



Harbor Island, Summer 2022

(Source: U.S. EPA, Laura Knudsen)

**\*\*DRAFT\*\* Harbor Island  
Superfund Site  
Community Involvement Plan**



**U.S. Environmental Protection Agency  
Region 10  
January 2023**

## **Acknowledgements**

This update to the Harbor Island Superfund Site Community Involvement Plan (CIP) was developed by the United States Environmental Protection Agency Region 10, with input from community members, businesses, government agencies and other partners and stakeholders.

## **For More Information**

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# DRAFT EPA Harbor Island Superfund Site Community Involvement Plan - SUMMARY

## What is a Community Involvement Plan?

A Community Involvement Plan (CIP) provides an overview of the outreach tools and techniques that EPA will use throughout the cleanup of a Superfund site. This document will serve as a guide for meaningfully involving community members in the cleanup of the Harbor Island Superfund Site.

## Where is Harbor Island?

Harbor Island is an artificial and industrial island in Seattle, Washington. It sits on the mouth of the Duwamish River where it flows into Elliot Bay.

## Why is Harbor Island Polluted?

Since its construction in the early 1900s, Harbor Island has been used for commercial and industrial activities including shipbuilding and repair, bulk petroleum storage, secondary lead smelting, metal fabrication and cargo shipping. These activities contaminated soil, groundwater, and sediment in the adjacent waterways. Polychlorinated biphenyls (PCBs) are the most widespread contaminant of concern (COC) in sediment. Other COCs include arsenic, polycyclic aromatic hydrocarbons (PAHs), and mercury.

## Who is Most Impacted by the Cleanup?



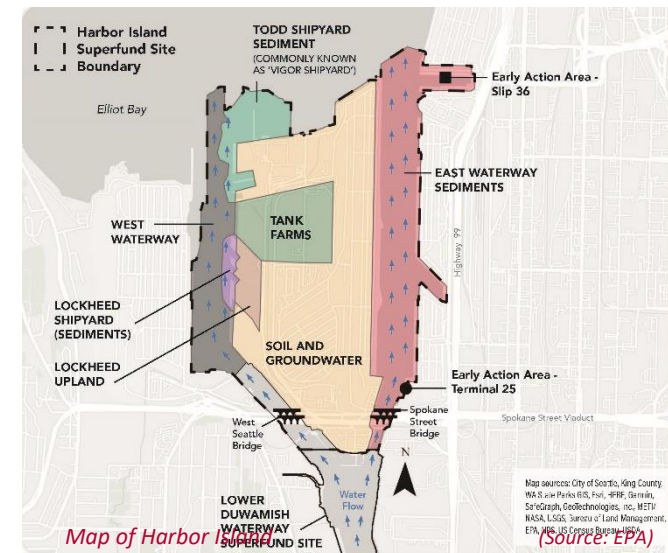
*Spokane Street Bridge Fishing Competition  
(Source: EPA)*

The Harbor Island Superfund Site is in the ancestral areas of the Muckleshoot Tribe (federally recognized), Suquamish Tribe (federally recognized), the Confederated Tribes and Bands of the Yakama Nation (federally recognized), and the Duwamish Tribe. Harbor Island is home to the Spokane Street Bridge, a very popular fishing pier, which means fishers are impacted by this Site. The businesses and industries that operate on and around Harbor Island are also impacted by the Harbor Island cleanup. The nearby residential neighborhoods of Georgetown and South Park are indirectly affected by the Harbor Island cleanup.

## How to Provide Feedback on this Draft EPA Harbor Island Superfund Site Community Involvement Plan (CIP) – THANK YOU! 😊

By **May 1, 2023** please consider providing your thoughts, concerns, or suggestions (including any photos or events that you would like to see!) on this draft CIP by:

- Visiting [EPA's Harbor Island website](https://www.epa.gov/superfund/harbor-island) for a link where you can review & provide comments on the full Draft EPA Harbor Island CIP:  
[www.epa.gov/superfund/harbor-island](https://www.epa.gov/superfund/harbor-island)
- Visiting the **South Park Library (8604 8<sup>th</sup> Ave S, Seattle WA 98108)** and talk to library staff to view a hard copy of the Draft EPA Harbor Island CIP
- E-mailing or calling **Laura Knudsen (EPA Community Involvement Coordinator)** for any questions, to provide feedback, or schedule an informal chat about the Draft EPA Harbor Island CIP:
  - E-mail: [knudsen.laura@epa.gov](mailto:knudsen.laura@epa.gov)
  - Phone: 206-643-4299



There are significant Environmental Justice (EJ) concerns within the Harbor Island area since residents of color, low-income residents, and subsistence fishers all rely on or interact with Harbor Island.

## What Has Been Done to Clean Up Harbor Island?

EPA divided the Site into seven Operable Units (OUs) to better address Site cleanup. To date, cleanup decisions were made by EPA for five OUs and by the Washington State Department of Ecology at the Tank Farm OU. East Waterway is the only remaining OU without a cleanup decision by EPA. Within the East Waterway OU, there are two areas (Terminal 25 and the U.S. Coast Guard Slip 36) where early action cleanups are being done by the Port of Seattle (for Terminal 25) and the U.S. Coast Guard (for Slip 36) under EPA oversight.

## Action Plan

This Community Involvement Plan has the following goals and associated actions that EPA will take to support community involvement in the cleanup of Harbor Island. Please review the full EPA Harbor Island CIP for more details regarding each of these goals and actions.



### Increase Awareness of the Harbor Island Superfund Site

Conduct online outreach, in-person outreach, and create easy-to-understand educational materials.



### Build Trust

EPA will attend local events, hold informal chats, work with trusted partners, connect with stakeholders, increase transparency, coordinate with agencies, and to build trust and understanding.



### Mitigate Cleanup Construction Impacts

Consult with Tribes and communicate with community members, businesses, and fishers before disruptive construction periods.



### Integrate outreach for the Harbor Island Superfund Site into EPA's broader efforts in the Duwamish Valley.

Connect out Connect outreach and communication across the Harbor Island, Lower Duwamish Waterway, Lockheed West Seattle, and Pacific Sound Resources Superfund Sites.



### Invest in Communities

Communicate and promote job opportunities related to the Site cleanup and provide information on grants to local community members and organizations.

## Table of Contents

<b>What Has Been Done to Clean Up Harbor Island?</b>	<b>1</b>
<b>Introduction</b>	<b>3</b>
1. What is Superfund?	3
2. What is Harbor Island?	3
3. What is a Community Involvement Plan?	3
4. How Did EPA Develop this CIP?	4
<b>A. Background</b>	<b>5</b>
1. Contamination	5
2. Operable Units	5
3. East Waterway Operable Unit	7
4. Early Actions	7
5. Cleanup Objectives	8
6. Cleanup Methods	8
7. Redevelopment	8
8. Duwamish Valley Approach	9
<b>B. Community Profile and Harbor Island History</b>	<b>10</b>
1. Tribes and First Peoples	10
2. Industrial History of Harbor Island	10
3. Current Industrial Activities	11
4. Residential Community	11
5. Fishing and Recreation	12
<b>C. Community Concerns and Priorities</b>	<b>13</b>
1. Increasing Awareness	14
2. Focus on Trust-Building	14
3. Communicate Clearly	15
4. Mitigate Cleanup Impacts	15
5. Improve Transparency	16
<b>D. Community Involvement Action Plan</b>	<b>16</b>
Principles and Overall Approach	16
Goal 1: Increase Awareness of the Harbor Island Superfund Site	16
Goal 2: Build Trust	19
Goal 3: Mitigate Cleanup Construction Impacts	21
Goal 4: Integrate the Harbor Island Superfund Site into EPA's broader efforts in the Duwamish Valley	21
Goal 5: Invest in Communities	22
Accommodations	23
<b>Appendix A – Environmental Justice Screen for Superfund Sites in the Duwamish Valley (including Harbor Island, Lower Duwamish Waterway, Lockheed West Seattle, and Pacific Sound Resources Superfund Sites)</b>	<b>24</b>
Why did EPA conduct an EJScreen Review as part of this Harbor Island CIP?	24
What is EJScreen?	24

<b>Appendix A – Environmental Justice Screen for Superfund Sites in the Duwamish Valley (including Harbor Island, Lower Duwamish Waterway, Lockheed West Seattle, and Pacific Sound Resources Superfund Sites)</b> .....	<b>24</b>
Why did EPA conduct an EJScreen Review as part of this Harbor Island CIP? .....	24
What is EJScreen? .....	24
Why is EJScreen an Appropriate Choice for EPA? .....	24
How Does EJScreen Work? .....	24
Cautions for Using EJ Screen .....	25
Parameters of General EJScreen Review for the Superfund Sites in the Duwamish Valley .....	25
EJScreen Results for the Duwamish Valley Review .....	29
Use of a 1-mile Radius Around Harbor Island Superfund Site .....	43
EJScreen Results for the Harbor Island Superfund Site Review .....	43
<b>Appendix B. Community Involvement Plan Interviewees</b> .....	<b>47</b>
<b>Appendix C. Community Events and Outreach Areas in the Duwamish Valley</b> .....	<b>48</b>



## Introduction

### 1. What is Superfund?

In 1980, US Congress established the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in response to growing concerns over the health and environmental risks posed by hazardous waste sites. CERCLA is informally called Superfund. The Superfund Program is administered by the US Environmental Protection Agency (EPA) in cooperation with state and tribal governments. The Superfund Program allows EPA to clean up contaminated sites. It also requires the parties responsible for the contamination to either perform cleanups or reimburse the government for EPA-led cleanup work.

This Community Involvement Plan spells out all acronyms the first time they are used. Please see [www.epa.gov/superfund/superfund-glossary](http://www.epa.gov/superfund/superfund-glossary) for a full glossary of Superfund terms.

When there is no viable responsible party, the Superfund Program provides EPA with the authority to clean up contaminated sites. For more information, please see [This is Superfund: A Community Guide to EPA's Superfund Program](#).

### 2. What is Harbor Island?

Harbor Island is a man-made island in Seattle, Washington's Elliott Bay, and was identified as a Superfund Site and added to the National Priorities List in 1983. Built in the early 1900s, the 420-acre artificial island supports businesses that conduct commercial and industrial activities, including ocean and rail transport operations. Previous commercial and industrial operations on the Site have contaminated soil, groundwater, and sediment in the adjacent Duwamish River.

### 3. What is a Community Involvement Plan?

A Community Involvement Plan (CIP) provides an overview on the outreach tools and techniques that EPA will use throughout a cleanup of a polluted site. This document will serve as a guide on how to:

- Share information
- Provide outreach opportunities to community members and other stakeholders
- Inform and guide other planning processes and documents
- Shape community involvement activities
- Assist community members located within or affected by the Site to become meaningfully involved in and informed about the project throughout the cleanup process

This Community Involvement Plan is focused on the community – meaning people who live, work, fish, and otherwise spend time near the Harbor Island Superfund Site. Harbor Island is situated in the larger Duwamish Valley, where there are neighborhoods with environmental justice concerns. See Appendix A for the Environmental Justice Review of both the Duwamish Valley and the Harbor Island Superfund Site .

This CIP does not focus on Tribal engagement since EPA understands that the Muckleshoot Indian Tribe, the Suquamish Tribe, and the Yakama Nation are federally recognized Tribes, and there is a formal tribal trust relationship between EPA and these Tribes. EPA's interaction with these Tribes is a formal process between sovereign governments and differs from how EPA interacts more broadly with the community. In the future and based on feedback from Tribal

members, EPA may consider developing a separate Tribal Involvement Plan to supplement this CIP.

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#### **4. How Did EPA Develop this CIP?**

To develop this Community Involvement Plan, EPA made an extensive effort to gather input from across the Duwamish Valley. EPA conducted both in-person and virtual interviews to gather feedback from stakeholders most impacted by the cleanup of the Harbor Island Site. This CIP is based on input from 25 interviews with community organizations, academic institutions, fishers, businesses, and state and local government representatives, as well as over 65 informal interviews with various community members. See Appendix B for details about the interviewees.



## A. Background

### 1. Contamination

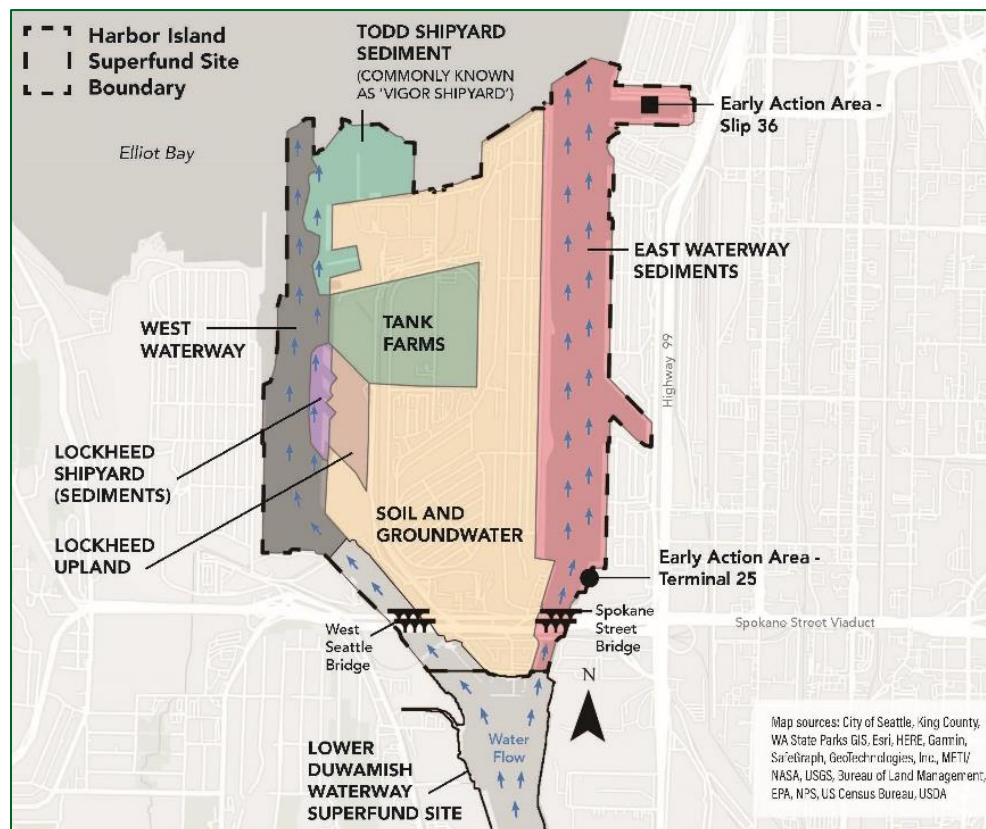
Areas on Harbor Island became contaminated because of discharges of waste, spills, historical practices, atmospheric deposition, groundwater seepage, storm drains, combined sewer overflow systems, and other releases. Sediment contamination of the nearby marine areas may also have resulted from upstream sources in the Duwamish River.

Most of the human health risks at the Harbor Island Superfund Site are associated with the following contaminants of concern:

- Polychlorinated Biphenyls (PCBs).
- Arsenic.
- Carcinogenic Polycyclic Aromatic Hydrocarbons (CPAHs).
- Dioxins and Furans.

### 2. Operable Units

The Harbor Island Superfund Site was one of the first Superfund Sites in the country, listed on the National Priorities List in 1983. Since that time, EPA divided the Harbor Island Site into seven smaller areas, known as “Operable Units” (OUs) to better address site cleanup (see Draft map of the Harbor Island Superfund Site Operable Units below). Cleanup decisions were made by EPA at five OUs and by the Department of Ecology at the Tank Farms OU. The last remaining OU for a cleanup decision by EPA is the East Waterway.



