St. Johns Bridge, Portland OR
photo credit: Hunter Young, EPA

Portland Harbor Superfund Site Community Involvement Plan (CIP)

(as of 8/12/2020)

Prepared for:

U.S. Environmental Protection Agency
Region 10

August 2020

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ACKNOWLEDGMENTS:

This update to the Portland Harbor Superfund Site (the PHSS or the Site) Community Involvement Plan (CIP) was developed by the United States Environmental Protection Agency (EPA) Region 10, the Technical Coordinating Team (TCT), tribal members, tribal representatives, and community members, and many other partners and stakeholders. EPA recognizes the importance of the Site for fishing, hunting, gathering, and spiritual practices to the six federally recognized Tribes[1] involved on the Site, within the context of EPA's trust responsibility.

Assistance with drafting and final preparation of this document occurred under the prime contract no. 68HERH19D0033. EPA is deeply grateful to the many individuals who gave their time and energy for this update.

FOR MORE INFORMATION:

Web site: www.epa.gov/superfund/portland-harbor

Phone: 206-553-1200 (ask for Public Affairs Office)

Address: ATTN: EPA Region 10 Public Affairs Office
1200 6th Avenue #155
Mail Code: 12-D12
Seattle, WA 98101

E-mail: HarborComments@epa.gov

1 The six federally recognized Tribes involved on the Site include: Confederated Tribes and Bands of the Yakama Nation; Confederated Tribes of the Grand Ronde Community of Oregon; Confederated Tribes of the Siletz Indians; Confederated Tribes of the Umatilla Indian Reservation; Confederated Tribes of the Warm Springs Reservation of Oregon; and, Nez Perce Tribe.

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An aerial view of the Portland Harbor Superfund Site
photo credit: Portland Harbor Community Advisory Group

Summary

This Community Involvement Plan (CIP) is the foundation of the U.S. Environmental Protection Agency's (EPA) Superfund community involvement and outreach program for the Portland Harbor Superfund Site (the PHSS or the Site) cleanup. The CIP is a living document that specifies the outreach activities EPA will use to address the tribal and community concerns and expectations. It will assist the EPA Community Involvement Coordinator (CIC), who serves as a liaison between tribal members, tribal representatives, and community members, the EPA PHSS team, and other agency officials, in finding effective and appropriate ways to inform and engage tribal members, tribal representatives, and communities that are key to the success of the cleanup. EPA is committed to promoting active and meaningful participation in all aspects of the PHSS cleanup. The CIP is for tribal members, tribal representatives, community members, and the public to use and make sure that EPA is responsive to their needs and concerns.

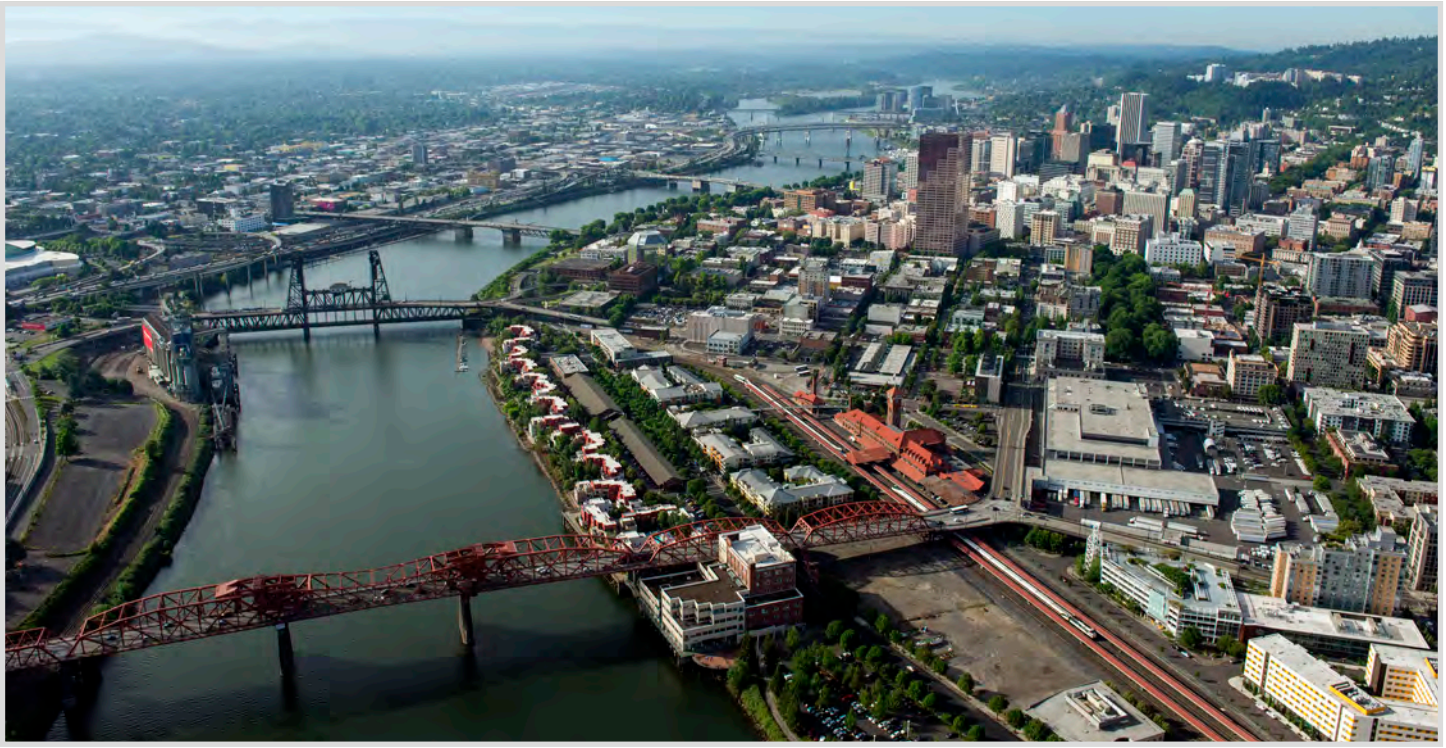
The CIP is divided into seven sections:

- **Section 1:** Overview
- **Section 2:** Site Background
- **Section 3:** Tribal Background, Issues, Concerns, and Requests
- **Section 4:** Community Background, Issues, Concerns, and Requests
- **Section 5:** Concerns Outside of EPA's Superfund Cleanup Scope
- **Section 6:** Environmental Justice Site History and Considerations
- **Section 7:** EPA's Community Involvement Action Plan
- The **Appendices** are designed to serve as a resource guide for EPA, as well as tribal members, tribal representatives, community members, and organizations partnering with EPA on the Portland Harbor Superfund Site work.

Where is the Glossary?

The CIP spells out and defines terms throughout this document. For a glossary and list of acronyms please click on this link to consult EPA's Acronyms, Glossary, and Contaminant Summary for the Portland Harbor Superfund Site[2]

2 Link: https://semspub.epa.gov/work/10/100020203.pdf



The Willamette River going through downtown Portland, the Broadway Bridge in the foreground
photo credit: Port of Portland

1. Overview

What is the Objective of the Cleanup?

The Portland Harbor Superfund Site (the PHSS or the Site) is a priority cleanup site for the U.S. Environmental Protection Agency (EPA). The cleanup will reduce health risks to people, fish, and wildlife. It will also set the stage for commercial and industrial redevelopment and revitalization of the river and waterfront running through the economic heart of Portland. A cleaner river will protect Oregonians and help spur a new era for Portland as a river city, one where the lands stretching along the river are revitalized, and companies can invest and bring new jobs to the communities.

What is a Community Involvement Plan?

This Community Involvement Plan (CIP) is a living document that serves as a guide on how to:

- Share information;
- Provide outreach opportunities to the Tribes, community members, and the public;
- Inform and guide other planning processes and documents;
- Shape community involvement activities; and,
- Assist tribal members, tribal representatives, and community members located within or affected by the length of the Site to become meaningfully involved in and informed about the project throughout the cleanup process.

What is Superfund?

Superfund is also known as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Superfund Program allows EPA to clean up contaminated sites. It also forces the parties responsible for the contamination to either perform cleanups or reimburse the government for EPA-led cleanup work (Source: EPA).

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*.[3]

Fish Advisory Workshop with the Multnomah County Health Department
photo credit: Multnomah County Health Department

3 Link: https://semspub.epa.gov/work/HQ/175197.pdf

While this CIP addresses tribal engagement, EPA understands that the six federally recognized Tribes (the Tribes) are sovereign governments and that there is a formal tribal trust relationship between EPA and the Tribes. EPA's interaction with the Tribes at a government-to-government level is a formal process that differs from how it interacts more broadly with tribal members, tribal representatives, and community members as detailed throughout this CIP.

Why Update a Community Involvement Plan?

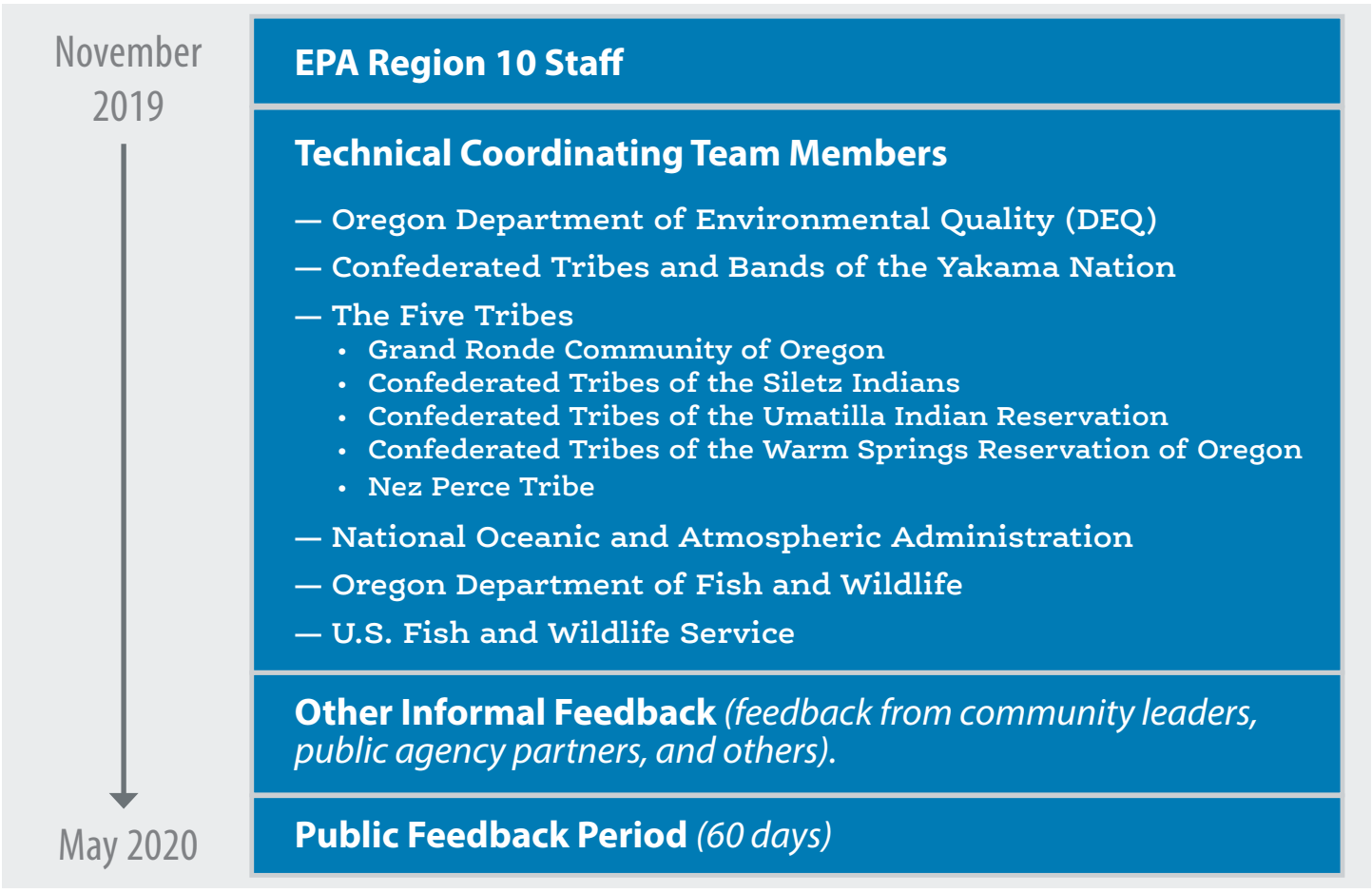
While a CIP has been in place since shortly after the Portland Harbor area became a Superfund Site in 2000, EPA developed the 2020 Portland Harbor Superfund Site CIP update to facilitate open communication between EPA, the Tribes, and communities affected by and interested in the PHSS portion of the Willamette River, as well as encourage tribal and community involvement in site activities. This document may be updated during different phases of the cleanup process to reflect changing concerns and interests. This CIP update is responding to the Superfund law stipulation that after the final cleanup plan is signed, EPA needs to reevaluate the CIP.

