwamish River in multiple languages



Figure 5. Community members using the waterway for recreation

Continued Use and Reuse

The U.S. Army Corps of Engineers is responsible for keeping the central part of the Lower Duwamish Waterway, a federal navigation channel, safe for navigation. The waterway is crucial to the local economy, supporting commercial navigation and shipping activities as well as commercial salmon fishing. People of color and low-wage workers make up a high percentage of Seattle's Duwamish Valley residents. The continued operation of businesses on the site is essential to supporting area communities.

Recreation enthusiasts use the site for boating, kayaking, fishing and relaxing at parks with shoreline access. The site also provides habitat for fish, shellfish and wildlife. Several federally recognized tribes whose usual and accustomed areas include the Lower Duwamish have treaty-protected rights to cultural uses and seafood harvest there. Diverse groups of regional fishers, many from communities with environmental justice characteristics, use the site for subsistence fishing.

In 2020, the Port of Seattle broke ground on Duwamish River People's Park. The park includes off-channel habitat and public access to the Lower Duwamish River for birdwatching, fishing and kayak launching. The park opened to the public in the summer of 2022. It is across from the Boeing Plant 2 restoration project, which was completed in 2015. Planned and completed restoration at and near the site bring hope for the river, endangered salmon and other wildlife that depend on the river.

For over 20 years, EPA and Ecology have worked with local government, natural resource trustees and private stakeholders to clean up the Lower Duwamish Waterway Superfund site. This has resulted in significant positive outcomes for the site's cleanup to date. As cleanup progresses, the area's thriving economy will be complemented by a healthier Lower Duwamish Waterway for people and wildlife.

Partnering with the Community to Bring Jobs and Opportunity

EPA's Superfund Job Training Initiative (SuperJTI) is an environmental remediation job readiness program that provides career development opportunities for interested community members living near Superfund sites. EPA's goal is to help communities create job opportunities and partnerships that remain in place over the long term.

In 2013, EPA hosted the Lower Duwamish Waterway SuperJTI. EPA partnered with the Duwamish River Cleanup Coalition/Technical Advisory Group (DRCC/TAG), South Seattle Community College and site contractors to provide 14 local job seekers with new skills and job training linked to cleanup at Terminal 117 site. After graduation, trainees interviewed with area contractors for cleanup positions. Within six months after graduation, several trainees were hired to work on site and in the metropolitan Seattle area as sampling technicians, in union/trade positions and in manufacturing jobs.



Contacts

For more information, please contact:

Chelsea Sebetich

EPA Superfund Redevelopment Program
(202) 566-1151 | sebetich.chelsea@epa.gov

Elly Hale

EPA Region 10 Remedial Project Manager
(206) 553-1215 | hale.elly@epa.gov

Piper Peterson

EPA Region 10 Redevelopment Coordinator
(206) 553-4951 | peterston.piper@epa.gov



Figure 6. Views of the waterway and Duwamish River People's Park