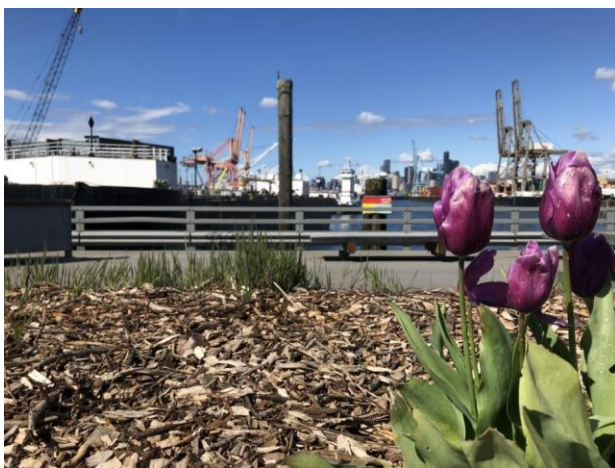
*Draft map of the Harbor Island Superfund Site Operable Units (Source: EPA)*

Operable Unit	Lead	Description	Cleanup Status
Todd Shipyard Sediment (commonly known as 'Vigor Shipyard')	EPA	Sediment dredging and some capping under the piers has been completed. The integrity of the sediment cap under the piers is maintained by Vigor Shipyards. An extensive habitat area will be placed on site by the end of 2023 that will provide a protective area for fish, birds, and other marine mammals.	Cleanup decision made. Anticipated completion of additional cleanup under the pier in 2023.
West Waterway	EPA	In 2003, EPA determined that the surface sediments posed no adverse risk to human health and the environment and issued a no further action cleanup decision. More investigation may be needed due to the impending channel deepening project by the US Army Corps of Engineers and the Port of Seattle.	No further action cleanup decision made, but more investigation may occur.
Lockheed Shipyard (Sediments)	EPA	Sediment dredging in the open channel and capping of the slope is complete. Recent sediment sampling identified contamination build up in the open channel area. Ongoing monitoring of the slope shows that the cap is stable.	Cleanup decision made, and sediment sampling and cap monitoring will continue.
Lockheed Upland	EPA	Currently evaluating tetrachloroethylene (PCE) cleanup level exceedances of the groundwater. Asphalt cap is maintained, and inspections are ongoing.	Cleanup decision made, and ongoing monitoring will continue. Additional discussion and potential additional cleanup of residual contamination may be needed.
Tank Farms	WA Department of Ecology	The Department of Ecology led the cleanup efforts. Ecology is currently optimizing the remedy and is considering other possibilities to treat contaminated soil. There are restrictions on activities that can occur on the site to ensure that there is no exposure to site contaminants.	Cleanup complete. Now conducting optimization activities, a potential treatment evaluation, and long-term monitoring.
Soil and Groundwater	EPA	EPA is reviewing groundwater monitoring data that identified recent exceedances of copper and zinc cleanup levels to ensure that the remedy continues to be protective of human health and the environment.	Cleanup decision made. Review of groundwater and long-term monitoring data is occurring.

Operable Unit	Lead	Description	Cleanup Status
East Waterway Sediments	EPA	EPA is overseeing the cleanup of the East Waterway and working with the Port of Seattle, the City of Seattle, and King County as the parties responsible for the cleanup. EPA is preparing a Proposed Plan for the East Waterway, which will summarize cleanup alternatives and propose a preferred cleanup alternative. EPA will issue the Proposed Plan for public comment and will review and consider all comments received before issuing a final cleanup plan, called the Record of Decision.	Proposed Plan for cleanup under development.

### 3. East Waterway Operable Unit

East Waterway is the only remaining OU at the Harbor Island Superfund Site without a cleanup decision by EPA. The East Waterway is home to the Spokane Street Bridge fishing pier, a popular spot for salmon and other fishing.



*Spokane Street Bridge fishing pier*

*(Source: EPA)*

EPA is overseeing the cleanup of the East Waterway, which is primarily being conducted by the East Waterway Group. The Group consists of the Port of Seattle, the City of Seattle, and King County. The Port is leading the cleanup work under a legal agreement with EPA. The City of Seattle and King County are supporting the Port's efforts and are conducting source control measures with EPA oversight.

In 2014, the Supplemental Remedial Investigation for the East Waterway OU was completed. The Feasibility Study for the East Water OU was finalized in 2019. EPA is using the Remedial Investigation and Feasibility Study reports to help prepare a proposed cleanup plan for the East Waterway. The Proposed Plan will summarize cleanup alternatives and propose a preferred course of action.

### 4. Early Actions

An early action area is a specific source area where cleanup occurs before a final cleanup decision is made. At Harbor Island, there are two upcoming early actions (as of 2023) that are outlined below:

- Slip 36:** Slip 36: This early action is in the north portion of the East Waterway Operable Unit. EPA is overseeing the U.S. Coast Guard and is working with them to remove contaminated sediment and deepen their slip. Cleanup options will be presented to the public for comment at a later date.

- **Terminal 25:** This early action area is in the south portion of the East Waterway Operable Unit. EPA is overseeing the Port of Seattle and working with the Natural Resources Trustee Council to clean up contaminated sediments prior to habitat restoration. Cleanup options will be presented to the public for comment at a later date.

## 5. Cleanup Objectives

The overall goal of the Superfund cleanup of Harbor Island is to protect human health and the environment. EPA determines “Remedial Action Objectives” for each Operable Unit, which describe what the cleanup is expected to accomplish. Below are some Remedial Action Objectives from the Operable Units at this Site:

- Reduce contaminants in the sediment.
- Reduce risks associated with the consumption of contaminated resident fish and shellfish.
- Reduce risk from direct contact (skin contact and incidental ingestion) from contaminated sediments during net fishing and clamming.
- Reduce risk to benthic invertebrates from exposure to contaminated sediments.
- Reduce to risks to crabs and fish from exposure to contaminated sediment, surface water, and prey.

**Resident Fish:** Fish or shellfish that live much of their lives in a

## 6. Cleanup Methods

EPA uses a variety of technologies to clean up contaminated sediments at Superfund Sites, as described below.

**Dredging:** Digging up contaminated sediment



*Dredging*

*(Source: EPA)*

**Capping:** Placing clean material on top of contaminants



*Capping*

*(Source: EPA)*

**Monitored or Enhanced Natural Recovery:** Allowing the natural processes of the river to lower concentrations of chemicals in the sediment.



*Sampling a river to monitor its status.*

*(Source: EPA)*

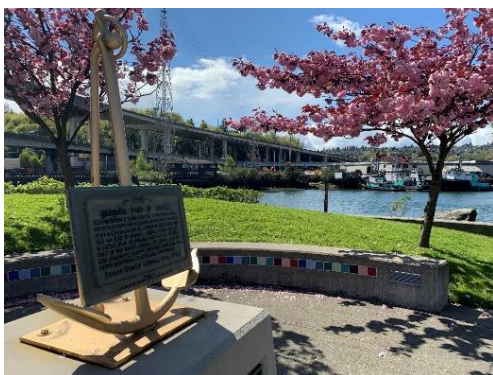
## 7. Redevelopment

While industrial activities continue on Harbor Island, some redevelopment has occurred. Upgrades on Harbor Island included road improvements, new sidewalks, and bike paths. The cleanup allowed the Port to move ahead with a \$300-million, 90-acre expansion of Terminal 18.



The expansion included a new dockside intermodal rail yard, two new truck gates, a larger container storage yard, a protective asphalt cap and other amenities to improve cargo-handling capabilities.<sup>1</sup>

Part of the project at Terminal 18 also created a 1.1-acre public park with 380 feet of shoreline access, walking paths and benches. In 2004, the Site received a prestigious Phoenix Award for achievement of excellence in Superfund Site reuse. The responsible parties conduct, with EPA oversight, long-term groundwater monitoring, cap inspections and maintenance at the Site.<sup>2</sup>



Terminal 18 Park

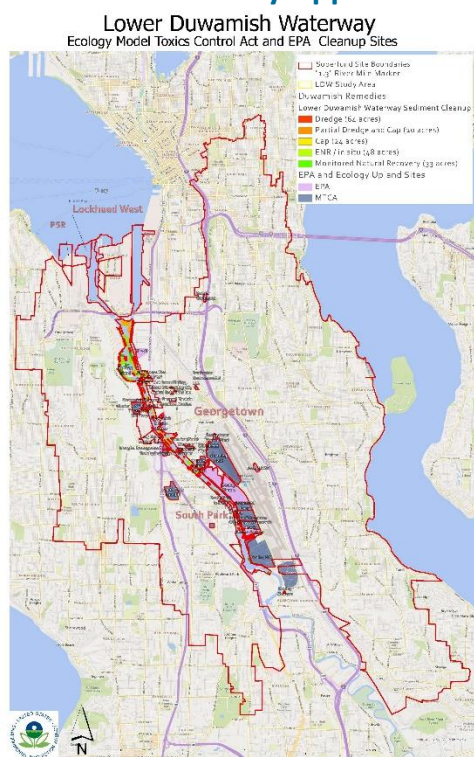
(Source: EPA)



Terminal 18 Park Entrance.

(Source EPA)

## 8. Duwamish Valley Approach



The Duwamish Valley encompasses four separate Superfund Sites:

1. Harbor Island Superfund Site.
2. Lower Duwamish Waterway Superfund Site.
3. Lockheed West Seattle Superfund Site.
4. Pacific Sound Resources Superfund Site.

Despite these distinctions in Superfund Site boundaries, EPA recognizes that this area is connected through its peoples and ecosystems. EPA understands that Harbor Island is part of the larger Duwamish Valley and this CIP is focused on the broader community – meaning people who live, work, fish, and otherwise spend time near the Harbor Island Superfund Site.

◀ *Map of Superfund Sites along the Duwamish River.*  
**Note:** EPA is working to provide a better version of this map that is more clear and less busy for the final CIP.  
 (Source: EPA GIS platform)

<sup>1</sup> Sanga, Ravi. "East Waterway Harbor Island Superfund Site Cleanup – Cleaning Up the Environment, While Improving Commerce for the Port of Seattle." U.S. Environmental Protection Agency, [www.westernredging.org/index.php/information/category/43-26th-annual-weda-conference?download=392:10-sanga-east-waterway-harbor-island-superfund-site-cleanup](http://www.westernredging.org/index.php/information/category/43-26th-annual-weda-conference?download=392:10-sanga-east-waterway-harbor-island-superfund-site-cleanup).

<sup>2</sup> *ibid.*

## B. Community Profile and Harbor Island History

### 1. Tribes and First Peoples

The Harbor Island Superfund Site is in the ancestral areas of the Muckleshoot Tribe (federally recognized), the Suquamish Tribe (federally recognized), the Confederated Tribes and Bands of the Yakama Nation (federally recognized), and the Duwamish Tribe (not federally recognized). Tribal treaties guarantee members of the Muckleshoot Tribe, Suquamish Tribes, and the Confederated Tribes and Bands of the Yakama Nation the right to harvest seafood around the waterways of Harbor Island. Currently, the Muckleshoot Tribe conducts commercial fishing in the waterway for salmon. Tribal fishers can also engage in clamming activities in all intertidal areas of the waterway. The south end of Terminal-25 has been unsafe for clamming due to hazards associated with the presence of remnant pilings but could potentially be an area for shellfish harvesting in the future. Tribal seafood harvesting practices are currently ongoing and will continue to occur in the future. These Tribal members may or may not be residents of the Duwamish Valley, but they are impacted by the cleanup activities at Harbor Island and the Lower Duwamish Waterway.

Consideration of how Tribal members may be exposed to contaminants in Harbor Island while engaging in seafood harvest activities has been a factor shaping the assessment of human health risks at the Operable Units within Harbor Island. As sovereign nations, the Suquamish Tribe, Muckleshoot Tribe, and the Confederated Tribes and Bands of the Yakama Nation are always invited to engage in government-to-government consultations with EPA and other government agencies on the cleanup process and decisions. EPA will continue to honor this formal tribal trust relationship.



*Duwamish Longhouse*

*(Source: EPA)*

The Duwamish Tribe has a long history in the area with deep connections to the Green-Duwamish Watershed. Duwamish People have lived on the banks of the Duwamish River for thousands of years. Today, their Tribal home, the Duwamish Longhouse, is near Harbor Island. While the Duwamish Tribe is not a federally recognized Tribe, EPA seeks their input and involvement on the cleanup.

### 2. Industrial History of Harbor Island

In 1909, the Puget Sound Bridge and Dredging Co. finished building Harbor Island with materials dredged from the East and West Waterways of the Duwamish River, as well as soil dug from the Jackson Street and Dearborn Street regrades. The Port of Seattle was established in 1911 by King County voters to address concerns over growing railroad and shipping monopolies. In its early days, the Port focused on many projects, including establishing itself on Harbor Island.<sup>3</sup>

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<sup>3</sup> Oldham, Kit. "Port of Seattle – Thumbnail History." *HistoryLink.org*, 12 Feb. 2020, [www.historylink.org/file/20972](http://www.historylink.org/file/20972).



Since its creation, Harbor Island has been used for commercial and industrial activities including secondary lead smelting, shipbuilding and repair, bulk petroleum storage, metal fabrication and containerized cargo shipping.<sup>4</sup> Throughout its history, Harbor Island has housed warehouses, laboratories, other industrial buildings, and railroads. The island is the Port of Seattle's major point of access for cargo transferred from oceangoing vessels to trucks and railcars.<sup>5</sup>

### 3. Current Industrial Activities

The 420-acre island supports businesses that conduct commercial and industrial activities, including ocean and rail transport operations, bulk fuel storage and transfer, secondary lead smelting, lead fabrication, shipbuilding, and metal plating. Warehouses, laboratories, and offices also existed historically on the island.

In the early 2000s, the land use on the island changed from a variety of smaller businesses to larger operations. Some of the largest industrial stakeholders on Harbor Island include the Port of Seattle, Vigor Shipyard, the US Coast Guard, and BNSF Railway.

As of December 2021, EPA had data on 39 businesses on Harbor Island. These businesses employed 1,852 people and generated an estimated \$864,123,596 in annual sales revenue.<sup>6</sup>

Harbor Island is connected to the larger Lower Duwamish Waterway, and together Harbor Island and the industrial areas that surround the Lower Duwamish Waterway are home to more than 80% of Seattle's industrially zoned land, up to 80,000 industrial and manufacturing jobs.<sup>7</sup> As part of the "Duwamish Valley Approach," EPA considers Harbor Island industrial activities to be linked to the broader Duwamish Valley industrial area.

### 4. Residential Community

Harbor Island is primarily used for industry and commerce, but it is occasionally home to a small number of liveaboards who stay at marinas on the Island. In addition, people experiencing homelessness also sometimes stay on Harbor Island. As of May 2022, there were approximately 174 people experiencing homelessness in SODO/Duwamish Valley, but the exact number on Harbor Island are unknown.<sup>8</sup>

Harbor Island is situated in the larger Duwamish Valley, and neighborhoods in this Valley have some of Seattle's highest percentages of people of color and low-wage workers. The communities neighboring Harbor Island are considered by EPA and the Washington State Department Ecology to have environmental justice concerns in accordance with Executive

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<sup>4</sup> Vallentyne, John F. *Aerial view of Harbor Island, Seattle, July 20, 1964*. 1964. *Museum of History and Industry*, [digitalcollections.lib.washington.edu/digital/collection/imlsmohai/id/8702/#:~:text=Since%201912%2C%20Harbor%20Island%20has,are%20located%20on%20the%20island](https://digitalcollections.lib.washington.edu/digital/collection/imlsmohai/id/8702/#:~:text=Since%201912%2C%20Harbor%20Island%20has,are%20located%20on%20the%20island).

<sup>5</sup> Weiser-Alexander, Kathy. "Harbor Island, Washington – Largest Artificial Island in the U.S." *Legends of America*, Nov. 2021, [www.legendsofamerica.com/wa-harborisland/](https://www.legendsofamerica.com/wa-harborisland/).