Many of the activities outlined in this CIP are already in progress. Since 2018, EPA has coordinated the development of a Community Leaders Group (CLG) and Public Forum that meets on a quarterly basis.

How Did EPA Create this Community Involvement Plan?

In developing this updated plan, EPA made an extensive effort to gather tribal and public input to address needs and concerns. This CIP is based on input from approximately 66 interviews with tribal members, tribal representatives, community members, community organizations, businesses, and government representatives. EPA distributed a draft of this CIP between the months of November 2019 – May 2020 to several groups. Please see Figure 1 below for the draft CIP review process, the source of input and the timeline of input. EPA received approximately 700 comments that it considered when finalizing this document.

Figure 1: EPA's Portland Harbor Superfund Site Community Involvement Plan; Who Provided Input and When?



The CIP serves as a companion to several of the Site's reports, plans, decision documents, and other sources of information that are available for review. EPA does not have the information necessary to identify the precise timing of all activities and points for community involvement, and this CIP will remain a living document that will continue to evolve as the project progresses.

What Are the Main Goals and Objectives of this Community Involvement Plan?

Based on input gathered for the CIP, EPA has developed two main goals with seven supporting objectives/actions to keep the Tribes and communities informed and engaged throughout the cleanup process. EPA will use a variety of strategies to support these goals and objectives.

CIP Goals & Objectives/Actions:

GOALS

1. Educational Outreach: Establish, maintain, and expand educational outreach to the Tribes and communities.
2. Information Dissemination: Provide accurate and timely information through the avenues and in the formats best suited to reach all interested people.

OBJECTIVES/ACTIONS

1. Coordinate with the Tribes, community, neighborhood groups, the Oregon Department of Environmental Quality (DEQ), other government agencies, and potentially responsible parties (PRPs).
2. Attend tribal and community events and provide printed material.
3. Promote transparency, communicate early, provide opportunities for informal feedback, and inform of formal public comment periods.
4. Invite tribal members, tribal representatives, and community members to EPA-sponsored meetings and events, especially to quarterly meetings.
5. Support technical assistance needs and economic development opportunities.
6. Maintain accurate, thorough, and up-to-date information.
7. Apply specific Environmental Justice (EJ) actions for the Site.

For additional information on these objectives and how they will be carried out, see Table 7, Section 7.

2. Site Background

The Site background for the Portland Harbor Superfund Site (PHSS or the Site), Section 2, provides an over-arching introduction to the Site's background, including information on the following topics:

- Geographic location of the Site;
- Brief ancestral and industrial history of the Site[4];
- Environmental characteristics of the river;
- Pollutants in the Site;
- Risk to human and ecological health because of pollutants;
- Key cleanup milestones to date;
- Tribes and groups involved in the cleanup process; and,
- Uses of the Site.

Where is the Portland Harbor Superfund Site?

The Willamette River lies entirely in Northwestern Oregon and is a major tributary of the Columbia River with its main portion stretching over 187 miles. The Willamette River and its tributaries form the largest watershed in the state (the Willamette Basin), covering more than 11,500 square miles. Portland is at the lower end of the drainage basin and is the most urbanized part of the watershed. The lower portion of the Willamette River, which includes the PHSS, has remained in largely the same location and shape since it was first surveyed in the 1800s (1)[5].

The PHSS includes an in-river and upland portion of the lower Willamette River and spans approximately 10 miles between the City of Portland's Broadway Bridge and Sauvie Island. The lower portion of the Willamette River flows south to north through Portland, separating the east and west downtown portions of the city. The central portion of the Site encompasses numerous neighborhoods, as illustrated in Figure 2. The Willamette River plays an important role in the community by providing and supporting ecosystem services such as air quality, energy, food, physical and mental well-being, plants, transportation, water, and wildlife *(listed alphabetically)*.

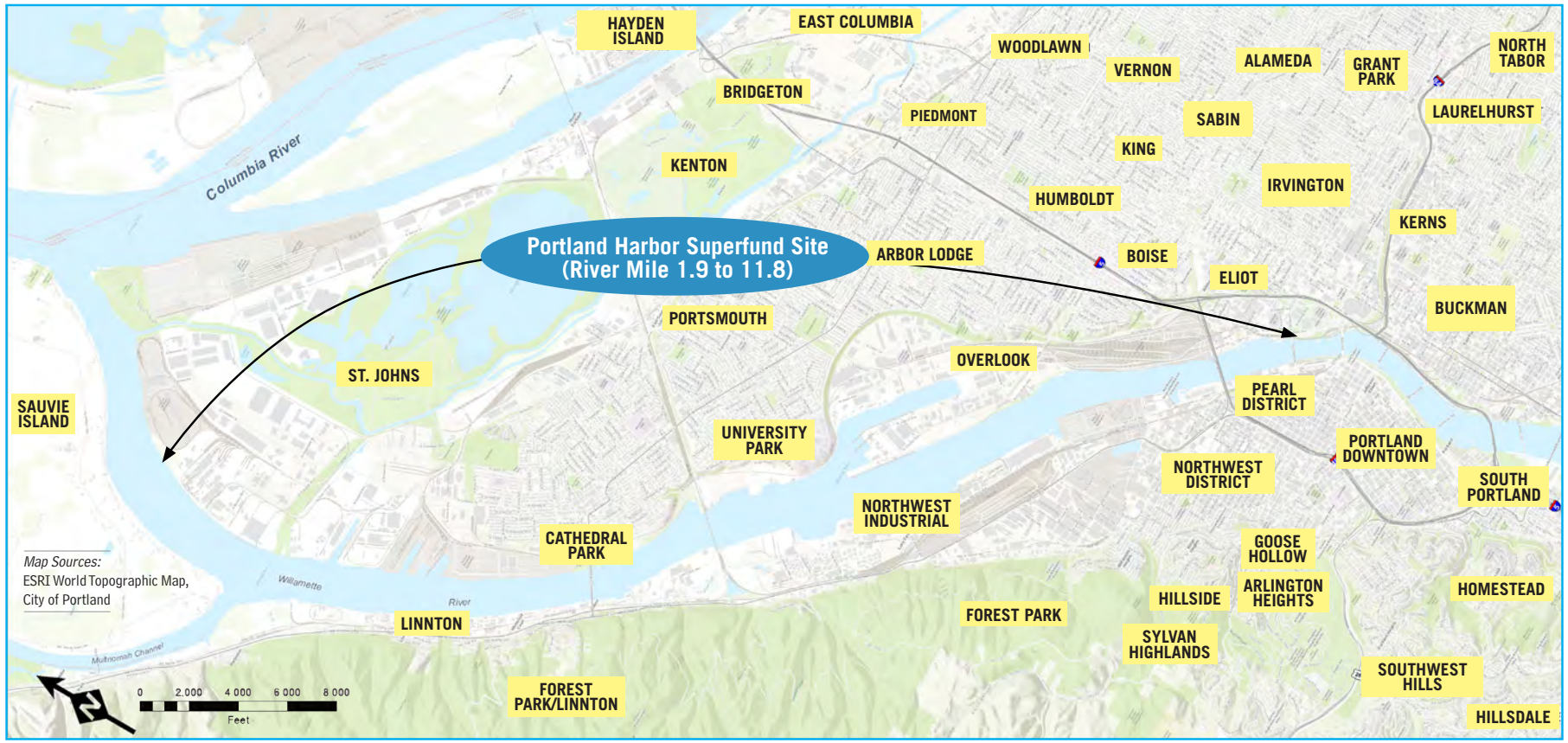
Below please find a map of the Site and the surrounding neighborhoods in Figure 2. More information about some of these neighborhoods can be found in Appendix A.

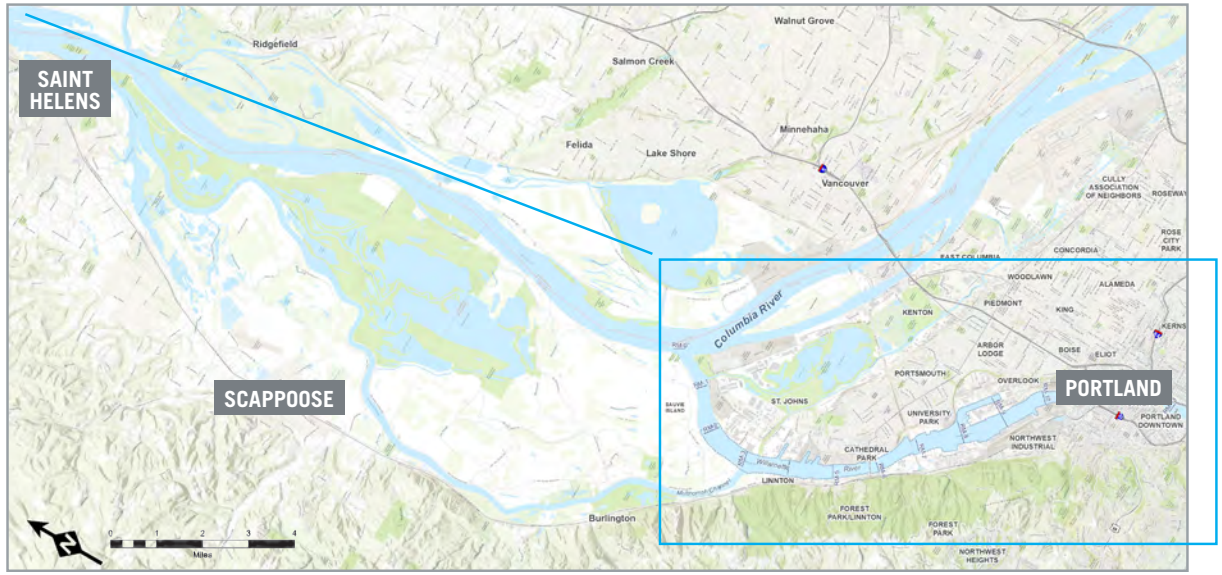
Aerial view of the Portland Harbor Superfund Site, with the Freemont Bridge in the foreground
photo credit: Bob Heims, U.S. Army Corps of Engineers

4 More in-depth information on ancestral, community, and environmental justice (EJ) history related to the Site are provided in Sections 3, 4, and 6.

5 Note that the use of numbers in parentheses throughout this CIP correlate to the reference/citation number listed in the References section at the end of this CIP and that superscripts correlate to the footnote number at the bottom of the page.

Figure 2. Portland Harbor Superfund Site Map and Neighborhoods





Please note that EPA recognizes that neighborhood impacts are not limited to these neighborhoods only; there are additional neighborhoods that have been historically impacted as well and continue to be impacted that are not reflected in this graphic.

August 2020

What is the History of the Site?

The PHSS area of the lower Willamette River is the ancestral homeland to many Native people, including the Multnomah, Wasco, Cowlitz, Kathlamet, Clackamas, Bands of Chinook, Tualatin Kalapuya, Molalla, and many other Tribes (2). For thousands of years, Native people have used the resources of the lower Willamette River for subsistence as well as cultural and religious activities. Native people living in this region have stewarded the Willamette River Valley for generations.

Workers at St. Johns Bridge construction, current day Cathedral Park
photo credit: Portland Harbor Community Advisory Group

The arrival of general industry and industrial agriculture in the 19th Century disrupted and polluted the Valley's ecosystem and altered the river itself. Much of the Willamette River floodplain was filled to support the fishing, timber, mining, and agricultural industries. The Port of Portland opened in 1891 and the lower Willamette was further modified to accommodate the shipping industry. Industrial activities in and around the Site grew and included shipbuilding and repair, ship dismantling, wood treatment, lumber milling, storage of bulk fuels, manufactured gas production, chemical manufacturing and storage, metal recycling, production and fabrication, steel mills, smelters, foundries, chip manufacturing, and electrical production and distribution. Of notable interest is the history of oil storage in Northwest Portland, which began in 1915 and has developed into the present-day location of a six-mile strip of land called the Critical Energy Infrastructure Hub (CEI Hub). Approximately 10 fuel storage terminals that hold about 360 million gallons of fuel reside in the CEI Hub (3).

The legacy of industry at Portland Harbor has resulted in environmental contamination. In 2000 the U.S. Environmental Protection Agency (EPA) listed the lower Willamette River a "Superfund Site" and eventually identified approximately 150 potentially responsible parties (PRPs). The earlier history of the Site area, as well as an environmental justice history of the Site, is included in Section 6.

A potentially responsible party (PRP) is any individual or company potentially responsible for, or contributing to, a spill or other contamination at a Superfund site. Whenever possible, through administrative and legal actions, EPA requires PRPs to clean up hazardous sites they have contaminated. Source: EPA's Superfund Glossary[6].

What Are the Environmental Characteristics of the Willamette River?

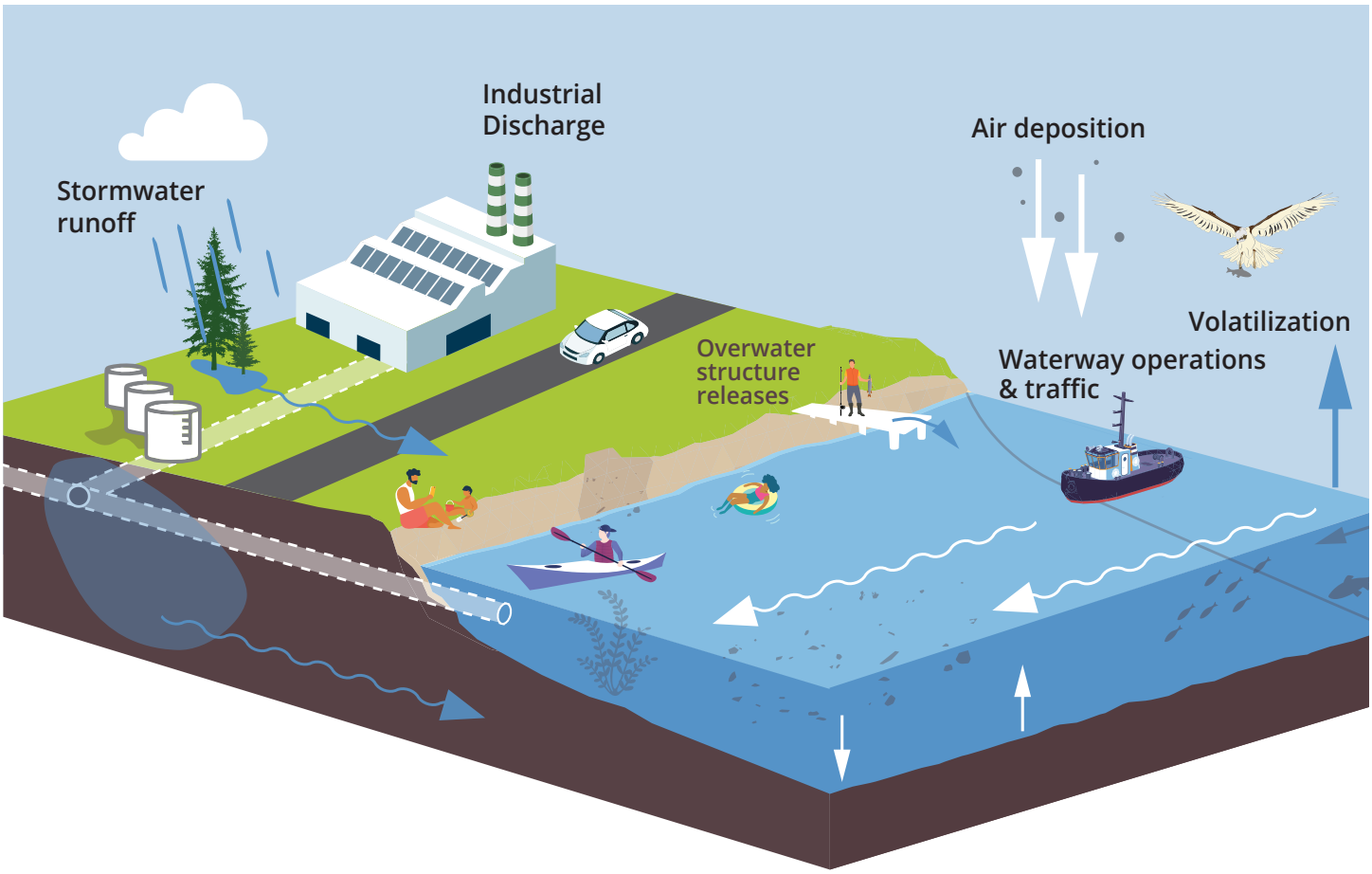
The Willamette River changes along its 170 miles in the Willamette Valley. Thousands of years ago, large hills within the valley blocked the river in places, creating extensive storage basins. During the last glacial period, huge lakes filled the Willamette Valley. Deposits of sediment on the river bottom and geological interactions such as volcanic cones blocking the river flow, laid the foundation for the modern Willamette River (1). The current Site area lies between the Willamette Basin to the west and Cascade Mountain Range to the east.

What Pollutants Are in the Site?

Due to industrial activities, sediments, surface water, ground water, and riverbanks at the Site have been contaminated with hazardous waste. Waste enters the river from industrial facilities through stormwater and wastewater outfalls, through spillage from commercial operations and sewer overflows, and through ground water contamination. Figure 3 below depicts a conceptual model of pathways of pollution connected to activity near and in the site.

6 Link: https://www.epa.gov/superfund/superfund-glossary

Figure 3. Pathways of Pollution Conceptual Model



These discharges contained contaminants of concern (COCs). There are 64 total COCs at the Site, with most of the human health and ecological risks attributed to polychlorinated biphenyls (PCBs), polycylic aromatic hydrocarbons (PAHs), DDx (DDT, DDE, DDD), and dioxins/furans. The COCs have degraded the natural resources in the Willamette River.

What Are the Risks to Human and Ecological Health because of these Pollutants?

The final cleanup plan for the PHSS (also known as the Record of Decision) identifies that the greatest risk to human health is from the consumption of resident fish and shellfish and exposure to in-river sediments, surface water, and ground water. Fish and shellfish that live in the lower Willamette River can absorb harmful chemicals from the sediment at the bottom of the river, which can get passed on to the people who eat these resident species.

In addition to the effects on humans, there are ecological risks to wildlife that consume fish, shellfish, and other biota, as well as risks to bottom-dwelling organisms (benthic invertebrates) that are exposed to sediment, surface water, and ground water.

Below is more information about the COCs and their impacts on human and ecological health:

Bass
photo credit: Portland Harbor Community Advisory Group

Carp
photo credit: Portland Harbor Community Advisory Group

Table 1: An Overview of Contaminants of Concern (COCs)

COCs	Description	Human Health Risks	Ecological Health Risks
Polychlorinated Biphenyls (PCBs)	Manmade chemicals that were banned in the late 1970s. Because they do not burn easily and are good insulating materials, PCBs were used as coolants and oils and in the manufacture of paints, caulking, and building material.	Children exposed to PCBs may develop learning and behavioral problems later in life. PCBs are known to impact the immune system and skin and may cause cancer. Nursing infants can be exposed to PCBs in breast milk.	PCBs can bioaccumulate (build up) in fish, shellfish, and mammals. In birds and mammals, PCBs can cause adverse effects such as anemia and injuries to the liver, stomach, and thyroid gland, as well as problems with the immune system, behavioral problems, and impaired reproduction.
Polycyclic Aromatic Hydrocarbons (PAHs)	These chemicals are a major component of petroleum products or are formed during incomplete burning of coal, oil, gas, wood, or other substances.	May cause cancer. Occupational exposure to PAHs may cause lung, skin, and bladder cancers.	In fish, PAHs cause liver abnormalities and impairment of the immune system. Animal studies show that PAHs affect the hematopoietic (tissue and blood cells), immune, reproductive, and neurologic systems and cause developmental effects. They can also cause inhibited reproduction.
Dioxins/Furans	Byproducts of chemical manufacturing, combustion (either in natural or industrial settings), metal processing, and paper manufacturing.	Reproductive problems, problems in fetal development or early childhood, immune system damage, and cancer. Nursing infants can be exposed to dioxins/furans in breast milk.	Dioxins/furans can bioaccumulate (build up) in fish, shellfish, and mammals. Animal effects include developmental and reproductive problems, hemorrhaging, and immune system problems.
DDx (DDT, DDE, DDD)	Commonly used in pesticides and heavy metals. DDT is a pesticide that was banned for use in the Untied States in 1972.	DDT may cause cancer. DDT and DDE are stored in the body's fatty tissues. DDT and DDE can be passed to the fetus in pregnant women. Exposure symptoms may include vomiting, tremors or shakiness and seizures. Nursing infants can be exposed to DDx in breast milk.	Laboratory animal studies show effects on the liver and reproduction. These compounds can accumulate in fish, shellfish, and mammals, and can cause adverse reproductive effects such as eggshell thinning in birds.

What Are Key Cleanup Milestones to Date?

Prior to 2017

EPA designated the PHSS portion of the lower Willamette River a "Superfund" site in 2000, which meant it became a national priority for cleanup. Areas with high levels of contamination were considered for early cleanup actions, known as "Early Action Areas." The PHSS' Early Action Areas included Terminal 4, GASCO/Siltronic, River Mile 11 East (RM11E), Arkema, and Triangle Park.

Images of Key Cleanup Technologies
Source: U.S. EPA

2017 Record of Decision (ROD)

A Record of Decision (ROD) is a final cleanup plan, also called a "Final Remedy." The 2017 ROD includes a plan to reduce risks to human health, fish, wildlife, and the environment to acceptable levels. Implementation of the ROD will reduce exposure to contamination of a variety of toxic pollutants in the Willamette River's sediment, surface water, ground water, and riverbanks. The ROD calls for these pollutants to be removed from the river by dredging (digging up contaminated sediment), having clean material placed over them in a process called "capping," or using natural processes in the river through enhanced or monitored natural recovery (MNR).

The PHSS Proposed Plan received over 5,300 public comments, an overwhelming amount of feedback compared to other proposed plans nationally. After EPA's careful review of these public comments, the ROD was finalized and issued. The final remedy cost was approximated at $1.05 billion, and the active cleanup was expected to take approximately 13 years to implement.

2018 Sampling

EPA reached an agreement in 2018 with a group of PRPs to take samples throughout the Site to create a baseline of contamination data before EPA started designing and constructing the cleanup. This sampling was completed in 2019.