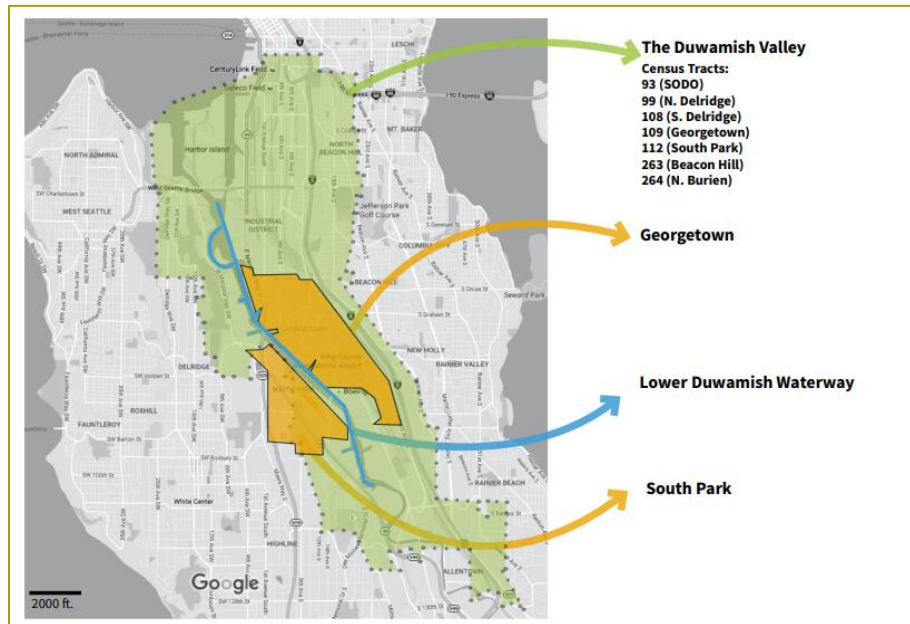
<sup>6</sup> "Superfund Sites in Reuse in Washington." *U.S. Environmental Protection Agency*, Aug. 2021, <https://www.epa.gov/superfund-redevelopment/superfund-sites-reuse-washington>.

<sup>7</sup> Mapes, Lynda V. " 'They are supposed to protect us': Community wants more from EPA for Duwamish Superfund cleanup." *The Seattle Times*, 4 Jan. 2022, [www.seattletimes.com/seattle-news/environment/they-are-supposed-to-protect-us-community-wants-more-from-epa-for-duwamish-superfund-cleanup/](https://www.seattletimes.com/seattle-news/environment/they-are-supposed-to-protect-us-community-wants-more-from-epa-for-duwamish-superfund-cleanup/).

<sup>8</sup> Kamb, Lewis. "Harrell unveils dashboard to track progress on homelessness response." *Axios Seattle*, 1 June 2022, <https://www.axios.com/local/seattle/2022/06/01/seattle-mayor-harrell-dashboard-tracking-progress-addressing-homelessness>.

Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations".

For more detailed demographic information, please see Appendix A for the Environmental Justice Review for the Harbor Island Superfund Site and the other Superfund Sites in the Duwamish Valley.



*Map of the Duwamish Valley with census tract numbers*

*(Source: EPA Lower Duwamish Waterway Superfund Site Community Involvement Plan, October 2016)*

The two largest residential neighborhoods in the Duwamish Valley are South Park and Georgetown. The two neighborhoods foster a diverse and vibrant range of cultures and ethnicities.

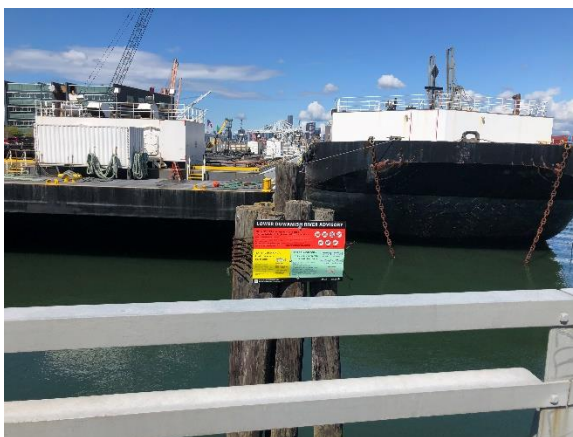
South Park stands out for its vibrancy and dedication to place and culture, especially the Latinx culture. In South Park, there are a variety of retail and service businesses located along 14th Avenue South.

Georgetown is home to large employers, such as the King County International Airport, and the Boeing Company. The largest local employers are in the arts, entertainment, and recreation industries. Georgetown is home to a strong, valuable manufacturing and industrial center, a vibrant business district, artist studios, and residential community.

## 5. Fishing and Recreation

The Spokane Street Bridge along Harbor Island's East Waterway is one of the most popular fishing sites on the Duwamish River, especially for salmon. A 2016 survey of fishers at the Spokane Street Bridge found that 81% of the fishers were fishing for salmon, and 19% reported they were fishing for resident species (in addition to salmon in some cases).<sup>9</sup>

<sup>9</sup> "Lower Duwamish Waterway Fishers Study Data Report." *Windward environmental*, 23 Dec. 2016, [semspub.epa.gov/work/10/100036528.pdf](https://semspub.epa.gov/work/10/100036528.pdf).



A fish advisory sign at the Spokane Street Bridge  
(Source: EPA)

There is a state-wide Washington Department of Health (WDOH) fish consumption advisory for mercury in Northern Pike/minnow and Small- and Largemouth Bass, another WDOH advisory against eating any resident fish or shellfish from the Lower Duwamish Waterway, and an advisory recommending limit on consumption of salmon throughout Puget Sound, including from the Duwamish River. The [Washington State Department of Health's Fish Consumption Advisories – Publications website](#) has the most updated information on these fish consumption advisories. Community Health Advocates,

supported by the parties responsible for the Lower Duwamish Waterway cleanup, EPA, and Public Health Seattle-King County, have developed the “Fun to Catch, Toxic to Eat” institutional control program for the Lower Duwamish Waterway, which promotes culturally appropriate, healthy actions that protect the health and well-being of fishing communities, pregnant women, nursing moms, and young children.

In addition to fishing, Harbor Island is home to boaters. Jim Clark Marina has 90 slips and Harbor Island Marina provides moorage to 77 vessels. Jim Clark Marina is for recreational boating only, and the Harbor Island Marina has liveaboard options. Due to the concentration of commercial shipping activity around Harbor Island, there is minimal swimming and kayaking.

## C. Community Concerns and Priorities

To develop this CIP, EPA conducted 25 interviews with community members, industry, government, nonprofits, academia, fishers, and elected officials and over 65 informal interviews with community members at various gathering places, like a restaurant, deli, and neighborhood festivals. This section describes the following concerns, issues, and priorities of interviewees, including the importance of:

- Increasing awareness of the Harbor Island Superfund Site.
- Focusing on trust building.
- Communicating information about the Site in a clear manner.
- Mitigating cleanup construction impacts.
- Improving transparency on how EPA makes decisions and conducts its work.

**LOWER DUWAMISH RIVER**

# ADVISORY

**EAT SALMON. It's the healthiest choice.**

**12 meals per month.**

Opción saludable: 12 comidas por mes. ...  
健康選擇：每月12次。...  
인공에 안전함. 문장: 한달 식사 12회. ...  
Su chon hua lánh mánh: Múi tháng 12 bữa. ...  
အသုံးပြုရန်: လစဉ် ၁၂ ကျွေးမွေးမှု ...  
Правильный выбор: 12 порций в месяц. ...  
Doorasho Caafimaad Leh: 12 cunis bishii. ...

**OR**

**Limit: 4 meals per month.**

Limitar el Chinook: 4 comidas por mes. ...  
制限(王)：毎月4回。...  
제한(왕): 한달 식사 4회. ...  
Giới Hạn ăn cá Chinook: Mỗi tháng 4 bữa. ...

**OR**

**Avoid: 2 meals per month.**

Evitar: 2 comidas por mes. ...  
避免：毎月2次。...  
금지 분량: 한달 식사 2회. ...  
Tránh: Mỗi tháng 2 bữa. ...

**DO NOT EAT crab, shellfish, or bottom-feeding fish due to pollution.**

Debido a la contaminación, NO CONSUMA cangrejos, mariscos o pescados que se alimentan 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、軟體或貝類。...  
Không nên ăn cua, nghêu sò hoặc loài cá sinh sống hay ăn những thứ ở đáy nước vì bị nhiễm bẩn. ...  
В связи с загрязнением воды нельзя употреблять в пищу крабов, моллюсков и рыб, которые обитают или питаются у дна. ...  
အသုံးပြုရန်: လစဉ် ၁၂ ကျွေးမွေးမှု ...  
Ha cunin suulgeys, alaxaxeyda badda, ama kaluunka badda hoosteeda wax ka cuna sababta oo ah wasakheysanka badda. ...

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

Public Health  
Seattle & King County

Advisory Sign for the Lower Duwamish River  
(Source: Washington State Department of Health)

## 1. Increasing Awareness

When speaking with community members, very few knew that Harbor Island was a Superfund Site. One explanation was because Harbor Island is mostly industrial and there are few residential communities that are directly impacted. Interviewees described the risks associated with people not knowing Harbor Island is a Superfund Site, including inadvertent exposure to contaminants.

In addition, community members and stakeholders shared that they did not know about the important and beneficial work that EPA and other government agencies have done in the area. As such, EPA will focus on communicating the status of the Superfund Site, any potential risks related to contamination, as well as the progress made in the area.

## 2. Focus on Trust-Building

Several community members and stakeholders emphasized the importance of EPA building trust with community members. They suggested several ways that EPA could build trust and relationships:

- Address environmental injustices experienced by communities in the Duwamish Valley.
- Increase the amount of community/stakeholder engagement in the area, including proactive engagement before there are major decisions or actions.
- Tailor approaches to different types of communities, including having distinct strategies for immigrant groups that have unique perspectives on the role of government.
- Coordinate with state and local government agencies to have consistent messaging. One interviewee emphasized that people see “government as government,” not differing between federal, state, county, city, or local agencies.
- Recognize community frustrations from the very long, multi-year pace of Superfund cleanups.
- Prioritize building relationships through investing in communities, rather than “extracting” input and local expertise.
- Have a local, physical presence in the community.
- Use liaisons to the community in situations when people might not be comfortable with the federal government (e.g., working with social service providers to connect with people experiencing homelessness).
- Create opportunities for youth involvement at the Site.



*EPA Community Drop-in Interview on Harbor Island,  
Summer 2022* (Source: EPA)



### 3. Communicate Clearly

Many interviewees emphasized the importance of clear communication with stakeholders regarding the Harbor Island Superfund cleanup. In particular, they shared the following suggestions:

- **Plain Language:** Share information about the contaminants and the cleanup in plain language so that ordinary people can understand what is happening at the Site. There is an added imperative to use plain language to help translators and interpreters communicate with multilingual stakeholders.
- **“Duwamish Valley Approach”:** When possible, EPA can discuss the cleanup of the full Duwamish River and nearby Superfund Sites since it is not intuitive to most people that there are multiple Superfund Sites in the same area.
- **Visuals:** The Harbor Island cleanup is incredibly technical. As a result, visual diagrams, photos, maps, videos, and other images should be used to help stakeholders understand what is happening at the Site.
- **Translation:** Fact sheets, maps, and other informational documents should be translated into the main languages spoken by people who live and work in the Duwamish Valley.

### 4. Mitigate Cleanup Impacts

Interviewees noted that it is important to lay the groundwork for stakeholder engagement in advance (months ahead of time) of constructing a cleanup with individualized outreach so that stakeholders have background knowledge once construction impacts begin. Interviewees encouraged EPA to minimize adverse impacts in the following ways:

- **Fishing:** Fishing is popular at the Spokane Street Bridge, and EPA should communicate with fishers in their preferred languages about any impacts to this fishing pier in particular.
- **People Experiencing Homelessness:** It is important for EPA to work with organizations supporting people experiencing homelessness to mitigate any sampling or construction impacts on people living in their vehicles or people living without shelter.
- **Traffic:** EPA should try to mitigate increased maritime and vehicular traffic because of cleanup activity.
- **Businesses:** EPA should work with industry associations and businesses to reduce impacts to maritime or industrial activity in the area, especially during active cleanup for the East Waterway Operable Unit. It’s important for EPA to be aware of the differences between Port of Seattle activity and private industry activity on and around Harbor Island.



*Fishing Contest at Spokane St Bridge, Summer 2022*

*(Source: EPA)*

- **Marina:** Throughout sampling and cleanup construction, EPA should take steps to reduce the water damage to the marinas as a result of large ships or barges. In addition, EPA needs to be aware of how dredging activity impacts the marinas on Harbor Island.
- **Air Quality:** Many stakeholders are concerned about the air quality around Harbor Island and in the Duwamish Valley (including SODO) from industry and trucking activity. As such, it's imperative that Superfund cleanup activities don't negatively impact the area's air quality.

## 5. Improve Transparency

Some interviewees expressed concern over how EPA determines cleanup levels for Superfund Sites, specifically the East Waterway portion of the Harbor Island Superfund Site. In the future, it was suggested that EPA provide more information and transparency about the methodologies that led to different cleanup levels. Some interviewees recommended that Potentially Responsible Parties – like the Port of Seattle, the City of Seattle, and King County – communicate with stakeholders and provide information about cleanup actions. It's helpful when EPA and local government are all able to communicate accurate science to a variety of audiences to prevent misinformation.

Additionally, EPA heard from some community groups that an Environmental Justice analysis (like what was done for the Lower Duwamish Waterway Superfund Site) should be done to help EPA understand the accessibility needs of the community. As a result of this clear community priority, EPA has:

- Conducted a thorough and robust Environmental Justice review for not only the Harbor Island Superfund Site, but also for the other Superfund Sites in the Duwamish Valley (please see Appendix A).
- Included Environmental Justice specific actions in this Community Involvement Action Plan.

## D. Community Involvement Action Plan

### Principles and Overall Approach

The CIP Action Plan describes the methods the U.S. Environmental Protection Agency (EPA) will use to address concerns and meet the needs of community members affected by the cleanup of Harbor Island. EPA conducted extensive outreach with impacted communities and developed the following goals in response to their ideas and concerns:

- **Goal 1:** Increase awareness of the Harbor Island Superfund Site.
- **Goal 2:** Build trust.
- **Goal 3:** Mitigate cleanup construction impacts
- **Goal 4:** Integrate the Harbor Island Superfund Site into EPA's broader Superfund efforts in the Duwamish Valley.
- **Goal 5:** Invest in communities.

### Goal 1: Increase Awareness of the Harbor Island Superfund Site

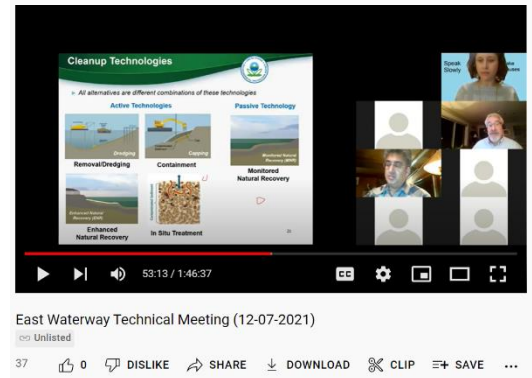
As part of EPA's outreach to develop this CIP, EPA learned that there was relatively minimal awareness of the Superfund Site on Harbor Island from the community members or businesses in the area.



EPA can help increase understanding of the Harbor Island Superfund Site to prepare stakeholders for potential construction impacts and minimize exposure to contaminants of concern. EPA can use online and direct/in-person outreach methods, as described below.

Below are online methods of reaching various types of stakeholders:

- **Email Listserv:** EPA can send listserv notifications via email on a regular basis to provide updates on Harbor Island cleanup activities, public comment opportunities, meetings, etc.
- **Website:** EPA's webpage for Harbor Island can be updated to share news, documents, and meeting announcements.
- **Recorded Webinars:** EPA can record educational webinars for viewers to watch in real time or on their own schedule.
- **Social Media:** EPA Region 10 has its own Facebook and Twitter handles and can use these platforms to share information, videos, announcements, and invitations. EPA can request that its partners distribute information and videos on other platforms like Instagram and TikTok.
- **Ethnic Media:** The Duwamish Valley is one of the most linguistically diverse areas of Seattle. EPA is committed to reaching multilingual and immigrant communities as part of its environmental justice responsibilities. For the Harbor Island Superfund Site, EPA will prioritize the following languages that it selected through demographic research and stakeholder feedback and continue to evaluate and adapt per community feedback and EJScreen Reviews: Spanish, Vietnamese, and Khmer. EPA can share multilingual press releases when there are major cleanup milestones, public comment periods, or anticipated disruptions as a result of cleanup activities. The City of Seattle's Ethnic Media Program maintains an active list of ethnic media outlets, which can be found here: [www.seattle.gov/iandaffairs/EMP](http://www.seattle.gov/iandaffairs/EMP).