Terminal 4
photo credit: Port of Portland

2019 Explanation of Significant Differences

In 2019, EPA signed a Final Explanation of Significant Differences (ESD)[7] based on an updated health risk assessment from EPA's Integrated Risk Information System (IRIS). The updated risk assessment showed that the contaminant benzo(a)pyrene (BaP), a type of carcinogenic polycyclic aromatic hydrocarbon or (cPAH), was less potent for people who contacted or ingested the chemical than previously thought. Due to high public interest at the PHSS, EPA decided to provide a public comment period for the proposed ESD, even though this was not required by law. For any future ESDs, EPA will consider following a similar procedure for public feedback.

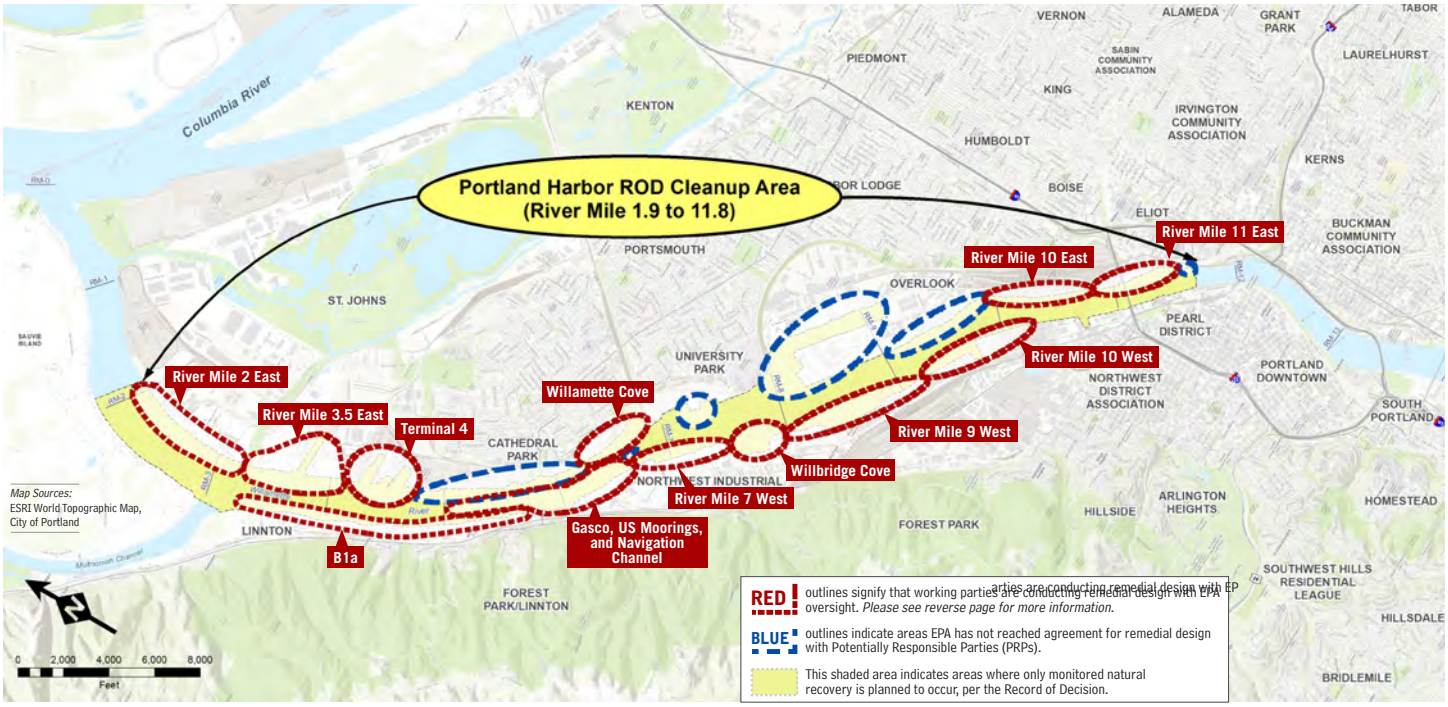
The Final ESD reduced the sediment cleanup area by about 17 acres from the total 2,200 acres (less than one percent), and it reduced the estimated cost of the selected remedy by $35 million from the original $1.05 billion (roughly 3.5 percent). The cleanup is still estimated to take 13 years, which will be refined during remedial design.

Current Status: Remedial Design (RD)

As of 2020, the project is currently in the "remedial design" phase of the clean-up. As of July 2020, performing parties (also referred to as 'working parties')[9] are conducting remedial design with EPA oversight at nearly 70% of the acres designated for active in-water remediation. For the remaining acres, EPA continues to seek parties to sign up to perform remedial design of the remedy. Every quarter, EPA strives to update a fact sheet titled *Portland Harbor Superfund Site Updates* that includes a map and status update of all project areas and Site related work; the project area map from the June 2020 version is shown in Figure 4 below. However, the most recent version of this document is posted on EPA's Portland Harbor Superfund Web site.[10]

Remedial design (RD) is the phase in a Superfund site cleanup where the technical specifications for cleanup remedies and technologies are designed. Source: EPA's Superfund Glossary.[8]

Figure 4. Project Area Status Map from June 2020 Portland Harbor Site Updates Fact Sheet



7 Link, Final Explanation of Significant Differences: https://semspub.epa.gov/work/10/100193522.pdf

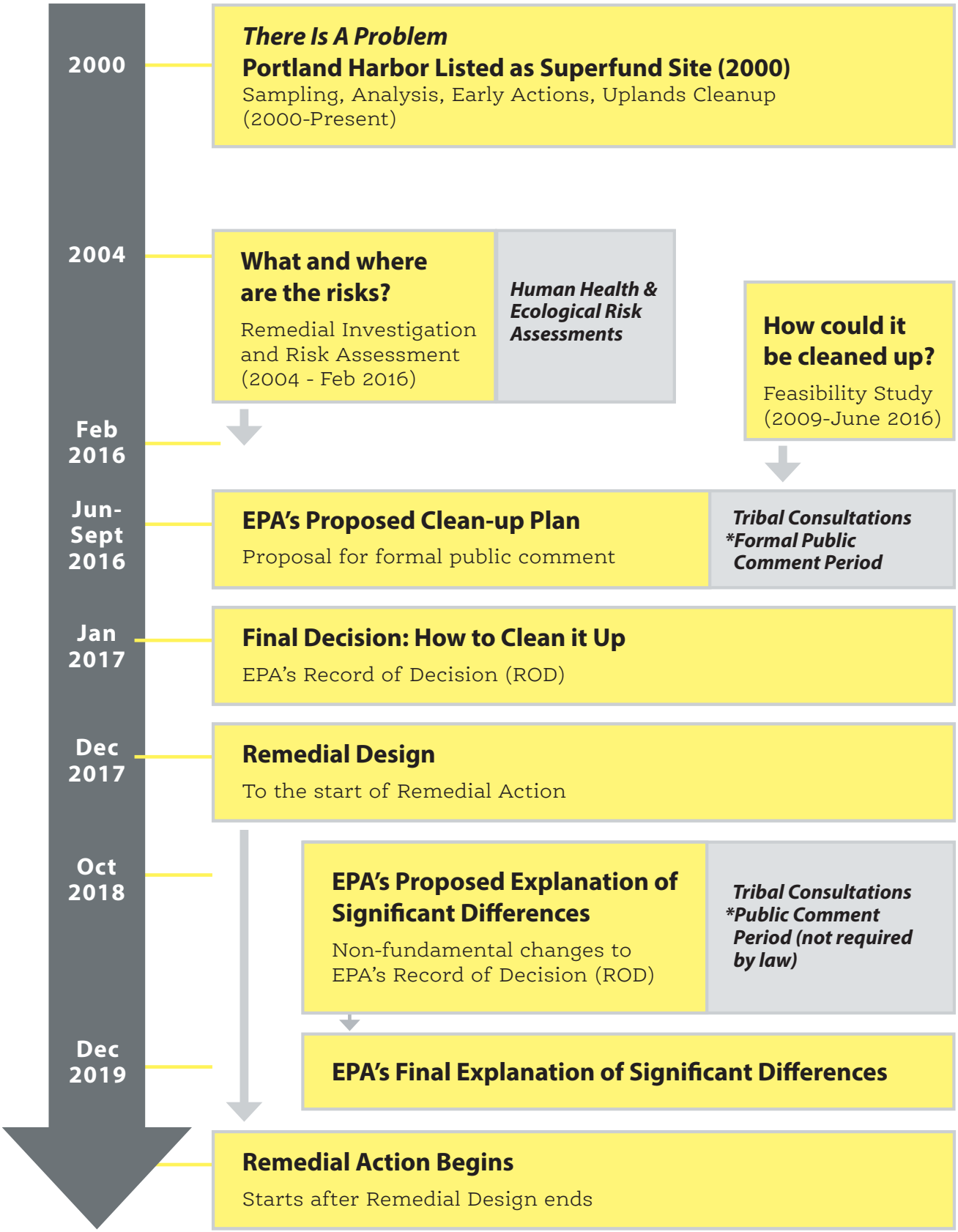
8 Link, https://www.epa.gov/superfund/superfund-glossary

9 A performing party (or working party) is an entity (government agencies, private companies, etc.) that has signed an agreement with EPA to perform work. A performing party (or working party) is also a potentially responsible party (PRP).

10 Link, PHSS Web site: www.epa.gov/superfund/portland-harbor.

Below please find Figure 5, which provides a visual overview of the cleanup process, including from 2000 – present. Note that as of 2020, "Remedial Action," meaning active cleanup construction, has not started.

Figure 5. Portland Harbor Superfund Site Timeline



Who is Involved in the Cleanup Process?

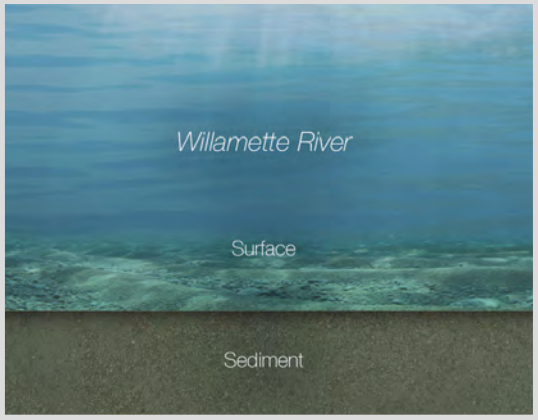
U.S. Environmental Protection Agency and Oregon Department of Environmental Quality

The cleanup process will take the coordination of several agencies. EPA is the lead federal agency and regulator responsible for investigating and cleaning up the sediments in the river (called "in-river" cleanup), as well as the surface water, ground water, and riverbanks of the Site.

EPA manages the in-river cleanup in consultation with the Oregon Department of Environmental Quality (DEQ). DEQ is the support agency for the in-river portion and the lead agency for cleaning up sites located adjacent to the river (also called upland sites). As the state regulator, DEQ is also responsible for controlling sources of pollution to the Willamette River. DEQ helps identify and control upland sources of pollution through investigations of the river (4).

In the late 1980s, DEQ began conducting initial research on the extent of contamination in the lower Willamette River and focused on source control. For a description of source control, see the box to the right.

DEQ assigns Lead Remedial Project Managers (RPMs) to oversee the investigation and remediation of upland contamination, provides support functions, and serves as the main point of contact for EPA, the Tribes, and Natural Resource Trustees (5). DEQ oversees efforts to investigate and reduce contamination in the downtown portion of the river, known as the "downtown reach", that could enter the cleanup area. These source control efforts will ensure that cleaned up areas are not re-contaminated and that the cleanup is effective over the long term.



A view of the river water, the river surface and sediment
photo credit: Port of Portland

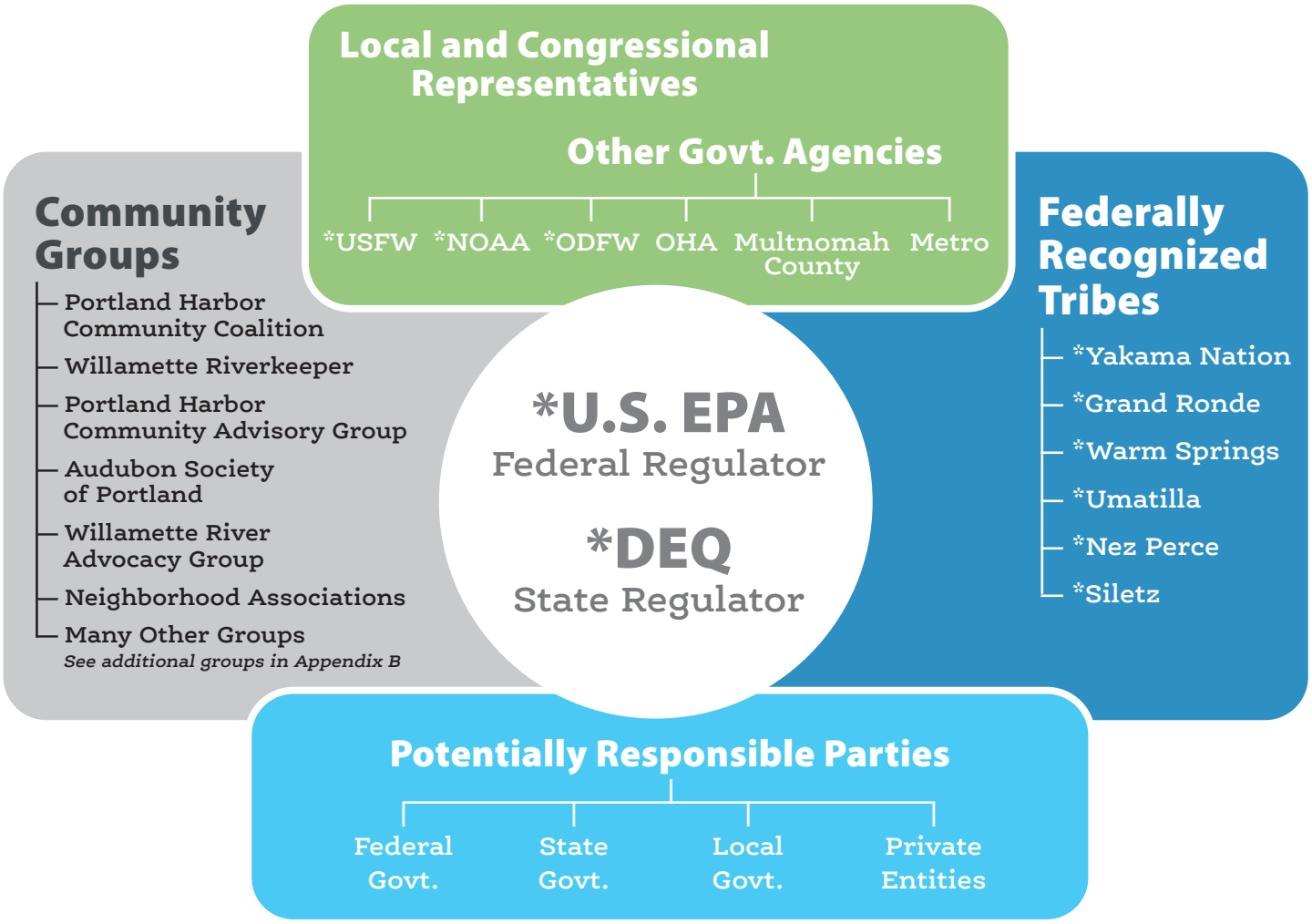
Source control refers to controlling sources of contamination that are entering the in-river portion of the Portland Harbor Superfund Site from upriver and lands along the river. The Oregon Department of Environmental Quality (DEQ)[11] oversees source control and works closely with EPA. As of 2020, DEQ has completed work on about 75 percent, or 137 of 176, sites requiring source control within the study area and is actively working on the remaining sites. Visit DEQ's interactive source control map.[12]

Government Agencies, Federally Recognized Tribes, Community Groups, and Potentially Responsible Parties

Figure 6 below shows some of the many groups that are involved with the PHSS cleanup including EPA, DEQ, local and congressional representatives, government agencies, the six federally recognized Tribes (the Tribes), community groups, private entities, and PRPs.

11 Link, https://www.oregon.gov/deq/Hazards-and-Cleanup/CleanupSites/Pages/Portland-Harbor.aspx
12 Link, https://www.oregon.gov/deq/FilterDocs/PortlandHarborMap.pdf

Figure 6. Groups Involved in the Portland Harbor Superfund Site Cleanup



**Technical Coordinating Team (TCT) and Legal Coordinating Team (LCT) members*

USFW (U.S. Fish and Wildlife Service)
ODFW (Oregon Department of Fish and Wildlife)
NOAA (National Oceanic and Atmospheric Administration)
U.S. EPA (U.S. Environmental Protection Agency)
DEQ (Oregon Department of Environmental Quality)
OHA (Oregon Health Authority)

Technical Coordinating Team and Legal Coordinating Team

The Technical Coordinating Team (TCT) and the Legal Coordinating Team (LCT) were formed with the execution of the 2001 Memorandum of Understanding (MOU) (5 & 5a). The members include:

- EPA;
- DEQ;
- Confederated Tribes and Bands of the Yakama Nation;
- Confederated Tribes of the Grand Ronde Community of Oregon;
- Confederated Tribes of the Siletz Indians;
- Confederated Tribes of the Umatilla Indian Reservation;
- Confederated Tribes of the Warm Springs Reservation of Oregon;
- Nez Perce Tribe;
- National Oceanic and Atmospheric Administration (NOAA);
- Oregon Department of Fish and Wildlife (ODFW); and,
- U.S. Department of Interior (DOI).

The TCT reviews cleanup documents and plans, while the LCT reviews legal documents and participates in developing negotiation strategies.

How is the Site Used?

The following are details gained from the Community Involvement Plan (CIP) interviews on how the Site is used.

Homeland

Many tribal and community members have an established history, have homes within the lower Willamette River area, or both. The river and surrounding natural areas provide a place of solitude, comfort, enjoyment, and a place to commune with nature. The river is an important aspect of how the residents define themselves, influences how they have built their lives and is a part of their vision for future generations. More information on the tribal significance of the Site area is included in Section 3.

Living on the River

Those that live on the river spend time walking, biking, and boating between where they reside along the river's edge and on the contaminated sediment. For many low-income community members, fishing on the river provides food security when they cannot afford other options.

View from the Broadway Bridge, looking downriver
photo credit: Multnomah County Health Department

Houseless communities live on and near the river, marinas, and moorages. Many reside in tiny homes, houseboats, abandoned boats, and tents in the Site area. They may rely on the river for the following: a place to live; water for their personal use, bathing, and gardens; and, fish and other species to feed themselves. The river sustains their livelihood.

Wildlife and Plants

It is important to understand how fauna and flora are utilizing the Site because the contamination directly impacts wildlife and plants. Impacts include effects on survival, reproduction, and development.

The Willamette River serves as habitat and a migratory corridor for many species of fish and wildlife such as: Chinook and Coho salmon; steelhead, Pacific lamprey; White sturgeon; Bald Eagle; Osprey; Double-crested cormorant; Great blue heron; Belted kingfisher; Mergansers; Cliff swallow; Spotted sandpiper; Mink, River otter; Northern red-legged frog; Pacific tree frog; and, other species. Both adult and juvenile salmonids[13] are common in the lower Willamette River during various times of the year. Adults are present during their upriver spring migrations, whereas juvenile salmonids can be found in the lower Willamette River year-round. The National Marine Fisheries Service (NMFS) critical habitat designations indicate that the freshwater rearing sites and migration corridors, such as provided by the Site, are essential to the conservation of the listed salmonid species.

Aquatic plant communities are used by wildlife for refuge, nesting, and breeding habitat. They also provide food for herbivores and play a role in the cycling of nutrients. However, habitat constraints exist in the Site area that limit the development of plant communities, including muddy water, overwater obstructions that prevent the sun from reaching the river bottom, and extensive bank armoring.

Critical Habitat Designation

The lower Willamette River has been designated by the National Marine Fisheries Service (NMFS) as critical habitat for Lower Columbia River Chinook salmon, Lower Columbia steelhead, Upper Willamette River Chinook salmon, and Upper Willamette River steelhead. The lower River is proposed critical habitat for Lower Columbia River Coho salmon.

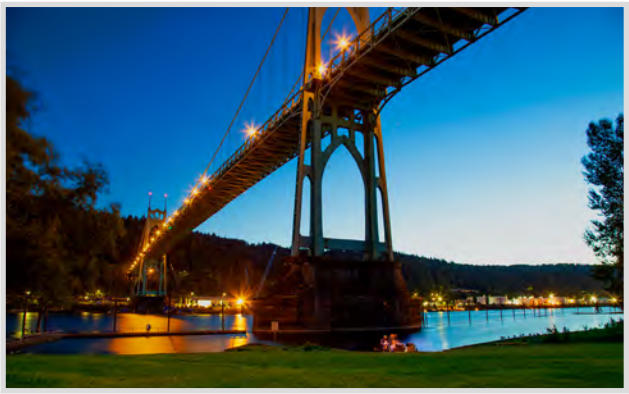
13 Salmonids are a group of fish from the salmon family Salmonidae. It includes salmon, trout, char, whitefish, and grayling - collectively known as the salmonids.

Cathedral Park Area
photo credit: Laura Feldman

Recreation

Portland is known for its parks, bridges, and bicycle paths on the lower Willamette River shore and waterfront. Walking, running, and fishing are regular activities within the Site area. Forest Park, on the western side of the river, is a large urban forest and a major recreation site. The Willamette River Greenway trail system is a mostly cement path that runs along the waterfront, including some of the Site area, and connects neighborhoods across the city via a walking, running, and biking trail.

Cathedral Park, located under the St. Johns Bridge, is one of the most historic and well-known parks within the Site area. This park was historically a fishing and camping site for the Tribes and is now a home for outdoor enthusiasts, festivals, concerts, and community events. The park has a boat dock and ramp. Cathedral Park is used for regular recreational activities, including swimming, boating, kayaking, and canoeing. These and many other activities, such as hiking and playing on the shoreline, are enjoyed within the Site area.



The riverbank at Cathedral Park and St. Johns Bridge above
photo credit: Portland Harbor Community Advisory Group

Willamette River barge crossing, 1910.
photo credit: Portland Archives

Working on the River

An additional use of the Willamette River remains industry. As mentioned, the Willamette River area has been home to industrial uses for more than 100 years. The Site area has become an international portal for commerce and home to dozens of industries within the Site that provide economic sustainability to the community.

3. Tribal Background, Issues, Concerns, and Requests

How Are Tribes Involved with the Site?

While American Indians from approximately 400 tribal backgrounds live within the Portland Harbor Superfund Site (the PHSS or the Site) area, many are not federally recognized (6). The six federally recognized Tribes (the Tribes) are heavily involved with the Site and have natural and cultural resource interests. The Tribes are considered Natural Resource Trustees because of their role, along with other federal Parties under the Superfund law. The Tribes are members of the Technical Coordinating Team (TCT) and include:

- Confederated Tribes and Bands of the Yakama Nation.
- Confederated Tribes of the Grand Ronde Community of Oregon.
- Confederated Tribes of Siletz Indians.
- Confederated Tribes of the Umatilla Indian Reservation.
- Confederated Tribes of the Warm Springs Reservation.
- Nez Perce Tribe.

Tribe: The entirety of a tribal membership of a clan, Tribe, band, nation, or other community of Native American peoples connected by history and heritage.

Tribal Government: The elected or inherited representation of the Tribe, potentially including but not limited to a Tribal Council and Chief(s) or Leader(s).

Tribal Representative: An individual, set of individuals, department, official, etc. that the tribal government has decided has authority to participate in the Portland Harbor process on behalf of the tribal government. Fundamentally, a tribal representative is representing the tribal government, which represents the Tribe.

Tribal Member: An individual of Native American heritage who is also an enrolled member of a Tribe; this person, if living in the area, is a community member as well as a tribal member, and these interviews help provide a tribal perspective (though this is distinct from a tribal representative).