*Recording of a December 2021 East Waterway informational webinar (Source: EPA)*

Below are direct or in-person methods of connecting with stakeholders:

- **Tours:** EPA (or responsible parties) can organize tours of the East and West Waterways by boat, like the boat tours of the Lower Duwamish Waterway that the Lower Duwamish Waterway Group (LDWG) hosts on a regular basis.
- **Signage:** Add larger fish advisory signs up at the Spokane Street Bridge fishing pier (e.g. where people are hanging their rods).
- **Direct Mailings:** EPA can send direct mailers to the surrounding businesses and residents (if applicable) during important comment periods for Harbor Island. In addition, EPA can send mailers or flyers prior to disruptive construction cleanup activities.
- **Individualized Outreach:** EPA recognizes that many stakeholders do not have time to attend additional meetings to participate in the cleanup of Harbor Island and heard that more tailored outreach is preferable to most community members, particularly because of 'meeting burnout' (too many meetings exist already for community members, particularly from Agencies). As such, EPA can conduct individualized outreach with the organizations, businesses, and residences on and around Harbor Island to inform them about the cleanup, opportunities to give feedback, and ways of minimizing exposure to contaminants.

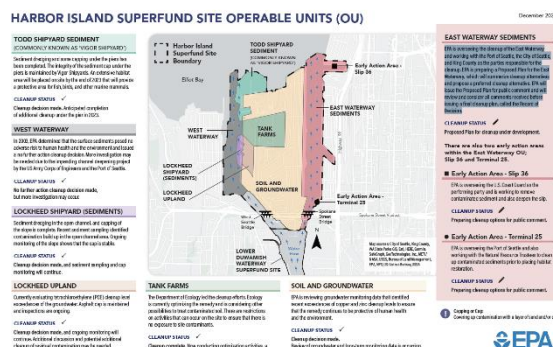
When possible, EPA could work with partner agencies to attend these individualized outreach opportunities. For example:

- EPA can attend the meetings of the Lower Duwamish Waterway Community Health Advocates to share updates about fish advisories, etc.
- EPA can partner with existing groups who have well-established outreach activities, like the Duwamish River Community Coalition.
- EPA can go to Vietnamese karaoke nights at the Senior Center.
- EPA can attend meetings and events at the South Park Cambodian Temple.
- EPA could hold informal chats, meetings, or open houses at central community gathering places, such as the Heron's Nest or the Duwamish River Community Hub
- **Flyers:** Businesses on Harbor Island have bulletin boards where informational flyers could be placed. In addition, the nearby neighborhoods of South Park and Georgetown have many community gathering sites and foot traffic. EPA could post flyers in coffee shops, health clinics, restaurants, libraries, and schools to alert the community about public comment periods, meetings, or cleanup construction impacts.
- **Fishing Pier Outreach:** EPA can conduct outreach at the Spokane Street Bridge fishing pier to distribute flyers and information. EPA, as a government agency, can be intimidating. As such, EPA should take steps to have an informal and community-centric approach to outreach on the Spokane Street Bridge.
- **Community Health Advocate Outreach<sup>10</sup>:** The Community Health Advocates (CHAs) from the “Fun to Catch, Toxic to Eat Program” conduct education and outreach to protect the health of fishing communities, especially pregnant women, nursing moms and young children, and fishers, from the contaminated seafood in the Duwamish River Superfund Site<sup>11</sup>. This program extends to the Spokane Street Bridge which is within the Harbor Island Superfund Site.
- CHAs conduct outreach to all fishers, and currently have specific support in English, Khmer, Vietnamese, Spanish, and Lao. Some of the educational materials are translated in Chinese too. CHAs can provide culturally appropriate education about the Harbor Island cleanup as part of their other outreach during boat tours, youth group discussions, community kitchen demos, living room chats, backyard gatherings, etc.
- **Reaching People Experiencing Houselessness:** As described earlier, many people experiencing houselessness stay on Harbor Island and in the broader Duwamish Valley. EPA understands that often social workers or representatives from social service agencies are the best liaisons to unsheltered people or people living in their cars. EPA can partner with local organizations supporting people experiencing houselessness to provide updates to houseless populations, in particular around construction impacts and fishing advisories.
- On next page are educational materials that can be distributed online or in person depending on the medium:

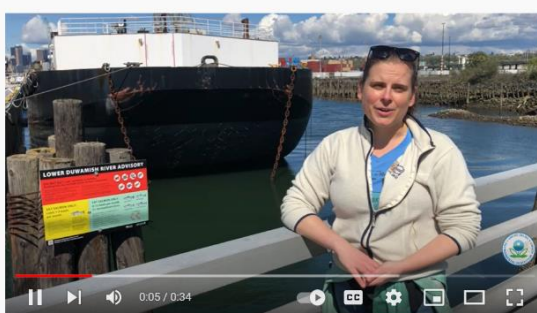
<sup>10</sup> “Fishing for safe seafood to eat.” *King County | Public Health – Seattle & King County*, 21 Aug. 2019, [kingcounty.gov/depts/health/environmental-health/healthy-communities/duwamish-fishing.aspx](https://kingcounty.gov/depts/health/environmental-health/healthy-communities/duwamish-fishing.aspx).

<sup>11</sup> “About the Fun to Catch, Toxic to Eat Program.” *Public Health – Seattle & King County*, 28 Feb. 2020, <https://kingcounty.gov/depts/health/environmental-health/healthy-communities/duwamish-fishing/about-us.aspx>.

- **Fact Sheets:** EPA can create fact sheets in plain language to describe cleanup activities and updates. The fact sheets can tie together EPA's cleanup efforts across multiple Superfund Sites in the Duwamish Valley.
- **Videos:** Creating videos are effective methods of communicating complex cleanup information or sharing updates. EPA can consider creating animated videos to describe cleanup processes. Alternatively, EPA staff can create quick "in the moment" videos when they are visiting the Site to provide updates. Multilingual EPA staff can record these videos in-language as well to increase access to information. "In the Moment" videos require minimal resources and are useful to share information with community members and businesses.



Draft Harbor Island Superfund Site fact sheet (Source: EPA)

Solicitud de entrevista comunitaria! - Harbor Island Superfund Site  
86 views... 3 DISLIKE SHARE DOWNLOAD SAVE ...*"In the Moment" Video in Spanish taken at the Spokane Street Bridge, Summer 2022 (Source: EPA)*Harbor Island Superfund Site - Community Interview Request!  
212 views... 7 DISLIKE SHARE DOWNLOAD SAVE ...*"In the Moment" Video in English taken at the Spokane Street Bridge, Summer 2022 (Source: EPA)*

## Goal 2: Build Trust

EPA understands that trust is earned through long-term relationships with community members, local businesses, and others interested and affected by the Harbor Island Superfund Site. Below are some ways that EPA can earn the trust of those affected and impacted by the Harbor Island Superfund Site:

- **Attend Local Events:** The Duwamish Valley is home to many vibrant local festivals and events. EPA can sponsor these events and/or have booths at these events to connect with community members and share information about the Harbor Island Superfund Site. See Appendix C for a list of regularly occurring events in the Duwamish Valley.
- **Hold Informal Chats:** EPA heard from stakeholders that larger EPA stakeholder meetings can feel overwhelming or alienating to people that do not have technical expertise, or people who do not speak English as their primary language. EPA can provide an informal opportunity for community members to share questions and concerns regarding the Superfund Sites in the Duwamish Valley through "informal chats." These discussion-based sessions could supplement formal public meetings and other structured meetings related to the Harbor Island Superfund Site and Lower Duwamish Waterway Superfund Site. These informal chats could be held in person or virtually depending on community preference. Depending on need and interest, multilingual interpretation could be provided.

- **Work with Already Trusted Partners:** EPA recognizes that many local organizations have already built trust and long-standing relationships with community-based organizations in the Duwamish Valley. EPA can partner with these organizations to reach community members and businesses on and around Harbor Island. EPA has heard and recognizes that compensation for these community organizations is important and will continue to explore ways that could happen. Below are some examples of conduit organizations that EPA can partner with moving forward.
  - Businesses: Business associations (e.g., Manufacturing Industrial Council).
  - Residents: Marinas with liveaboards, community-based organizations, social service organizations and clinics, and others.

Additionally, EPA should continue to explore how or if a **Community Advisory Group** for the Harbor Island Superfund Site should form for interested and affected community members. While EPA did not receive any initial feedback during community interviews for this CIP that a CAG for Harbor Island should form, EPA will continue to provide information and scope out with community members if a CAG makes sense for the Harbor Island Superfund site.

- Fishers: Community Health Advocates as part of the Lower Duwamish Waterway Superfund Site.
- **Connect with Youth:** South Park has a larger percentage of people under 18 years than Seattle as a whole. EPA can involve youth in the cleanup of Harbor Island by partnering with local youth associations and youth corps. EPA can consider giving presentations at local elementary, middle, and high schools on the Superfund Sites in the Duwamish Valley.
- **Increase Transparency:** EPA heard from stakeholders that they would like more transparency about how EPA reaches its conclusions during remedial investigations, feasibility studies, and remedial design.
- **Interagency Coordination:** Trust is important between EPA and other government agencies in order to all collaborate on the cleanup of Harbor Island. In the interest of coordination and trust building, EPA aims to maintain good communication with the following agencies and entities:
  - Port of Seattle.
  - King County.
  - City of Seattle.
  - Sound Transit.
  - WA Department of Ecology.
  - Local, state, and federal elected officials.
- **Build Understanding:** EPA is aware that the Superfund process is highly technical and can be alienating for people without backgrounds in toxicology, environmental remediation, engineering, etc. EPA will use the communication and education strategies described above

#### **Community Advisory Group**

**(CAG):** A group that is made up of representatives of diverse community interests. A CAG is designed to serve as the focal point for the exchange of information among the local community and EPA, the State regulatory agency, and other pertinent Federal agencies involved in cleanup of the Superfund Site. For more information, please visit [www.epa.gov/superfund/superfund-community-advisory-groups](http://www.epa.gov/superfund/superfund-community-advisory-groups)

to help build understanding in the community about the Superfund process. This is particularly important prior to the release of Proposed Plans or Records of Decision so that stakeholders have ample time to understand the plan and its implications.

### Goal 3: Mitigate Cleanup Construction Impacts

- As Section D mentioned, CIP interviewees shared concerns that the construction related to the cleanup could negatively impact air quality, marine traffic, vehicular traffic, marina activities, fishing, noise pollution, and people who live in their cars or are experiencing houselessness on Harbor Island. EPA can minimize construction impacts in the following ways:
- **Communicate with the broader community and businesses:** EPA can use the communication tools described above to alert community members and businesses when construction impacts will occur. For example, EPA can distribute listserv announcements, post on social media, do door-to-door outreach, hang up flyers, communicate with industry associations and the Port of Seattle, and partner with social service agencies and community-based organizations.
- **Communicate with fishers:** EPA can post signage at the Spokane Street Bridge during active construction periods. EPA can communicate via Community Health Advocates to reach the fishing community if there are important updates or advisories.
- **Coordinate with tribes:** EPA will also coordinate with tribes regarding their seasonal fishing activities to determine the timing of in-water cleanup construction.

### Goal 4: Integrate the Harbor Island Superfund Site into EPA's broader efforts in the Duwamish Valley

EPA understands that the Duwamish River is a connected social and ecological system. As such, the various Superfund Sites within the Duwamish Valley are related and communication efforts by EPA should also be connected. As a result, EPA will:

- **Integrate an 'Audience First Risk Communication Approach' to our communications on the Superfund Sites in the Duwamish Valley.** This core risk communication principle means that EPA will check-in early with interested and affected community members on how they would like to be engaged on the Superfund cleanup work in the Duwamish Valley. Specifically, this approach could mean that EPA would:
  - Listen and show empathy by acknowledging and validating feelings,
  - Provide context,
  - Use visuals instead of numbers to put the risk in terms that people can relate to,
  - Steer clear of regulatory language, and
  - Establish shared values.
- **Provide updates and information on all of the Superfund Site work in the Duwamish Valley in the same framework that is outlined in this Community Involvement Action Plan.** Community members should be able to easily receive information about all the work on the Superfund Sites in the Duwamish Valley.



- **Apply specific Environmental Justice (EJ) actions for the Duwamish Valley Superfund Site work, including:**
  - Conducting periodic EJScreen Reviews for the Duwamish Valley Superfund Sites (especially as data is updated in the tool) and use the results of this review to provide targeted outreach to schools, senior service sites, community centers, public housing and subsidize housing, and churches and faith-based institutions.
  - Providing ongoing EJScreen training for community members, Potentially Responsible Parties, and anyone interested in or affected by the Duwamish Valley Superfund Sites.

## Goal 5: Invest in Communities

As part of a Superfund Cleanup, EPA can invest in and connect with communities. Below are grants and programs that EPA can use to invest in communities:

- **Technical Assistance for Superfund Communities (TASC) Grant:** The national Technical Assistance Services for Communities (TASC) program provides independent assistance through an EPA contract to help communities better understand the science, regulations and policies of environmental issues and EPA actions. Under the TASC contract, a contractor provides scientists, engineers, and other professionals to review and explain information to communities. The services are determined on a project-specific basis and provided at no cost to communities. This assistance supports community efforts to get more involved and work productively with EPA to address environmental issues.<sup>12</sup>
- **Technical Assistance Grant (TAG):** A Technical Assistance Grant (TAG) helps communities participate in Superfund cleanup decision-making. It provides funding to community groups to contract their own technical advisor to interpret and explain technical reports, site conditions, and EPA's proposed cleanup proposals and decisions. An initial grant up to \$50,000 is available to qualified community groups. As of January 2023, none of the Superfund Sites in the Duwamish Valley have a TAG.
- **Superfund Job Training Initiative (SuperJTI):** SuperJTI is a job readiness program that provides training and employment opportunities for people living in communities affected by Superfund sites. Many of these areas are Environmental Justice (EJ) communities – historically under-represented minority and low-income neighborhoods and areas burdened with significant environmental challenges. EPA's goal is to help these communities develop job opportunities that remain long after a Superfund site has been cleaned up.<sup>13</sup>
- **EPA Environmental Justice Grants and Opportunities:** EPA has EJ grants and other EJ opportunities and will make sure that this information is shared using the methods described in this CIP.

<sup>12</sup> "Technical Assistance Services for Communities (TASC) Program." U.S. Environmental Protection Agency, 29 Sept. 2022, [www.epa.gov/superfund/technical-assistance-services-communities-tasc-program](https://www.epa.gov/superfund/technical-assistance-services-communities-tasc-program).

<sup>13</sup> "Superfund Job Training Initiative." U.S. Environmental Protection Agency, 25 May 2022, <https://www.epa.gov/superfund/superfund-job-training-initiative>.



## Accommodations

For the five goals outlined in this action plan, EPA will lower barriers to participation by providing the following types of accommodations:

- **Language Accommodations:** EPA will translate key summaries of cleanup documents into the following languages and consider additional languages as needed, per community feedback and EJScreen Reviews: Spanish, Vietnamese, and Khmer. EPA will offer either live or pre-recorded video interpretations in those same languages for significant public meetings related to Harbor Island. When possible, EPA will use community-based translators and interpreters.
- **Food:** EPA is very limited in its ability to provide food or beverages at public meetings. When possible, EPA will work with Potentially Responsible Parties to provide food and beverages at in-person public meetings, especially if they are in the evening.
- **Childcare:** EPA has heard from community members that childcare during evening or weekend meetings is important. EPA will strive to find a way to accommodate this need.
- **Captioning:** EPA will provide live captioning of virtual meetings.

## Appendix A – Environmental Justice Screen for Superfund Sites in the Duwamish Valley (including Harbor Island, Lower Duwamish Waterway, Lockheed West Seattle, and Pacific Sound Resources Superfund Sites)

### Why did EPA conduct an EJScreen Review as part of this Harbor Island CIP?

EPA received feedback from community interviews and other informal feedback that while an extensive environmental justice review was conducted for the Lower Duwamish Waterway Superfund Site, nothing similar was done for the Harbor Island Superfund Site. As a result, EPA decided to develop an environmental justice review of the four Superfund Sites in the Duwamish Valley, including Harbor Island, Lower Duwamish Waterway, Lockheed West Seattle, and Pacific Sound Resources. This also include a specific review for the Harbor Island Superfund Site as part of this Harbor Island CIP. To conduct this review, EPA used its tool Environmental Justice Screen (EJScreen) in Fall 2022.

While EPA’s Superfund program can’t address all the environmental injustices summarized in this EJScreen review, this information will help EPA and our partners to think critically and holistically about our work in the Duwamish Valley and how we can work together for environmental justice.

### What is EJScreen?

EJScreen as a tool provides indicators of the most critical environmental burdens within a community or geographic study area in addition to the Superfund site. It also contains demographic variables that can be used to characterize the vulnerability of communities near a Superfund Site related to race, language, age, economics, and education. EPA considers a project to be in an area of potential environmental justice (EJ) concern when an EJScreen review for the impacted area shows one or more of the eleven EJ Indexes at or above the 80th percentile in the nation and/or state. At a minimum, EPA recommends an EJScreen review consider EJScreen information for the block group(s) which contains the proposed action(s) and a one-mile radius around those areas.

### Why is EJScreen an Appropriate Choice for EPA?

EPA developed EJScreen to highlight places that are candidates for further review or outreach to better characterize environmental injustice issues in geographic areas. Due to the complexities of Harbor Island and the limitations of EJScreen, its use as a tool must be used in conjunction with community ground-truthing and outreach as the environmental and demographic indicators are considered.

EJScreen can be used to study some of the environmental variables that impact people in a certain area. For Superfund Sites, like Harbor Island, this information may be used to tailor communications to vulnerable populations. Based on extensive community feedback, EPA decided to include a general EJScreen review in this CIP update.

### How Does EJScreen Work?

EJScreen is an EJ screening and mapping tool that utilizes standard, nationally consistent data to highlight places that may have higher environmental burdens and vulnerable populations. These maps and reports show how a selected location compares to the rest of the nation, EPA region, or state. The tool also combines environmental and demographic indicators to create EJ indexes. **An EJ Index is a way of combining demographic information with a single environmental indicator (e.g., proximity to traffic) that can help identify communities that may have a high combination of environmental burdens and vulnerable populations.** o

EJScreen relies on Census data and currently, the 2015-2019 American Community Survey data can be downloaded to accompany the EJScreen report. To learn more about EJScreen, please review EPA's [EJSCREEN Technical Documentation](#).<sup>1</sup>

## Cautions for Using EJ Screen

### Buffer (or Radius) Limitations

Caution must be taken in attempting to study too large of an area by applying a large buffer or radius in EJScreen. This may dilute important factors or include factors that can bias the study. EJScreen is designed to be project- specific and to evaluate relatively small areas. Generally, the larger the area, the less specific the data. For example, if one school is selected as a site and a one-mile buffer around that school is examined, the make-up of the neighborhood around the school and the environmental conditions impacting that one-mile circle will be reasonably clear.

The Superfund Sites in the Duwamish Valley cover an area of approximately 6 miles which creates additional limitations when using the buffer feature in EJScreen for the entire Site. Accurately capturing environmental and demographic indicators will be limited because the indicators will average out and be less specific. Using the school example, if a 3-mile or 5-mile buffer is used, then a larger number of schools may be within that area. However, information will not be specific to each of those schools or each of the neighborhoods around the schools.

Additional limitations of the tool include that it only analyzes the demographic population of people who live in these areas. For Harbor Island, many people work there (but don't live there) and are exposed to environmental indicators for approximately 8 hours a day but this cannot be captured by EJScreen.

### EJScreen is a Screening Tool Only

EJScreen is a screening tool (not a decision-making tool) that examines some of the relevant issues related to environmental justice, and there is uncertainty in the data included. Therefore, supporting local knowledge is needed for communities to evaluate sites, develop tools, decide on communication needs, and adequately participate in the decision-making process. The screening is only an estimate that may provide direction for communities to do further ground-truthing. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. As the screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location and/or proposed project, consider additional information in an EJ review to supplement EJScreen outputs.

## Parameters of General EJScreen Review for the Superfund Sites in the Duwamish Valley

In this EJSCREEN review for Harbor Island, EPA analyzed the area in different ways including:

- A 1-mile radius around all the Superfund Sites in the Duwamish Valley
- A 1-mile radius around Harbor Island
- Several additional layers were incorporated as described below

## Data Used

The data outlined below were selected after extensive consultation with EPA Region 10's EJ coordinator on how to best use EJScreen to further inform EPA's outreach to vulnerable populations. Please note that additional information may be added to future EJScreen reviews and this is not a comprehensive list.

1. Schools (data in EJScreen)
2. Community Centers (data from City of Seattle)<sup>2</sup>
3. Public Housing and Subsidized Housing (data in EJScreen)
4. Places of Worship (data in EJScreen)
5. Parks (data from EJScreen)
6. Hospitals (data from EJScreen)

### Climate Change Specific Layers

1. Sea Level Rise (52 ft.) (data in EJScreen)
2. 100 Year Flood Plain (data in EJScreen)

### Health Disparities Layers

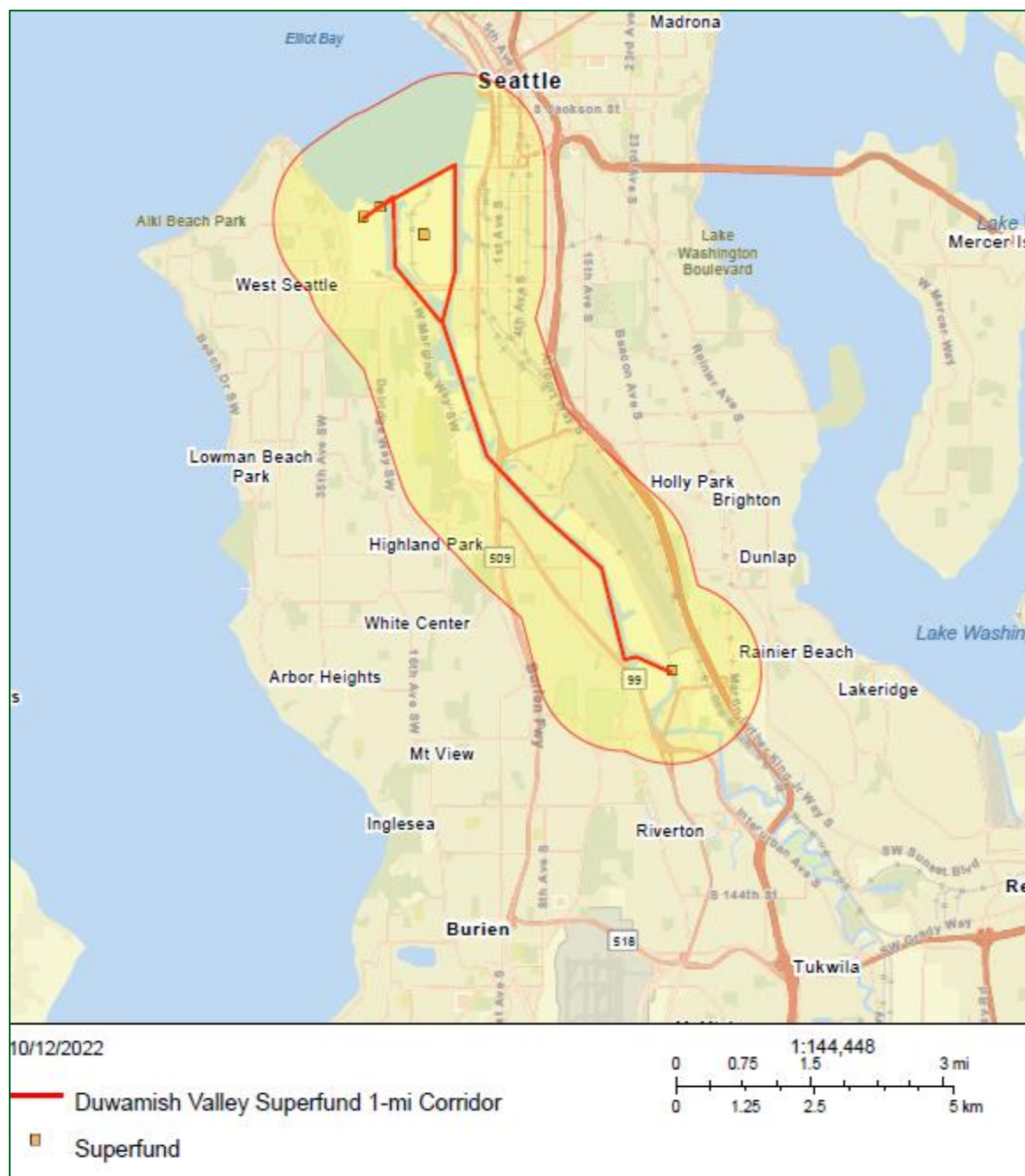
1. Low Life Expectancy (data in EJScreen)
2. Heart Disease (data in EJScreen)
3. Asthma (data in EJScreen)

## Definitions

Socioeconomic Indicators	Definition
Demographic Index	The Demographic Index in EJScreen is a combination of percent low-income and percent minority, the two demographic factors that were explicitly named in Executive Order 12898 on Environmental Justice. For each Census block group, these two numbers are simply averaged together. The formula is as follows: Demographic Index = (% people of color + % low-income) / 2.
People of Color	The percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" in this case indicates that the person is of a single race, not multiracial.
Low Income	Percent of individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined).
Unemployment Rate	All those who did not have a job at all during the reporting period, made at least one specific active effort to find a job during the prior 4 weeks, and were available for work (unless temporarily ill).
Linguistically Isolated Population	Percent of households in which no one age 14 and over speaks English "very well" or speaks English only (as a fraction of households).
Population with Less Than High School Education	Percent of individuals age 25 and over with less than high school degree.

Socioeconomic Indicators	Definition
Population Under Five Years of Age	Percent of individuals under age 5 as a fraction of population.
Population Over 64 Years of Age	Percent of individuals over age 64 as a fraction of the population.

Environmental Indicator	Definitions
Particulate Matter 2.5 (level in air)	Particulate matter (PM2.5) levels in air, micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) annual average. Source: EPA Office of Air and Radiation
Ozone (level in air)	Ozone summer seasonal avg. of daily maximum 8-hour concentration in air in parts per billion. Source: EPA Office of Air and Radiation
Diesel Particulate Matter (level in air)	Diesel particulate matter level in air in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). Source: EPA National Air Toxics Assessments
Air Toxics Cancer Risk	Lifetime cancer risk from inhalation of air toxics, as risk per lifetime per million people. Source: EPA National Air Toxics Assessment
Air Toxics Respiratory Hazard Index (HI)	Air toxics respiratory hazard index (the sum of hazard indices for those air toxics with reference concentrations based on respiratory endpoints, where each hazard index is the ratio of exposure concentration in the air to the health-based reference concentration set by EPA). EPA National Air Toxics Assessments
Traffic Proximity	Count of vehicles per day (average annual daily traffic) at major roads within 500 meters (or nearest one beyond 500 m), divided by distance in meters. Calculated from U.S. Department of Transportation National Transportation Atlas Database, Highway Performance Monitoring System.
Lead Paint	Percent of housing units built before 1960, as indicator of potential exposure to lead-based paint. Calculated from the Census Bureau's American Community Survey 5-year summary estimates.
Superfund Proximity	Count of proposed and listed NPL sites within 5 km (or nearest one beyond 5 km), each divided by distance in km. Count excludes deleted sites. Source: Calculated from EPA CERCLIS database.
Risk Management Plan (RMP) Facility Proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in km. Calculated from EPA RMP database.
Hazardous Waste Proximity	Count of hazardous waste management facilities (TSDFs and LQGs) within 5 km (or nearest one beyond 5 km), each divided by distance in km. Calculated from EPA RCRAInfo database.
Underground Storage Tanks (UST)	Count of Leaking USTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500-foot buffered block group. Calculated from EPA UST Finder.
Wastewater Discharge (Stream Proximity and Toxic Concentration)	Risk-Screening Environmental Indicators (RSEI) modeled Toxic Concentrations at stream segments within 500 meters, divided by distance in kilometers (km). Calculated from RSEI modeled toxic concentrations to stream reach segments.



1-Mile Radius Around the Superfund Sites in the Duwamish Valley

(Source: EPA's EJScreen Tool)

### Use of a 1-mile Radius Around the Superfund Sites in the Duwamish Valley

This EJScreen review initially looked at the demographics and environmental indicators within a 1-mile radius of the four Superfund Sites in the Duwamish Valley. This radius was chosen because all EJScreen environmental indicators that involve proximity to an area use a standard practice of a 1-mile radius. Please consider the following two points about this 1-mile radius:

1. The 1-mile radius is used as a guide, not as a hard boundary. For example, if a school or other facility is found near but outside the 1-mile radius, EPA may still conduct outreach to that school regarding the Superfund Sites.
2. One block group included in the 1-mile radius (or buffer) around the Superfund Sites does not include any people. This affects how the data is averaged and displayed in this EJScreen review.



## EJScreen Results for the Duwamish Valley Review

Despite the cautions outlined above for applying EJScreen to large areas (such as the 6-mile stretch of the Duwamish Valley), EPA decided to provide general results of a full EJScreen review as a baseline to compare to the individual block groups (see below).

Please note that this Duwamish Valley EJScreen review was based on the most current data available. EPA recognizes that data change over time due to many factors (such as the COVID-19 pandemic) and as a result, EPA plans to conduct overall EJScreen reviews periodically when updated data are available.

The Duwamish Valley corridor includes the approximately 6-mile stretch of the Harbor Island, Lower Duwamish River, Pacific Sound Resources, and Lockheed West Superfund Sites surrounded by a 1- mile buffer. The EJScreen review area is over 18.6 square miles with approximately 36,089 residents. EJScreen provides data in comparison to the state and nation. For the results section, we will look at the data compared to the state as it gives the most localized comparison.

We will look at the EJ indexes, socioeconomic indicators, and environmental indicators. EJ indexes use a combination of demographic information and environmental indicators to help identify areas that may have higher pollution burdens and vulnerable populations present.

**Please note:** EJScreen utilizes percentiles as a way to see how local residents compare to everyone else in the United States. Instead of just showing numbers out of context, EJScreen lets you compare a community to the rest of the state, EPA region, and nation, by using percentiles. The state percentile tells you what percent of the state population has an equal or lower value, meaning less potential for exposure/ risk/ proximity to certain facilities, or a lower percent minority.<sup>3</sup> Environmental Indicators are high for 8 out of 12 indicators compared to the state level. Of the population in this EJSCREEN area, 48% are people of color, 28% are low-income, and 43% have a bachelor's degree or higher. The tables below provide more specific information on some of the demographic and environmental indicators in the Duwamish Valley in addition to some general information from the 2016-2020 American Community Survey.

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EJ Indexes	Percentile in the State
Particulate Matter 2.5	77
Ozone	52
Diesel Particulate Matter	91
Air Toxics Cancer Risk	84
Air Toxics Respiratory HI	79
Traffic Proximity	84

EJ Indexes	Percentile in the State
Lead Paint	85
Superfund Proximity	90
RMP Facility Proximity	89
Hazardous Waste Proximity	91
Underground Storage Tanks	87
Wastewater Discharge	89

Socioeconomic Indicators	Percentile in the State	Interpretation
Demographic Index	77	23% of Washington has a higher demographic index than the 1-mile area of the Duwamish Valley. The Washington state average demographic index is 28% and this area is 38%.
People of Color	79	21% of Washington has a higher percentage of people of color than the 1-mile area of the Duwamish Valley. The Washington state average people of color is 33% and this area is 48%
Low Income ( <i>where the household income is less than or equal to twice the <a href="#">federal poverty level</a></i> ) <sup>40</sup>	65	35% of Washington has a higher percentage of low-income households than the people living within a 1-mile area of the Duwamish Valley. The Washington state average for low-income is 24% and this area is 28%
Unemployment Rate	65	35% of Washington has a higher percentage of unemployment than the people living within a 1-mile area of the Duwamish Valley. The Washington state average for unemployment is 5% and this area is 6%.
Limited English Speaking	84	16% of Washington has a higher percentage of limited English speaking populations living within a 1-mile area of the Duwamish Valley. The Washington state average for limited English speaking is 4% and this area is 8%.
Population with Less Than High School Education	73	27% of Washington has a higher percentage of populations with less than high school education within a 1-mile area of the Duwamish Valley. The Washington state average for populations with less than high school education is 8% and this area is 11%. .
Population Under Five Years of Age	50	50% of Washington has a higher percentage of populations under five years old than populations within a 1-mile area of the Duwamish Valley. The Washington state average for populations under five years old is 6% and this area is 5%. .