The information that contributes to the details provided in the CIP regarding tribal interests and perspectives is based on conversations with indigenous people native to the Columbia River Basin[14]. A reoccurring theme from the interviews with tribal members and tribal representatives is returning the Site and surrounding area to its original, untouched state before industrial contamination occurred. However, a general acknowledgment also exists that it will be impossible to return the environment to its original condition. Tribal members and tribal representatives are driven by the duty owed to the food resources in the area that have sustained Native people for thousands of years. There is a reciprocal relationship that obligates the Tribes, often through the actions and activities of their tribal government staff, to protect and restore those resources and safeguard them for future generations. Native people must take care of the foods so that the foods can take care of them. If there are levels of contamination in the water or other resources that prevent people from using these foods, Native people consider that a failure of duty.

The Tribes utilize a multi-generational approach to cleanup and protection. As such, the Tribes are looking forward to seven or more generations by using questions such as:

> ***"Will the cleanup be protective and when? Why or why not? Why is the cleanup leaving so much contamination in place? Will the contamination remain contained regardless of floods, earthquakes, etc.? When will the cleanup allow the fish consumption advisories to be lifted? Will it help fish passage? With respect to background levels, how and when will the cleanup reach those levels?"***

Questions such as these often drive the work of the Tribes that are engaged in work at the Site.

14 Representatives from the Confederated Tribes and Bands of the Yakama Nation and the Confederated Tribes of the Grand Ronde Community of Oregon provided interviews for this CIP. Other organizations representing Tribal members including the Native American Youth and Family Center (NAYA), Wisdom of the Elders, and the Columbia River Inter-Tribal Fish Commission (CRITFC) were interviewed.

What is Government-to-Government Consultation?

The U.S. Environmental Protection Agency (EPA), as an agency of the federal government, has an obligation to uphold treaties the U.S. entered with the Tribes and to consult with tribal governments when a decision it may make could affect the Tribes' interests or resources. This trust relationship constitutes a binding, legal obligation on the part of the federal government to the Tribes (7). The lower Willamette River has held and currently holds great historical, natural, and cultural resource significance to the Tribes. EPA interacts with the Tribes on a government-to-government level and recognizes the importance of the Site for fishing, hunting, gathering, and spiritual practices within the context of EPA's trust responsibility.

Lamprey eels at Willamette Falls, 1913
photo credit: Clackamas County Historical Society

The Tribes have reserved hunting rights, fishing rights (particularly for salmon and sturgeon species), and certain gathering rights through treaties with the United States. Native plants were and continue to be gathered for food and medicinal purposes as well. Hunting, fishing, and gathering not only provide tangible benefits in terms of food for tribal families, but also provide a cultural heritage of knowledge and skills that are passed down to younger generations.

What are Some Specific Tribal Issues, Concerns, and Requests?

Federal policy over the last several decades has recognized that the existence and the sovereignty of the Tribes is inherent and that tribal self-determination is one of the most important goals considered in building current tribal policy. It is important for EPA to engage in two-way communication between the Tribes when it is faced with tribal issues and concerns, specifically regarding culturally significant foods and species. EPA's support of tribal involvement in decision-making is affirmed in the 2011 EPA Policy on Consultation and Coordination with Indian Tribes.[15]

The tribal members and tribal representatives interviewed for the CIP shared their specific concerns related to the Site and how they want to be informed and involved on the following topics:

- Importance of Culturally Significant Foods.
- Fish and Shellfish Consumption.
- Impact of Fish and Shellfish Advisories.
- Maintaining Traditional Ecological Knowledge (TEK).
- Employment Opportunities.
- Information Challenges.
- Other Cleanup Issues and Technical Assistance Needs.

Fish and Shellfish (Notably Freshwater Mussel) Consumption

Fish are among the resources most frequently utilized by the Tribes in the Portland Basin and Willamette Valley. They provide sustenance and subsistence to their tribal communities. Culturally significant species include salmonids, lamprey (eels), eulachon (smelt), and sturgeon. Native people also fish for a variety of other resident species, including mountain whitefish, chiselmouth, northern pikeminnow, peamouth, and suckers (8, 9).

Tribal members consume fish and shellfish (specifically native freshwater mussels) at higher rates than non-tribal adults. Additionally, tribal members prepare fish and shellfish differently and utilize fish at various stages in life based on their culture, livelihood, and history. As a result, fish contamination that restricts the safe consumption of fish and shellfish places a disproportionate burden on the Tribes.

15 Link, EPA Policy on Consultation and Coordination with Indian Tribes: https://www.epa.gov/sites/production/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf

Importance of Culturally Significant Foods and Species

Foods and species of cultural significance were identified by tribal members who were interviewed and affect how the Tribes approach their management and involvement in Superfund Site cleanups like the PHSS. Several flora and fauna that the Tribes have used since time immemorial are dependent on areas inside the PHSS, but also areas that are outside the Site (i.e. braided rivers, lakes, and streams). These foods rely upon restoration of wetlands, lakes, and streams that feed into the Site, are located within Site-specific areas, and lie downstream. Specifically, interviewees had concerns about how salmon and lamprey are affected by the Site. Some interviewees mentioned concerns that plants, herbs, and berries surrounding the Site area are affected by contamination and cannot be used.

Coho salmon
photo credit: National Oceanic and Atmospheric Administration

Impact of Fish and Shellfish (Notably Freshwater Mussel) Advisories

Fish and shellfish (notably native freshwater mussels) are a key issue for tribal members due to their cultural significance and because fisheries are a critical industry for the Tribes. Although communities feel strongly that fish and shellfish advisories should be implemented, there is a concern among some tribal members that if fish and shellfish advisories are issued or updated for the Site, all fish and shellfish may be perceived as dirty or bad by consumers, even if the fish and shellfish advisories do not include fish of greatest importance to tribal fisheries (specifically salmon). This perception may have a negative impact on tribal fisheries and tribal communities. As a result, the timing of fish and shellfish advisory updates and coordination with tribal members and representatives for the PHSS are critical. Lastly, tribal members and tribal representatives ideally want fish and shellfish advisories to be only temporary, and they would eventually prefer them to be lifted entirely, depending on the existing levels of contamination in the fish tissue.

Mussels
photo credit: Portland Harbor Community Advisory Group

Maintaining Traditional Ecological Knowledge

Another related concern among some interviewees was maintaining and respecting TEK. The U.S. Fish and Wildlife describes TEK as "...the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment." For a full description of TEK and to read EPA's TEK policy, see Considering Traditional Ecological Knowledge (TEK) During the Cleanup Process(10)[16].

EPA acknowledges that TEK, as defined in this CIP, is an academic concept that may vary from how the Tribes view TEK. The Tribes have different policies on the sharing of TEK—for instance, how much and by whom. The most appropriate point at which to incorporate TEK into EPA's process was during the development of the Record of Decision (ROD). At this point in the cleanup, the value of TEK is the greatest outside of the cleanup process through the National Resource Damage Assessment (NRDA).

Employment Opportunities

Many tribal members and tribal representatives that EPA interviewed expressed interest in being involved with trainings and workforce development related to the PHSS. Providing job opportunities for Native people was important to some interviewees, although there was recognition that jobs tied to the Site cleanup work may be limited. One point made by an interviewee was that "if you want to understand our community, you need to employ our community."

> ***"If you want to understand our community, you need to employ our community."***

16 Link, Considering TEK During the Cleanup Process: https://www.epa.gov/sites/production/files/2018-02/documents/considering_traditional_ecological_knowledge_tek_during_the_cleanup_process.pdf

Information Challenges

Tribal member interviewees expressed concern over how EPA shares the Site information with the Tribes. Some tribal member interviewees commented that when inaccurate or false statements are made by EPA and EPA does not provide the corrected information, it is confusing to the Tribes and makes it seem as though the statement is true.

The **digital divide** refers to the accessibility of Wi-Fi, or the lack of availability of Wi-Fi, in some tribal communities that tend to be more rural and not easily connected to the internet.

A "digital divide" exists and will change over time as technology evolves. To close the divide, it is recommended that EPA maintain an up-to-date and strategic approach to how communication is changing over time and continue to adapt communication to ensure that it is effective with tribal audiences.

Tabling and direct outreach at tribal-led functions are key for communication. This includes work and school fairs, the Columbia Inter-Tribal Fish Commission (CRITFC), Affiliated Tribes of Northwest Indians (ATNI), social functions (e.g., powwows and canoe journey), and other social, economic, and political gatherings. Outreach to trade organizations that employ Native people is critical. EPA is encouraged to work with the Tribes to sponsor conversations and summits on fisheries and cultural discussions to build involvement early on. Working with the Tribes to share information amongst tribal members through their newspapers and newsletters, through regular meetings, and by word of mouth are all methods that should be considered when developing outreach methods.

Other Cleanup Issues and Technical Assistance Needs

Some tribal members and tribal representatives expressed additional concerns in the form of the following questions:

- What will happen to sediment once it is removed?
- How will contaminated sediment be treated? There is a concern if incineration is used.
- Will the contaminated sediment left in place be protected? Will it remain stable and isolated in the event of floods, earthquakes, etc.?
- Are PCBs currently turning into vapor (volatilizing) on the riverbanks around the Site? What is the prevalence of PCBs in these areas?
- Who is responsible for cleaning up the contaminated sediment?
- How can typical environmental justice tools and criteria more adequately account for and address tribal members?

As EPA moves forward with the design and construction phases of the Site cleanup it will continue to uphold the sovereignty of the Tribes. EPA appreciates the tribal member and tribal representative interviewees' insights and suggestions to help the agency better understand and respect the needs, concerns, and priorities of its tribal partners.

4. Community Background, Issues, Concerns, and Requests

How are Community Members Affected by the Site?

In addition to tribal member and tribal representative interviews, the U.S. Environmental Protection Agency (EPA) interviewed several community members. Through the interviews, EPA learned that the neighborhoods most affected by the Portland Harbor Superfund Site (the PHSS or the Site) include *(alphabetically listed)*: Boise/Eliot/Humboldt, Cathedral Park, Kenton, Linnton (including part of Forest Park's hills), Northwest, Old Town/Chinatown, Overlook, Pearl District, Sauvie Island (which is outside of Portland city limits), St. Johns and University Park. For a map of the neighborhoods surrounding the Site, see Figure 2.

Impacts are not limited to these neighborhoods, nor the ones in Figure 2. There are additional neighborhoods in inner east Portland that have been historically impacted as well. From the interviews conducted for this CIP, EPA was able to better understand the nuances of different neighborhoods that border or are located near the PHSS. Additionally, overburdened, immigrant, and refugee community members have their own specific cultural considerations that EPA will continue to better understand.

Environmental justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies . It also recognizes that environmental injustice has historically disproportionately impacted communities of color and low-income communities. https://www.epa.gov/environmentaljustice/ej-2020-glossary[17]

How Does the Site Affect Overburdened Communities?

At the time this CIP was drafted (before the COVID-19 pandemic) of those affected by the cleanup process, roughly 21– 38% of the population living within one mile of the Site were part of overburdened communities, and roughly 36– 47% lived below the poverty line, compared to 14.2% in Multnomah County and 13.4% in Oregon (11). The cleanup will impact many groups and communities with environmental justice (EJ) concerns. In addition to the six federally recognized Tribes (the Tribes), communities that border the Site and that have been or will be affected include African Americans; Black Americans; immigrants and refugees; houseless people of all backgrounds; businesses and industries; people who catch and eat fish, shellfish, and other seafood; and those who recreate along the Willamette River (12). For more information on the EJ history regarding the Site area and considerations, see Section 6.

An **overburdened community** is defined as "minority, low-income, tribal, or indigenous populations or geographic locations in the United States that potentially experience disproportionate environmental harms and risks. This disproportionality can be a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may attribute to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places." https://www.epa.gov/environmentaljustice/ej-2020-glossary[17]

What are the Communities' Issues, Concerns, and Requests?