Socioeconomic Indicators	Percentile in the State	Interpretation
Population Over 64 Years of Age	49	51% of Washington has a higher percentage of populations over 64 years old within a 1-mile area of the Duwamish Valley. The Washington state average for populations over 64 years old is 15% and this area is 14%

Environmental Indicator	Percentile in the State	Interpretation
Particulate Matter 2.5	59	41% of Washington has higher PM2.5 levels in air. 7.78 $\mu\text{g}/\text{m}^3$ can be found in the air here and the Washington State average is 7.85 $\mu\text{g}/\text{m}^3$
Ozone	30	70% of Washington has higher ozone levels in the air. 32 ppb can be found in the air here and the Washington State average is 35.3 ppb.
Diesel Particulate Matter	95	5% of Washington has higher Diesel particulate matter in the air. 0.727 $\mu\text{g}/\text{m}^3$ can be found in the air here and the Washington State average is 0.334 $\mu\text{g}/\text{m}^3$
Air Toxics Cancer Risk	91	9% of Washington has a higher lifetime risk per million for toxics cancer risk. 40 people per lifetime per million people are at risk in this area and the Washington state average is 35 people per lifetime per million people.
Air Toxics Respiratory Hazard Index	74	26% of Washington has a higher air toxics respiratory hazard index.
Traffic Proximity	90	10% of Washington has a higher annual average traffic proximity.
Lead Paint	78	22% of Washington has more percentage of pre-1960 housing which is an indicator that lead-based paint may be present. 41% of the homes here are built pre-1960 and the Washington state average is 22% of homes.
Superfund Proximity	97	3% of Washington is in closer proximity to superfund sites than this area. There are 0.97sites/km distance in this area and the Washington state average is 0.18sites/km distance. There are 4 superfund sites within this area.
RMP Facility Proximity	92	8% of Washington is in closer proximity to RMP facilities. There are 2 facilities/km distance in this area and the Washington state average is 0.64 facilities/km distance
Hazardous Waste Proximity	95	5% of Washington is in closer proximity to Hazardous Waste facilities. There are 11 facilities/km distance in this area and the Washington state average is 2.2 facilities/km distance. There are 30 hazardous waste treatment, storage, and disposal facilities reporting to EPA within the area.
Underground Storage Tanks	93	7% of Washington has more Underground Storage Tanks. There are 24 tanks/ $\text{km}^2$ in this area and the Washington state average is 6.3 tanks/ $\text{km}^2$

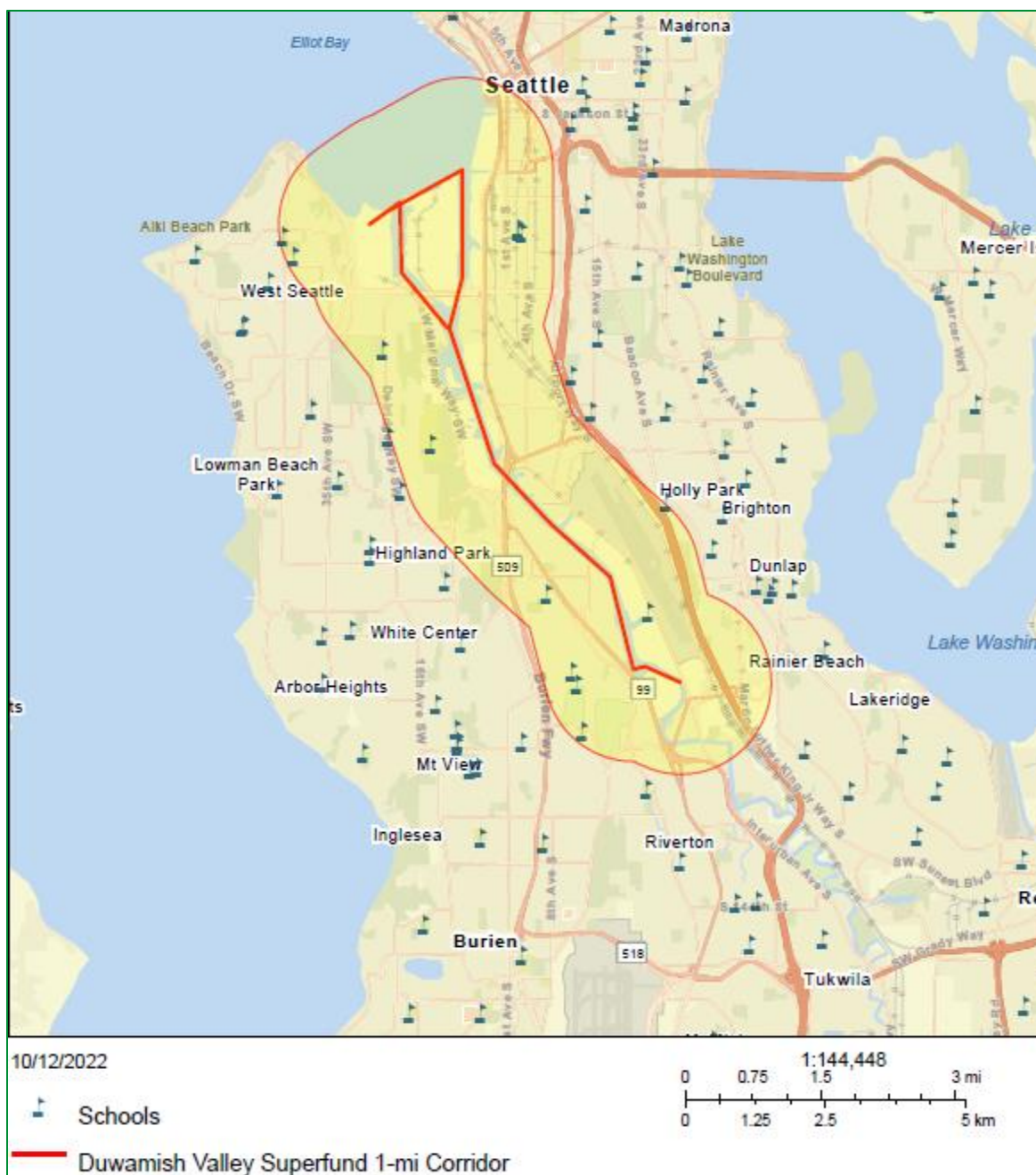
Environmental Indicator	Percentile in the State	Interpretation
Wastewater Discharge	91	9% of Washington has more toxicity-weighted concentration per meter distance of wastewater discharge.

### Additional Data Examined for the EJScreen Review

EJScreen is also able to pull in other information to better understand an area. In general, while the specific names of the facilities are not mentioned in this review, EPA has more detailed information and looks forward to working with existing and new partners by providing further information about these EJScreen results through outreach and communication work.

### Schools

Schools are an important category to examine because children tend to be one of the most vulnerable populations. In this review, there are many public schools located within a 1-mile radius around the Superfund Sites in the Duwamish Valley. The figure below provides a complete map of all the schools in the 1-mile radius of Duwamish Valley, which will help EPA focus on outreach efforts moving forward.

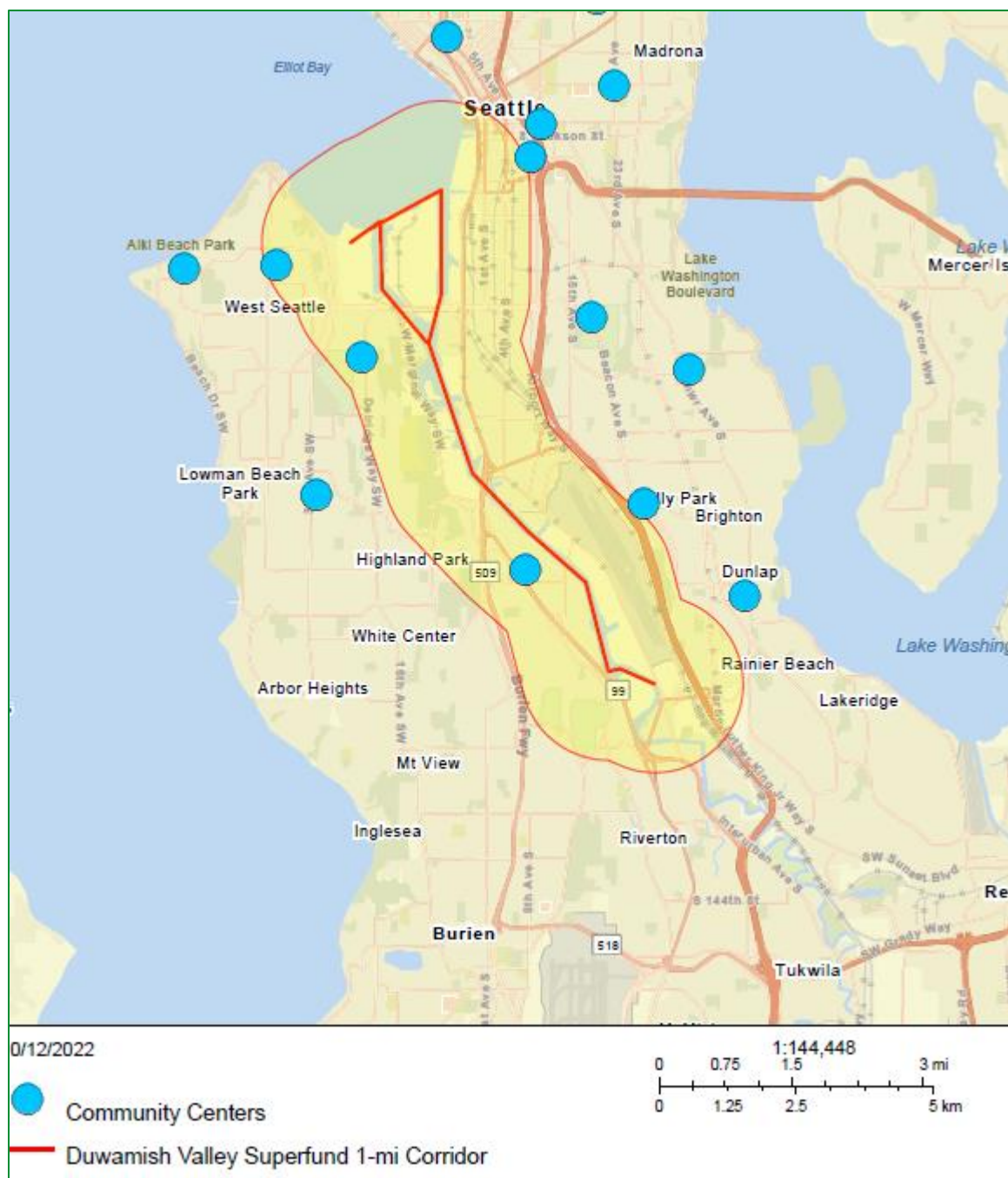


*Public Schools Within a 1-Mile Radius of the Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

### Community Centers

EPA conducts some outreach by providing materials and hosting meetings in some Seattle-area community centers. However, the figure below shows the community centers based on data from the City of Seattle so that EPA and other partners can better focus their outreach efforts. The two community centers that fall completely within the 1-mi buffer are the South Park Community Center and the Delridge Community Center. The three touching the boundary are the Van Asselt Community Center, the International District Community Center, and the Hiawatha Community Center.

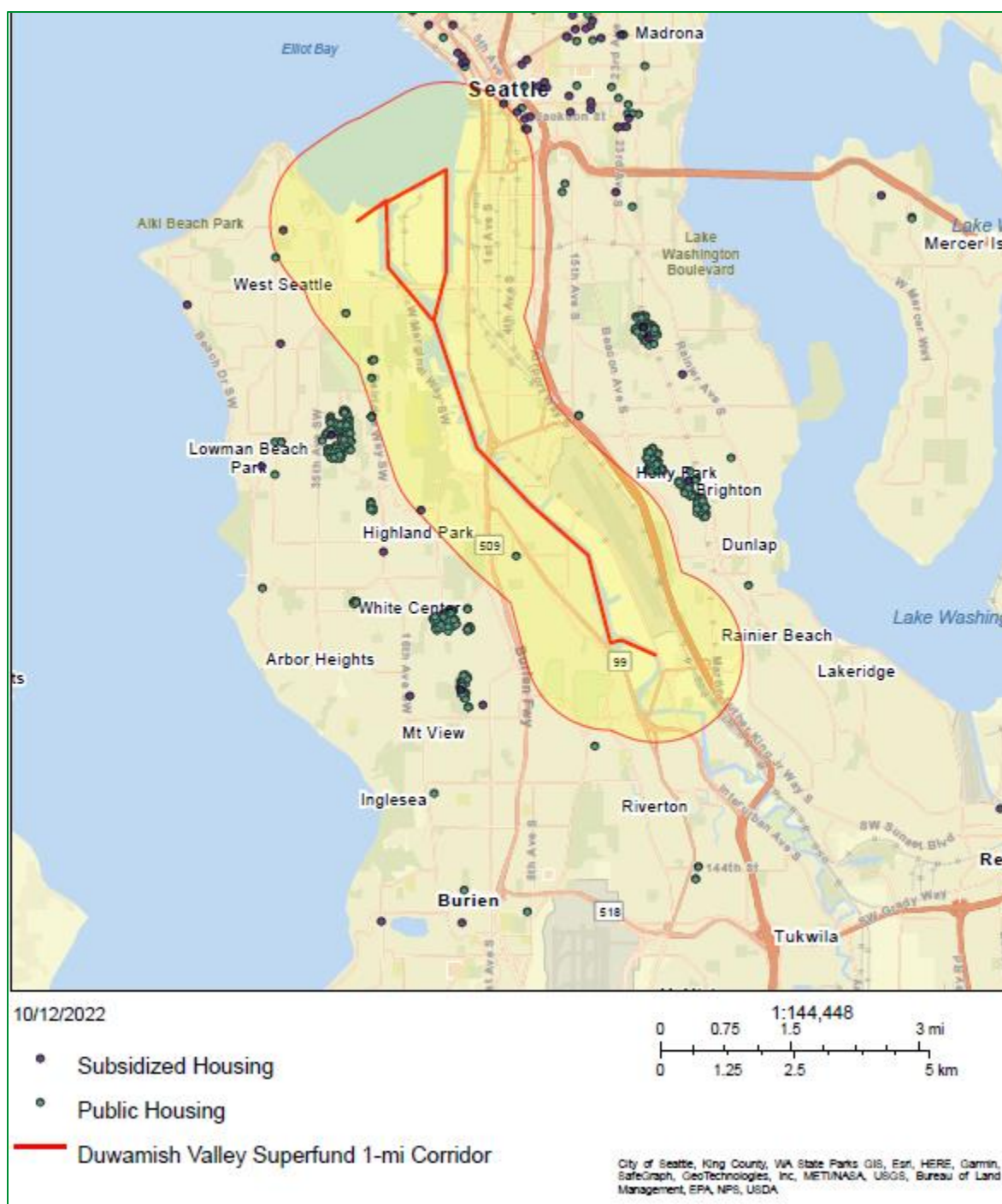




*Community Centers Within a 1-Mile Radius of the Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

## Public and Subsidized Housing

EJScreen also provides information on the location of public and subsidized housing. People residing in public and subsidized housing have a higher probability of being part of a vulnerable population. People residing in public or subsidized housing within 1-mile of the Duwamish Valley warrant targeted outreach by EPA and other partners because of their proximity to the cleanup. EJScreen shows that more concentrated areas of public and subsidized housing are located more than 1 mile east and west of the Superfund Sites (Please see the figure below).