The community members interviewed for the CIP shared their specific concerns related to the Site. There are several interrelated concerns, as well as requests to improve upon the issues identified for the following topics:

- Human Health and Wildlife
- Air Quality, Including Contamination and Volatilization of PCBs
- Fish and Shellfish Consumption
    - Fish and Shellfish Consumption Advisories
    - Fishers Study
    - Additional Sampling of Fish and Shellfish
- Land Use Development and Population Growth

17 https://www.epa.gov/environmentaljustice/ej-2020-glossary

- Construction and Economics
- Dedicated Web site
- Institutional Controls
- Seismic Activity, Floods, and Climate Change
- Technical Information
- Employment Opportunities
- Sediment Dredging, Disposal of Contaminated Sediment and Sediment Capping
- Trust
- Future Contamination of River
- Final Cleanup Plan Changes
- Power Imbalance
- EPA's Use of EJSCREEN[18] at the PHSS

Health Impacts to Humans and Wildlife

One of the major concerns that community members shared was related to the natural environment in the PHSS area. This includes the effects of contamination on humans that encounter air, water, and sediment in the Site while engaging in activities in the PHSS area, such as fishing and recreation. There are many concerns related to the long-term health risks of being exposed to contamination and how agencies have evaluated or will study and monitor these risks.

Rehabilitated Bald Eagle released in downtown Portland
photo credit: Tom Schmid and Portland Audubon

Some interviewees noted that they did not think an adequate, comprehensive, and holistic health study exists for the PHSS and that one should be completed in the future.

In addition to human health risks, there are concerns about how the contamination affects local wildlife such as fish, baby river otters, shorebirds, Osprey, the Northern red-legged frog, and many other species in and around the PHSS. Specific concerns include impacts on the survival, reproduction, and development of these species. Many community members would like to ensure that cleanup work considers wildlife habitat.

Air Quality, Including Contamination and Volatilization of PCBs

Many interviewees expressed concern over existing air quality issues in the Portland area that already place stress on the health of community members. Concern about air pollution from nearby railroads, highways, and industry was particularly relevant to North Portland. Proximity to highways and other main thoroughfares increases exposure to exhaust, which can negatively impact health, especially for vulnerable populations such as children. As of 2017, approximately 78 schools in the Portland metro area were less than 100 meters away from major roads. Due to widespread community concerns throughout Oregon, Cleaner Air Oregon rules were adopted in November 2018. Cleaner Air Oregon is a state health risk-based air toxics regulatory program that adds requirements to DEQ's existing air permitting framework.

Other Superfund Sites (such as the Hudson River Superfund Site[19]) have much higher PCB levels than Portland Harbor. Also, PCB volatilization was not found to pose a health risk at the PHSS. However, EPA plans to help provide clarity and better education on this concern through EPA's Action Plan (Section 7).

18 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.

19 Link https://www3.epa.gov/hudson/

A specific air quality concern of interviewees is PCBs from contaminated sediment turning into vapor in the air (a process called "volatilization"). Specifically, concerns were raised that EPA has not evaluated human health risks from existing exposure to PCBs in the air at the PHSS. There is concern that PCBs potentially located on the shoreline are currently volatilizing and that additional exposure to PCBs will occur from volatilization during dredging. PCB volatilization was not found to pose a health risk at the PHSS.

Fish and Shellfish Consumption

Similar to the Tribes, community members fish for sustenance, recreational, and subsistence purposes. The main human health concern at the PHSS is consuming fish and shellfish that live year-round near the Site, called resident fish. There is particular concern around lamprey, carp, smallmouth bass, crappie, and catfish. During the interviews for this CIP (as in past iterations of this CIP), it became clear that in addition to tribal members and Native people, different immigrant communities would benefit from enhanced engagement regarding fish and shellfish consumption at the PHSS. Specific considerations for some populations and immigrant communities are outlined below **based on anecdotal information collected during interviews**.

Resident fish and shellfish are species that live year-round in an area, such as the Willamette River. They differ from migratory fish species that travel long distances throughout their lives.

Sturgeon
photo credit: Portland Harbor Community Advisory Group

- **Selling Fish & Shellfish:** According to interviewees, a lot of fish and shellfish caught in the Willamette River are sold in East Portland. It is common to sell fish and shellfish outside of grocery stores and apartment complexes where immigrant community members live. The location of sturgeon in Terminal 4 is of specific concern to community members. This information may help inform EPA and its partners when planning outreach and education on fish and shellfish consumption.
- **Houseless Community Members:** Many interviewees expressed great concern about houseless community members who may be fishing and consuming resident fish and shellfish in the Multnomah Channel, Willamette River, and around Sauvie Island. Some community members saw houseless community members fishing in the Linnton community (even though there is no legal river access). Fishing occurs predominately during the summer months but occurs year-round in certain locations such as Sauvie Island.
- **Migrant Workers:** Another population that fishes and consumes resident fish is migrant workers. This was a particularly strong concern at Sauvie Island where a high number of migrant workers come every year and are sometimes seen fishing in the Willamette River.
- **New Mothers:** Interviewees expressed concern over mothers who breastfeed their babies consuming contaminated resident fish because babies are some of the most vulnerable community members. Potential outreach and collaboration with Multnomah County's maternal health program and breastfeeding groups were ideas suggested by interviewees.
- **Latinx Community Members:** Interviewees asserted that Latinx community members typically fish in the summer and eat the fish and shellfish. Even though many Latinx community members are leaving the Portland area due to gentrification, they may still return to fish in the Willamette River.
- **Eastern European Community Members:** Interviewees reported that typically elder males in the Eastern European Community will fish and then smoke the fish caught, either sharing it with their family members or selling the fish. Swan Island is a popular fishing spot for this community. Carp is of importance to this community (it is traditionally considered a 'fish of royalty') and it is often utilized in a special stew. Interviewees also noted that the Eastern European community in Portland is culturally and religiously diverse.
- **Chinese Community Members:** Fishing is a source of pride in the Chinese community and "showing off the catch" is a common pastime before consuming the fish. Carp is an important species in Chinese culture and is considered a "well-being food." Interviewees stated that some Chinese fishers are aware of the danger of eating resident fish from the Willamette River, but might continue to do so for a variety of reasons.

- **Vietnamese Community Members:** Fishing is also a source of pride within the Vietnamese community. Fish are often shared as gifts and sold to the refugee community in Southeast Portland where many Vietnamese community members live. Swan Island is a key fishing location for the Vietnamese community and the community also highly values carp. Lastly, there is a perception among some Vietnamese community members that fish are not contaminated because the environmental conditions are so much better in the United States and Oregon than in Vietnam. As a result, many Vietnamese community members either do not care or do not know about the contamination in resident fish species.
- **Korean Community Members:** Interviewees mentioned that older Korean men often fish. Fishing is tied to Korean culture and is not done for subsistence, but the fish are often consumed. Carp is also considered an important food for Korean community members.
- **Iraqi Community Members:** Carp is a very popular fish for the Iraqi community. Some Iraqi community members have been seen fishing in Kelley Point Park.
- **Somali Community Members:** Somali community members often consume fish but do not typically fish themselves. Fish are usually purchased from Eastern European and Vietnamese community members and the source of these fish from the purchaser is a concern for this community.

Continued coordination with Multnomah County's Environmental Health Educator on this topic will be crucial as the cleanup continues. Specific outreach opportunities and events for these communities are listed in Appendix B.

Fish and Shellfish Consumption, Advisories

Fish and shellfish consumption education, catch, and release information, notices, and advisories need to be improved to protect the health of community members during the cleanup. EPA will coordinate signage on the river with the Multnomah County Health Department (MCHD) and the Oregon Health Authority (OHA). Notices and advisories need to be consistently updated to ensure communities understand:

- The quantities and species that are safe to consume;
- How to reduce health risks associated with eating resident fish through special preparation; and,
- The long-term health effects of eating contaminated resident fish on people who are pregnant or breastfeeding as well as infants and children.

Portland Harbor Fish Advisory Sign
Oregon Health Authority

This information should be offered in multiple languages and focus on reaching various communities, including African Americans, Black Americans, Chinese, Latinx, Slavs, Vietnamese, Koreans, Iraqis, Somalis, and houseless people. Materials should use easy-to-understand language, color-coding, photos, and simplified visuals. Materials should be posted clearly in view for everyone who utilizes the river for these purposes at Cathedral Park, Sauvie Island, Swan Island, and Kelly Point, between T1 and Gundersen, and in other locations.

In addition to posting signage at key locations, this information needs to be communicated through communities' trusted members at locations where they regularly congregate and via their radio stations. Materials with advisories should also be convenient to carry around, such as pocket guides.

It was also suggested that cleanup construction work in the river could be timed to avoid fish runs or fish and shellfish harvesting seasons. See Section 7 for more details on fish advisories.

Fishers' Study

It was suggested by some that a fishers' study (similar to the Duwamish Superfund Site) be conducted, focusing on fish and shellfish health and consumption in the PHSS. If EPA were to conduct a fishers' study, interviewees suggested that it should be done in collaboration with the community and with a local and credible partner (i.e., a non-profit organization). The focus of the study would be on understanding the levels of consumption of individual species (e.g., sturgeon, salmon, lamprey, and carp) within the various fisher communities.

However, some community leaders did not feel a fishers' study was necessary because of previous work like the fisher survey (2001–2002) of 120 anglers by Willamette Riverkeeper. Although this study is nearly 20 years old, the information provided insight into different ethnic groups using the river for fish and shellfish consumption. For more information on this study, see (13). For more specific information on fish and shellfish consumption for communities with EJ concerns, see Section 6.

Additional Sampling of Fish and Shellfish

Interviewees stated that fish and shellfish need to be sampled for contamination levels so that data supports the fish consumption guidelines and other cleanup actions. Additionally, some interviewees were upset that only smallmouth bass was sampled under the Site-wide baseline sampling work conducted by the Pre-Remedial Design Group with EPA oversight in 2018 and 2019. It is recommended that EPA sample fish and shellfish in the future at times when contamination and consumption risk are expected to be highest.

An aerial view of Cathedral Park, looking northwest
photo credit: Portland Harbor Community Advisory Group

Land Use, Development, and Population Growth

Community interviewees noted that there has been strong displacement in Portland due to increased urban development and population growth. Some communities are concerned that once the cleanup is complete, the Site area will continue to be used for industry and to generate additional income for corporations. The redevelopment of heavy industry is unwanted by many residents, who prefer increasing river access and continuing to develop the Willamette River Greenway project along the waterfront. If the industry is necessary, environmentally responsible private companies (i.e., "green industry") are desired. On the other hand, some community members stated that it is their intention to leave the area undeveloped and "wild."

Gentrification is often defined as the transformation of neighborhoods from low economic value to high economic value. This change has the potential to cause displacement of long-time residents and businesses.

Displacement happens when long-time or original neighborhood residents move from a gentrified area because of higher rents, mortgages, and property taxes. Source: Centers for Disease Control[20]

Portland has experienced zoning changes, increased density, and gentrification. Many residents have already been displaced by the high cost of living and there is a concern that once the cleanup is complete, the area will become a more desirable place to live, resulting in even higher housing prices. During and following the cleanup, communities want to ensure that those living on or near the river can continue to do so without being displaced due to dramatic housing price increases.

Construction and Economics

Communities living in the PHSS area and on the river want clear information on how the cleanup will impact them and for how long. They are concerned about the construction impacts, and they would like more information on when, where, and how construction will occur. Impacts of concern include downstream effects from monitored natural recovery, traffic, safety, noise, pollution, light, and smell.

Dedicated Web site

Interviewees shared that one of the biggest challenges with the PHSS is the lack of access to an up-to-date, user-friendly Web site. A PHSS Web site could include opportunities to provide feedback, the status of signed agreements, links to project areas, past accomplishments, and future efforts. Community members emphasized that interactive and engaging technology tools, such as story maps, should be put into action as soon as possible.