*Public and Subsidized Housing Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

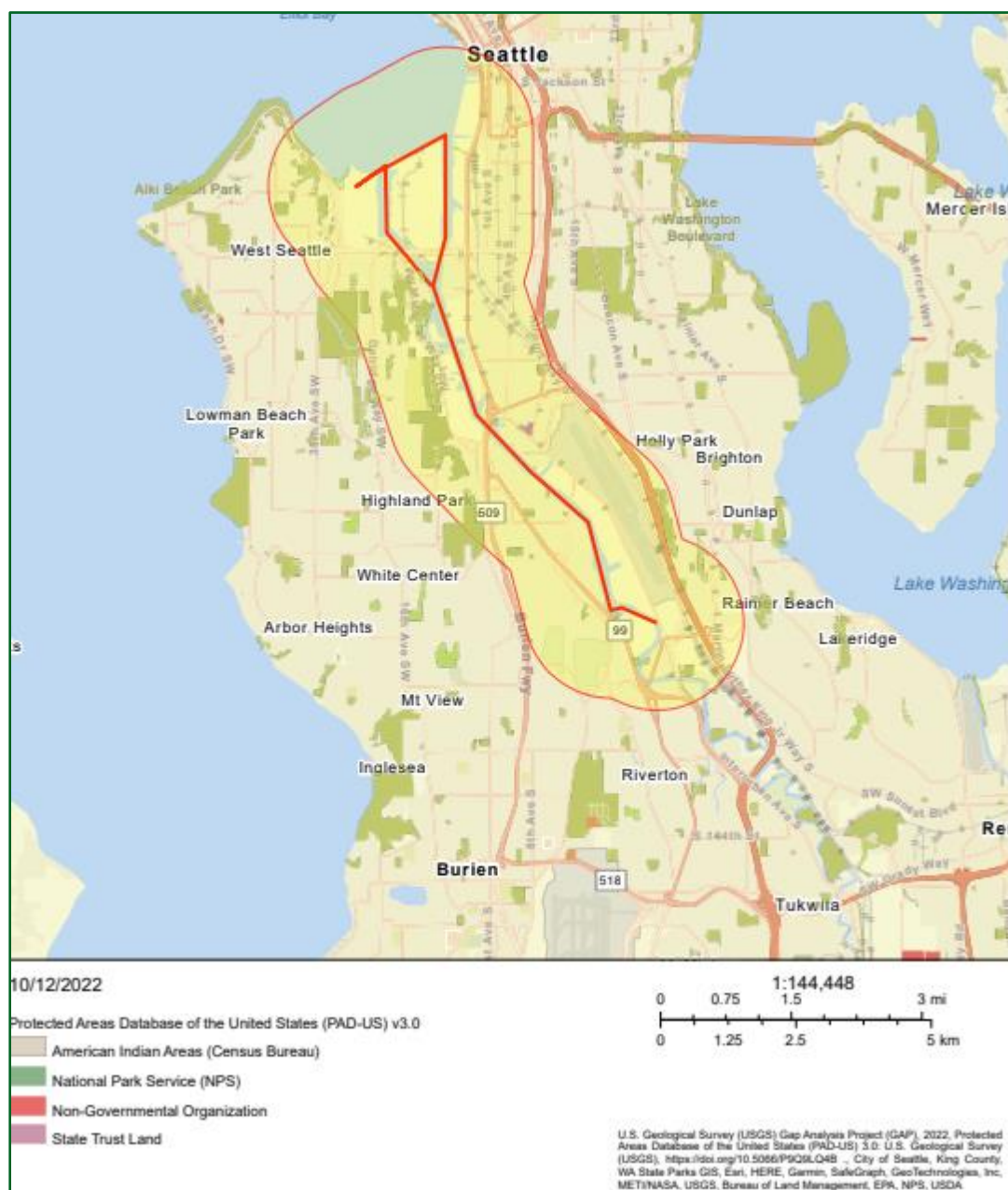
### Places of Worship

Another piece of information provided in EJScreen is the location of places of worship institutions. Place of worship were included as part of this overall EJScreen review because some research indicates that when health programs are developed or delivered in partnership with places of worship, health outcomes may improve. Additionally, places of worship may have existing programs and support for vulnerable populations. As a result, EPA, and other partners should consider reaching out to places of worship as the Harbor Island cleanup and other Superfund Site cleanups in the Duwamish Valley move forward to provide information and resources.

## gather.



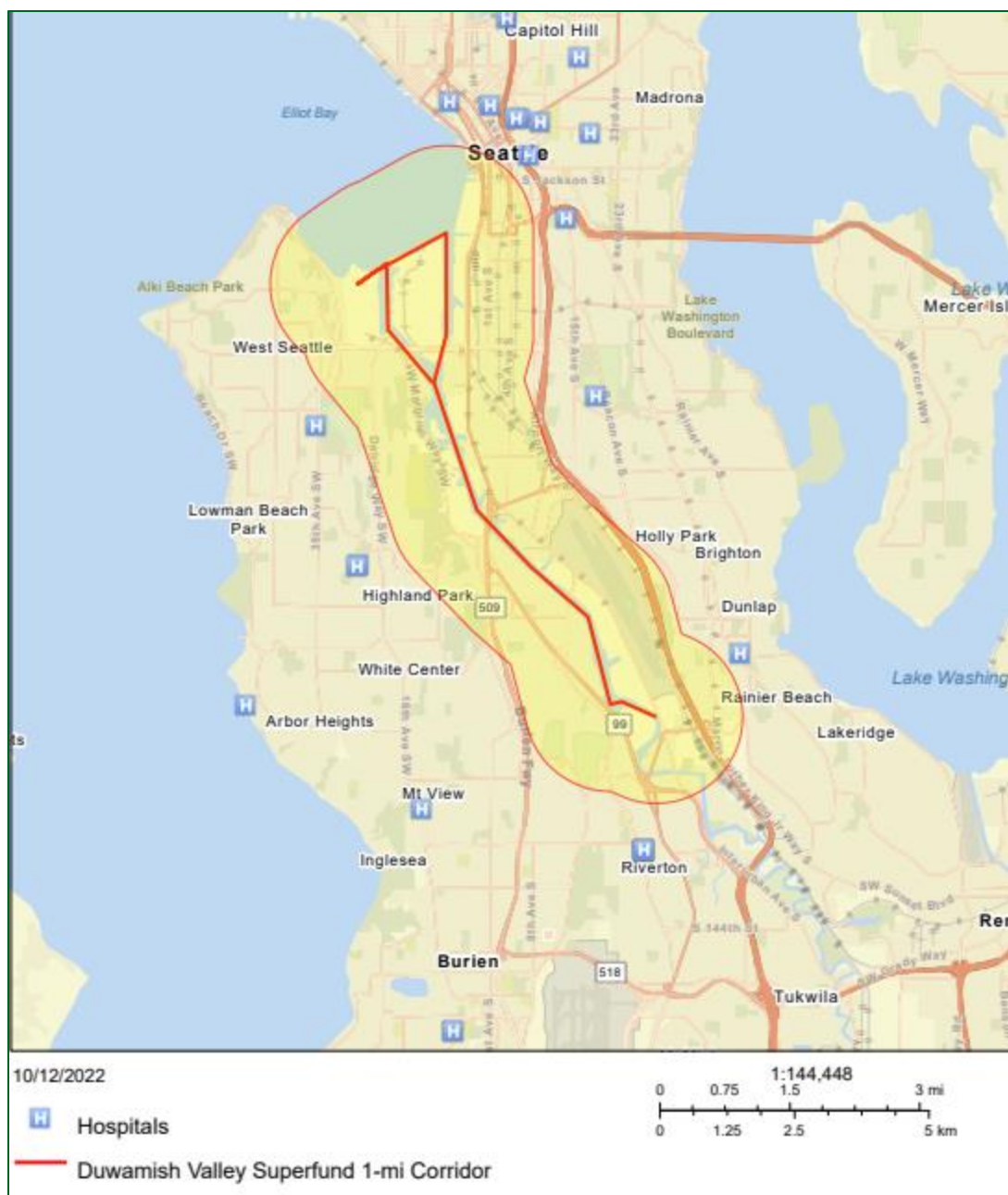




*Parks Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

## Hospitals

Another piece of information provided in EJScreen is the location of hospitals. Hospitals were included as part of this overall EJScreen review because they host vulnerable populations.



*Hospitals Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

## Climate Change Specific Layers

### Sea Level Rise

Another piece of information provided in EJScreen is climate change layers like sea level rise with data provided by NOAA. For this review, EJScreen looked at 5 feet of sea level rise. This layer shows us what areas are most susceptible to sea level rise if the level were to rise by 5 feet. Climate change often has disproportionate impacts on communities with EJ concerns, so it is important to consider the impacts of climate change on these populations.





*Sea Level Risk (5 feet) Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley.*

*(Source: EPA's EJScreen Tool)*

### 100 Year Flood Plain

Another piece of information provided in EJScreen is climate change layers like 100 Year Flood plain with data provided by NOAA. This layer shows us what areas have a 1% annual chance of flooding, or a 1-in-4 chance of flooding throughout the course of a 30-year mortgage. Climate change often

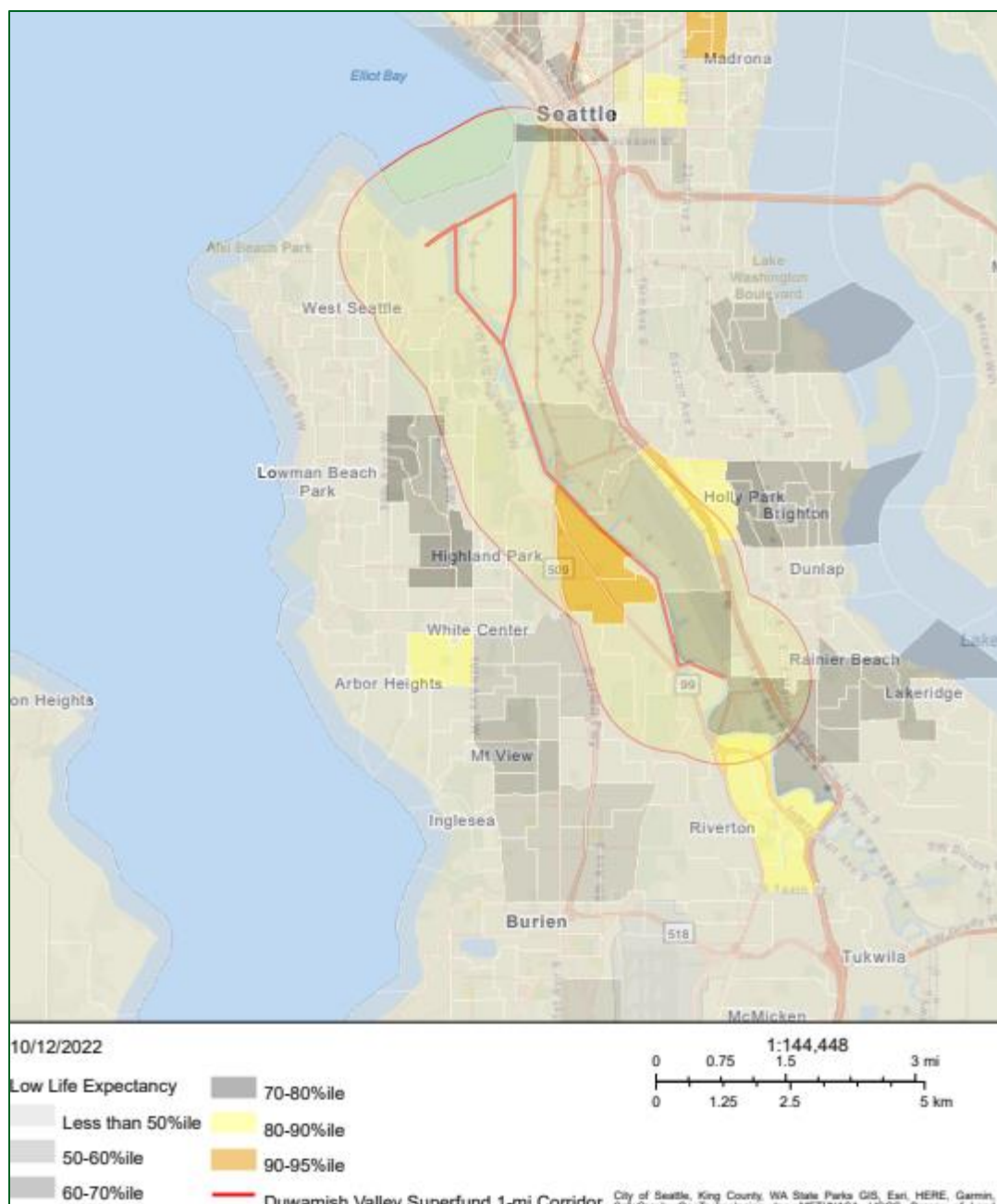
has disproportionate impacts on communities with EJ concerns, so it is important to consider the impacts of climate change on these populations.



100 Year Flood Plan Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)

### Low Life Expectancy

Another piece of information provided in EJScreen is health disparities like low life expectancy. See map on next page.

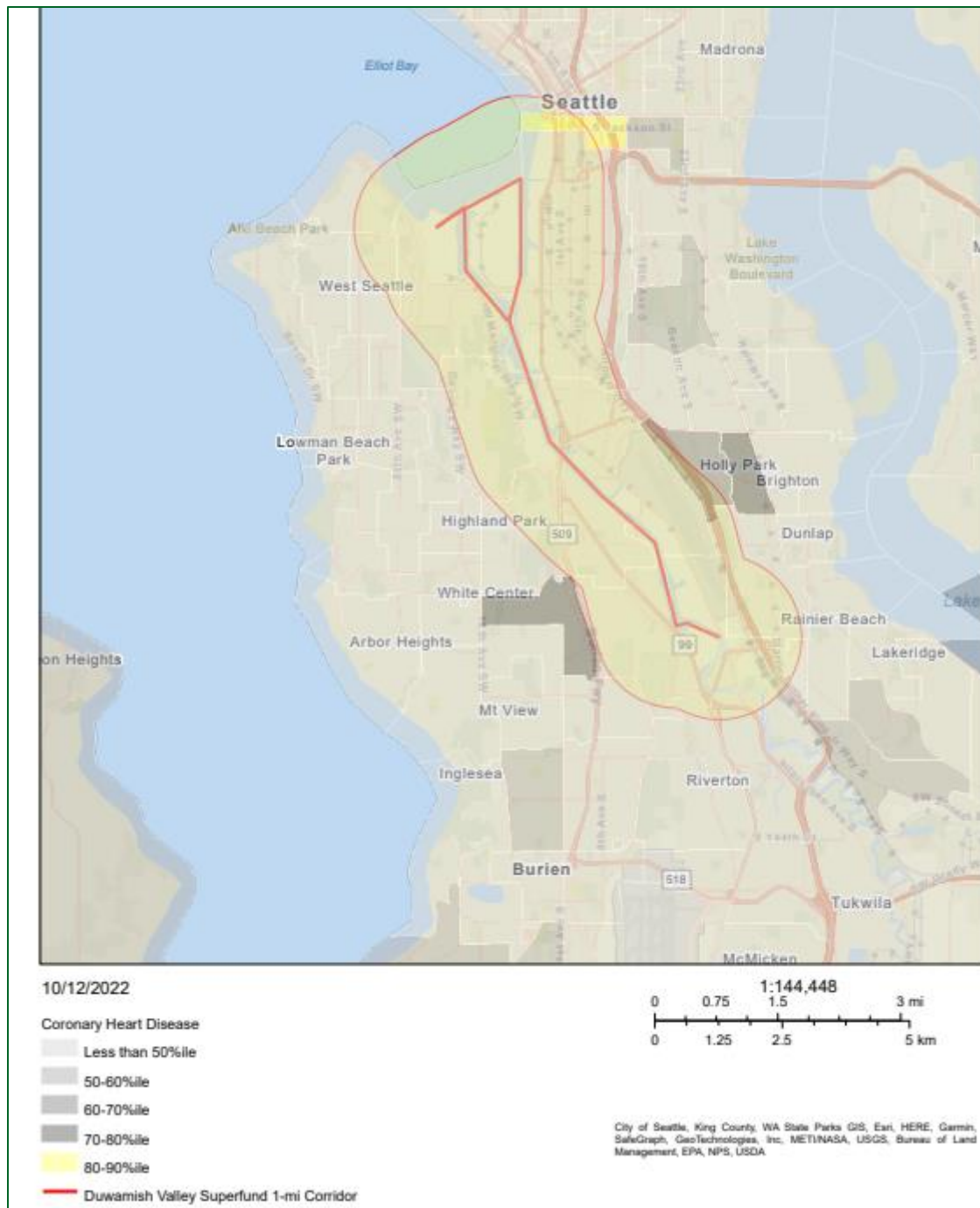


*Low Life Expectancy Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

### Heart Disease

Another piece of information provided in EJScreen is health disparities like heart disease. See map on next page.

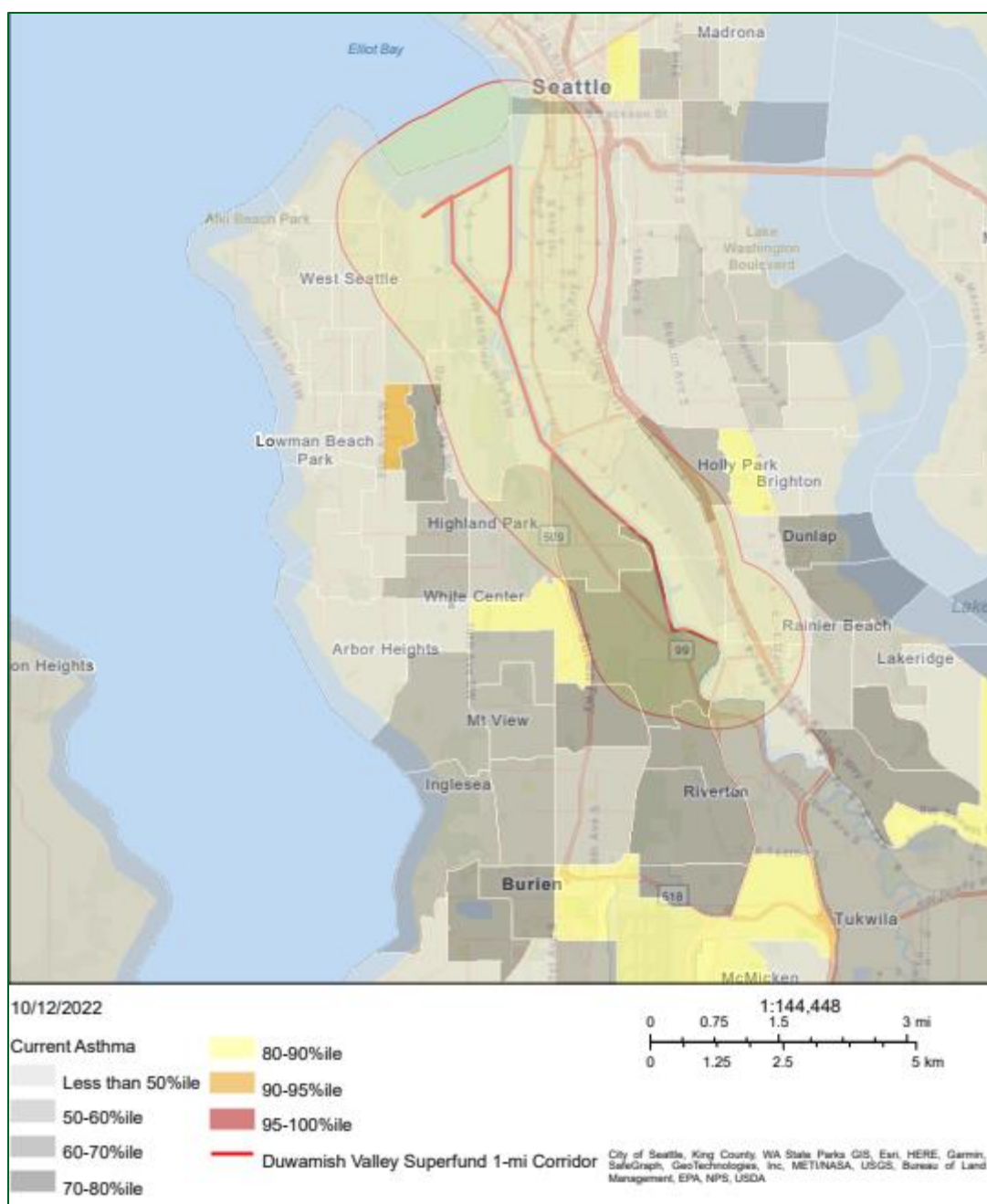




*Heart Disease Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

## Asthma

Another piece of information provided in EJScreen is health disparities like asthma. See map on next page.



*Asthma Within a 1-Mile Radius of Superfund Sites in the Duwamish Valley. (Source: EPA's EJScreen Tool)*

## Use of a 1-mile Radius Around Harbor Island Superfund Site

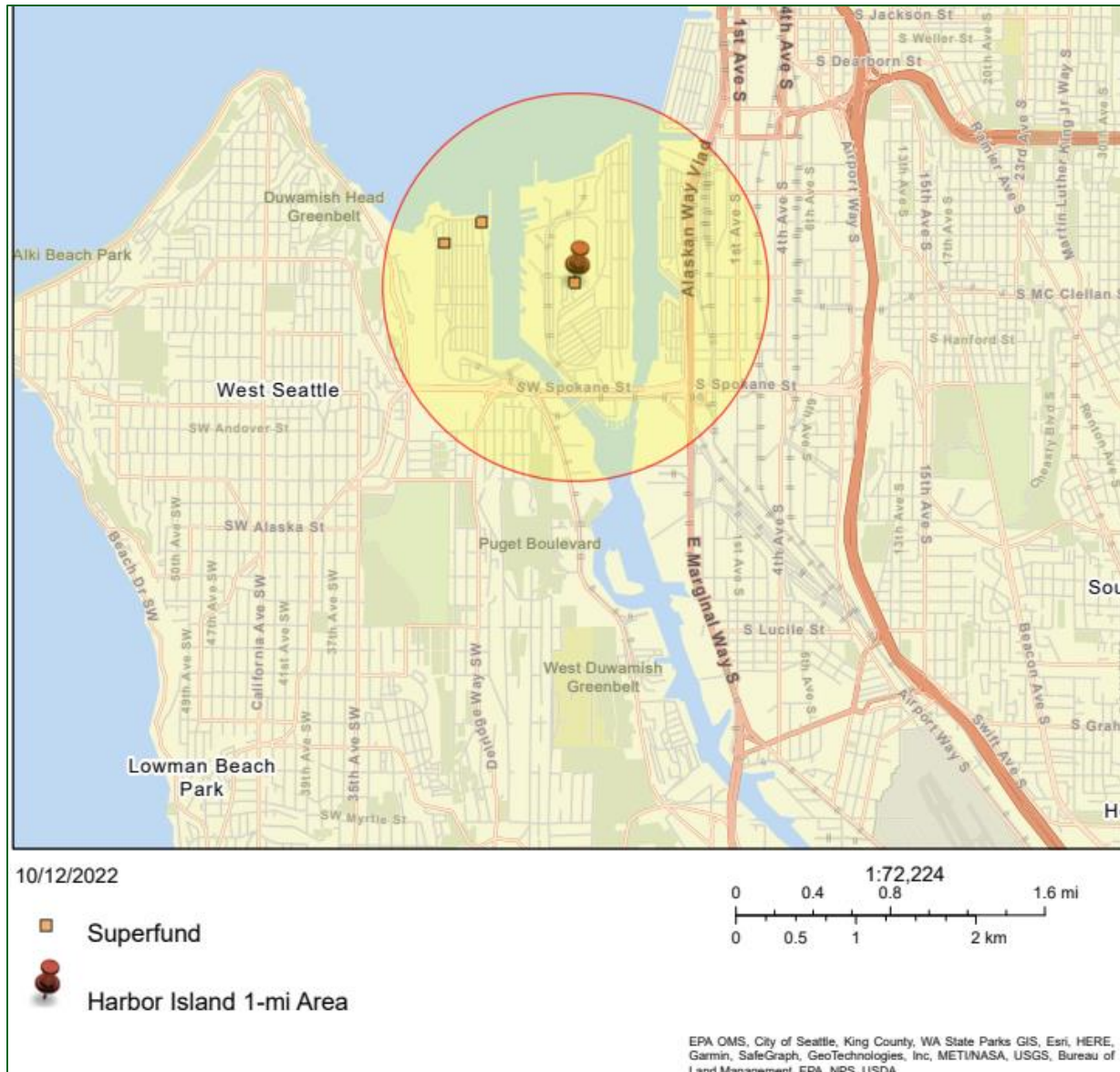
This EJScreen review also looked at the demographics and environmental indicators within a 1-mile radius of the Harbor Island Superfund site. This radius was chosen because all EJScreen environmental indicators that involve proximity to an area use a standard practice of a 1-mile radius.

## EJScreen Results for the Harbor Island Superfund Site Review

The review below includes the Harbor Island Superfund site surrounded by a 1-mile buffer (Figure 42). The EJScreen review area is 3.14 square miles with approximately 1,538 people. We will again look at the data compared to the state since it gives the most localized comparison.



Environmental Indicators are high for 8 out of 12 indicators compared to the state level. Of the population in this EJSCREEN area, 31% are people of color, 28% are low-income, and 51% have a bachelor's degree or higher. The tables below provide more specific information on some of the demographic and environmental indicators at the Harbor Island Superfund site in addition to some general information from the 2016-2020 American Community Survey.



1-mile radius around the Harbor Island Superfund Site.

(Source: EPA's EJSCREEN Tool)

**Figure Note:** The two orange Superfund icons to the left of Harbor Island represent the Lockheed West Seattle Superfund Site and the Pacific Sound Resources Superfund Site (both within 1-mile of the Harbor Island Superfund Site).

EJ Indexes	Percentile in the State
Particulate Matter 2.5	65
Ozone	34
Diesel Particulate Matter	86
Air Toxics Cancer Risk	76
Air Toxics Respiratory HI	77
Traffic Proximity	94
Lead Paint	77
Superfund Proximity	86
RMP Facility Proximity	85
Hazardous Waste Proximity	84
Underground Storage Tanks	80
Wastewater Discharge	82

Socioeconomic Indicators	Percentile in the State	Interpretation
Demographic Index	63	37% of Washington has a higher demographic index than the 1-mi area of the Harbor Island Superfund site. The Washington state average demographic index is 28% and this area is 31%.
People of Color	61	39% of Washington has a higher percentage of people of color than the 1-mi area of the Harbor Island Superfund site. The Washington state average people of color is 33% and this area is 33%.
Low Income ( <i>where the household income is less than or equal to twice the <a href="#">federal poverty level</a></i> ) <sup>40</sup>	64	36% of Washington has a higher percentage of low-income households than the people living within a 1-mi area of the Harbor Island Superfund site. The Washington state average for low-income is 24% and this area is 28%.
Unemployment Rate	62	38% of Washington has a higher percentage of unemployment than the people living within a 1-mi area of the Harbor Island Superfund site. The Washington state average for unemployment is 5% and this area is 5%.
Limited English Speaking	65	35% of Washington has a higher percentage of linguistically isolated populations living within a 1-mi area of the Harbor Island Superfund site. The Washington state average for linguistically isolated is 4% and this area is 3%.
Population with Less Than High School Education	43	57% of Washington has a higher percentage of populations with less than high school education within a 1-mi area of Harbor Island Superfund site. The Washington state average for populations with less than high school education is 8% and this area is 5%.

Socioeconomic Indicators	Percentile in the State	Interpretation
Population Under Five Years of Age	<b>38</b>	62% of Washington has a higher percentage of populations under five years old than populations within a 1-mi area of the Harbor Island Superfund site. The Washington state average for populations under five years old is 6% and this area is 4%. .
Population Over 64 Years of Age	<b>41</b>	59% of Washington has a higher percentage of populations over 64 years old within a 1-mi area of the Harbor Island Superfund site. The Washington state average for populations over 64 years old is 15% and this area is 12%

Environmental Indicator	Percentile in the State	Interpretation
Particulate Matter 2.5	<b>56</b>	44% of Washington has higher PM2.5 levels in air. 7.75 $\mu\text{g}/\text{m}^3$ can be found in the air here and the Washington State average is 7.85 $\mu\text{g}/\text{m}^3$
Ozone	<b>22</b>	78% of Washington has higher ozone levels in the air. 31.6 ppb can be found in the air here and the Washington State average is 35.3 ppb
Diesel Particulate Matter	<b>97</b>	3% of Washington has higher Diesel particulate matter in the air. 0.806 $\mu\text{g}/\text{m}^3$ can be found in the air here and the Washington State average is 0.334 $\mu\text{g}/\text{m}^3$
Air Toxics Cancer Risk	<b>92</b>	8% of Washington has a higher lifetime risk per million for toxics cancer risk. 40 people per lifetime per million people are at risk in this area and the Washington state average is 35 people per lifetime per million people.
Air Toxics Respiratory Hazard Index	<b>76</b>	24% of Washington has a higher air toxics respiratory hazard index
Traffic Proximity	<b>89</b>	11% of Washington has a higher annual average traffic proximity.
Lead Paint	<b>75</b>	25% of Washington has more percentage of pre-1960 housing which is an indicator that lead-based paint may be present. 37% of the homes here are built pre-1960 and the Washington state average is 22% of homes.
Superfund Proximity	<b>99</b>	1% of Washington is in closer proximity to superfund sites than this area. There are 1.6sites/km distance in this area and the Washington state average is 0.18sites/km distance. There are 3 superfund sites within the one square mile area.
RMP Facility Proximity	<b>95</b>	5% of Washington is in closer proximity to RMP facilities. There are 2.8 facilities/km distance in this area and the Washington state average is 0.64 facilities/km distance

Environmental Indicator	Percentile in the State	Interpretation
Hazardous Waste Proximity	95	5% of Washington is in closer proximity to Hazardous Waste facilities. There are 11 facilities/km distance in this area and the Washington state average is 2.2 facilities/km distance. There are 5 hazardous waste treatment, storage, and disposal facilities reporting to EPA within the one square mile area.
Underground Storage Tanks	93	7% of Washington has more Underground Storage Tanks. There are 23 tanks/km <sup>2</sup> in this area and the Washington state average is 6.3 tanks/km <sup>2</sup>
Wastewater Discharge	93	7% of Washington has more toxicity-weighted concentration per meter distance of wastewater discharge.

## Appendix B. Community Involvement Plan Interviewees

Sector	Organization/Entity
Community	Duamish River Accountability Group (DRAG)
Community	Duamish River Community Coalition (DRCC)
Community	Just Health Action
Community	Puget Soundkeeper
Community	ECOSS
Community	Mt. Baker Housing Association
Government	Port of Seattle
Government	Public Health Seattle King County
Government	WA Department of Ecology
Government	King County Wastewater Treatment Division
Government	Seattle/King County Coalition on Homelessness
Government	City of Seattle (Seattle Public Utilities)
Academic	Maritime Institute of Technology
Academic	University of Washington Superfund Research Program
Industry	Jim Clark Marina
Industry	Maritime Environmental
Industry	NW Seaport Alliance
Industry	SSA Marine Harbor
Industry	American Waterways
Industry	SODO Business Improvement Association
Industry	Vane Brothers Towing
Elected Officials	US Congressmember Jayapal
Fishers	Latinx Community Health Advocate Lead
Fishers	Vietnamese Community Health Advocate Lead
Fishers	Khmer Community Health Advocate Lead

Drop-in Interview sites:

- Chelan Café
- Harbor Island Deli

## Appendix C. Community Events and Outreach Areas in the Duwamish Valley

**Note for Anyone Reviewing this Draft Harbor Island CIP:** EPA would love to hear more event and location ideas from you as we expand this table for the final Harbor Island CIP! Please provide us with feedback on this table if you have ideas for outreach. Thank you!

Event Name	Sponsor	Time of Year/Days
South King County Environmental Symposium	Port of Seattle	Summer
Summer River Activation Series at Gateway Park	Friends of Georgetown History	Summer
Duwamish Festival	Duwamish River Community Coalition	Summer
Duwamish Alive	Duwamish Alive Coalition	Spring and Fall
Georgetown Art Attack	Georgetown Merchants Association	Second Saturdays
El Mercadito Farmers Market	Cultivate South Park	Tuesdays
Karaoke for Seniors	South Park Senior Center	Fridays
Food Trucks	Various Locations	Ongoing