A **story map** is a type of online template that visually displays data in relation to places, location, or geography. They use the power of maps and geography to tell a story. A great example of an existing story map is for the Willamette River Toxics Reduction Partnership at this link: https://willametterivertoxicsreductionpartnership.org/[21] (using Internet Explorer is recommended for accessing this Story Map)

20 Link https://www.cdc.gov/healthyplaces/healthtopics/gentrification.htm
21 Link https://willametterivertoxicsreductionpartnership.org/ (using Internet Explorer is recommended for accessing this Story Map)

Many interviewees emphasized the importance of accessing and viewing data regarding the PHSS cleanup. Ideally, data (such as air quality and sediment samples) would be accessible in real-time or as quickly as possible for interested groups and the public. See Section 7 for more details about a dedicated PHSS Web site.

Institutional Controls

Institutional Controls (ICs) are activity and use limitations, such as fish and shellfish advisories and zoning restrictions, to reduce people's exposure to contamination during and after the cleanup. ICs are written into an Institutional Control Implementation and Assurance Plan (ICIAP). For some of the public agency interviewees during this CIP update, there was a concern with how to manage and keep track of ICs, as well as a need for a comprehensive, coordinated approach for ICs throughout the entire PHSS. There are some community concerns that the fish advisory ICs are not effective.

Earthquakes, Floods, and Climate Change

Small earthquakes and the expected larger Cascadia Earthquake Event (Cascadia Event) were sources of concern for community members regarding the PHSS cleanup. Questions raised included whether the cleanup remedy will survive a catastrophic event and how contamination issues outside of the river might affect the cleanup, both during construction and after it is complete. The Cascadia Event will have a major impact on the communities in the Site area. High anxiety exists regarding the effect of a Cascadia Event on chemical and oil products stored in the Linnton neighborhood and in the Northwest Industrial area because of the potential to contaminate the Willamette and Columbia rivers, as well as downstream areas like Sauvie Island, houseboats, riverbanks, the ocean, and the entire region.

An oil car close to the river
photo credit: Sarah Taylor

Residents were also concerned about climate change, specifically with the forecast for more frequent and bigger flood events, citing the 100-year and 500-year floods that have become more common throughout the U.S. in recent history due to climate change. Communities are concerned about the effects of flooding on cleanup levels and whether the cleanup will withstand these significant events at all. There is a need to ensure that the time, money, and resources spent on the cleanup of the Site are used wisely towards a solution that is sustainable and will withstand a major natural disaster.

Want More Information?

Take a look at EPA's September 2019 Public Forum Presentation "Designing Resilience for the Portland Harbor Superfund Site – EPA's Flood Rise, Seismic, and Climate Change Considerations" [22]

Additional concerns regarding climate change and climate justice are related to whether the cleanup remedy will address a changing climate in the long run. Given the length of this project, the community wants to ensure that the cleanup will be adaptable to physical, political, and environmental changes.

A scarecrow and individual at protest with signs that say climate justice and wearing a climate movement symbol
photo credit: Sarah Taylor

Technical Information

The overall feedback from interviewees was that technical information can be difficult to understand for the average community member. The risks of the PHSS and the benefits of the cleanup should be more accessible to residents, including non-English speaking residents. Interviewees requested more productive methods of informing the community about technical topics such as baseline sampling data, fish and shellfish consumption advisories, and site updates. Information should include cleanup methodologies, timelines, remediation boundaries, and sampling methods. The community requested that the use of alternative technologies, such as mycoremediation (using mushrooms to remediate soil) and bioremediation, be considered as viable remedy options. Some interviewees also suggested that the use of community science, audio, video, and visual formats in multiple languages could be used to train individuals (e.g., students) for water quality testing and other projects in order to help build expertise and access to the process. Involving younger generations now will also help maintain the cleanup in the long-term.

22 https://semspub.epa.gov/src/document/10/100173778

Employment Opportunities

Concerns were shared about who will benefit from the next few decades of cleanup work and how the resources expended will be put back into the local economy. Communities requested that there be a series of meaningful engagement opportunities from both public and private potentially responsible parties (PRPs) that lead to local employment.

Sediment Dredging, Disposal of Contamination, and Sediment Capping

Interviewees wanted more information on dredging contaminated sediments, including when it will take place, what are the benefits, and how to reduce its impacts. Interviewees also wanted to understand how EPA decides which areas to dredge.

There are serious concerns held by many communities about where the waste will be disposed of once the contaminated sediment is removed through dredging. Interviewees were worried about spreading the contamination to other locations, such as monitored natural recovery areas. This is seen as another EJ issue. Interviewees cautioned that sediment should not go to geographies near residential and natural areas nor near earthquake-prone areas of concern (i.e., liquefaction, fault lines, rivers and water sources, etc.). Leading into 2020, community members in the City of St. Helens have wanted to learn more from local, state, and federal agencies about any potential for sediment disposal in their locality. In the past, communities in the Portland area have emphatically declined disposing of contaminated sediments using a confined disposal facility (CDF). EPA has been responsive to those concerns but is still presented with the challenge of sustainably disposing of waste.

There are also concerns about covering up contaminated sediment through a process called "capping," and whether sediment capping in a moving body of water will provide a long-term, safe solution.

Trust

Throughout the interviews, community members expressed several trust concerns regarding EPA. "Trust" in this section refers to individuals' faith and confidence in EPA as a government agency and not to a legal trust obligation. A general fear and distrust of government agencies exists amongst the communities involved in the PHSS cleanup. Figure 7 below is a sunburst-shaped word cloud of items community members identified to describe actions and tools that contribute to building trust with communities.

Figure 7. What could contribute to greater trust?

The following are requests that could improve the relationships between these groups:

- **Communication:** Communication is the key to improving trust between the agency and communities. To help with this, EPA will reference its best practices in good risk communications by utilizing its national risk communication plan, called Getting Risk Communication Right: Helping Communities Plan at Superfund Sites.[23] This plan aims at improving risk communication and community involvement practices during the post-construction, long-term stewardship phase of Superfund site remediation. The actions outlined will strive for effective risk communication and community engagement that builds trust with the hope of leading to better cleanup decisions (14).
- **Relationships:** Working relationships between agencies and community members are not always positive. Consistent and increased information sharing, transparency, outreach, follow-up, and regular meetings are requested to improve and sustain relationships for the long-term. Specifically, it would be helpful if all agencies and PRPs involved in the cleanup regularly attended neighborhood association meetings and provided opportunities for engagement, support, and input. Additionally, providing adequate time (at least 60 days if possible) for public input, feedback, or official comment periods would assist in improving relationships.
- **Roles:** Interviewees stated that there is uncertainty about the role of some agencies involved in the cleanup. The uncertainty stems from not knowing what the cleanup responsibilities of specific agencies are and having infrequent interactions with staff from those agencies. Information on the various roles, who does what, and who is the best point of contact would be appreciated.
- **Administration and Staffing:** The interviewees expressed concern about the future of EPA as the lead agency on the cleanup as federal administration transitions and leadership on the Site continues to change. Staffing transitions were a major concern as well. Bringing in new EPA Remedial Project Managers (RPMs) results in the loss of institutional knowledge and project delays since there is a significant amount of time spent learning about the complex background of the PHSS. The frequency of change further instills the need for data management and readily accessible information through an interactive and user-friendly Web site.
- **Commitment:** Interviewees described some agency involvement on the cleanup as being indecisive or wavering, which contributes to the weakening of trust. Commitment and consistency are necessary.
- **Information Challenges:** As with the Tribes, some interviewees felt that EPA does not always correct inaccurate statements that are made in public settings such as at public meetings. This can cause confusion, especially if the fact or statement is interpreted to be true and results in misunderstanding and potentially in panic.
- **Houseless Awareness:** There is general distrust over how the houseless situation has been and is being handled by government agencies. Some specific feedback on increasing awareness of health risks associated with the Site for houseless people was to increase engagement with houseless community members and improve the outreach methods to houseless people who interact with the river. Community members expressed concern that departments within agencies working on this issue are siloed.

Future Contamination of River

EPA heard that communities are specifically concerned about the future contamination of the river (i.e., emerging contaminants, chemicals, personal care products, etc.). Communities want EPA to focus on not only what is currently contaminating the river, but also on how to reduce future contamination.

Final Cleanup Plan Changes

In addition to issue-specific concerns, community members have shared that continued changes to the Final Cleanup Plan (ROD) are disheartening and problematic. The 2019 Final Explanation of Significant Differences (ESD) adoption proved to many that after a thorough cleanup decision process, the levels of contamination after cleanup still have the potential to change.

23 https://semspub.epa.gov/work/HQ/199587.pdf

Power Imbalance

Community members involved with the PHSS acknowledge that EJ concerns include the power imbalance between communities and the private organizations and businesses that are potentially responsible for the contamination (i.e., PRPs). Members of the public also expressed concern that the cleanup will be used to limit access to the river.

EPA's Use of EJSCREEN at the PHSS

Some community leaders were concerned about EPA's prior work with overburdened communities. Specifically, questions arose regarding why Portland Harbor did not conduct an Environmental Justice (EJ) Analysis like the Lower Duwamish Waterway Superfund Site[24], why EPA relied on a 2.5-mile radius when conducting a previous EJSCREEN review, and why EPA has not conducted an updated EJSCREEN review. More detail on each of these specific EJSCREEN concerns are listed below.

What is an EJSCREEN? An environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN users choose a geographic area; the tool then provides demographic and environmental information for that area. All the EJSCREEN indicators are based on publicly available data. EJSCREEN provides a way to display this information and includes a method for combining environmental and demographic indicators into EJ indexes.

— Lack of PHSS EJ Analysis

The main reason that that EPA did not conduct an EJ Analysis at the PHSS is because tools like EJSCREEN did not exist when the Lower Duwamish Waterway Superfund Site prepared its EJ Analysis. While the Lower Duwamish Waterway EJ Analysis is robust, many of the conclusions in that report could have been synthesized relatively quickly if EPA's EJSCREEN tool existed at the time.

— 2.5 Mile Radius for PHSS EJSCREEN Review Is Inadequate

While EPA did conduct an EJSCREEN review of the PHSS area in the past, some tribal members, tribal representative, and community leaders also expressed concern over the fact that only a maximum 2.5-mile radius was selected for the Site area. People who are fishing and potentially consuming fish and shellfish may be residing outside the analyzed area, particularly as gentrification accelerates. However, EJSCREEN is not suited for applying a large radius because of the following reasons:

- Some of the indicators in EJSCREEN are focused on proximity to the area of analysis (in this case, the PHSS).
- EJSCREEN provides more accurate information when it is focused on smaller areas, although uncertainty still exists. The larger the radius applied, the more that EJSCREEN must average important information over a larger area. This can reduce the power of the analysis.

— EPA Has Not Conducted an Updated PHSS EJSCREEN Review for the PHSS

EPA heard in community interviews that an updated EJSCREEN review would be welcome. As a result, EPA is including an updated overall PHSS EJSCREEN review in this CIP although there are limitations with this overall review that are noted in this section. The goals and parameters of this EJSCREEN review and corresponding results are included Section 6.

24 Link, Lower Duwamish EJ Analysis (2013): https://d10k7k7mywg42z.cloudfront.net/assets/512fbf027a507244640002ea/ej_analysis_ldw_feb_2013.pdf

5. Concerns Outside of EPA's CIP

During the tribal member, tribal representative, and community member interviews for this Community Involvement Plan (CIP), the U.S. Environmental Protection Agency (EPA) heard many important concerns, including several that were outside the legal scope and authority of EPA's Superfund program and the PHSS cleanup itself. However, EPA recognizes that these concerns may influence tribal members, tribal representatives, and community members' capacity to engage with the cleanup and they are very important for EPA's PHSS team, other public agencies, and partners to consider. Concerns outside of EPA's PHSS Superfund cleanup scope include:

- Decisions over future land use and economic and environmental uses.
- Gentrification and future displacement of overburdened communities.
- Historic displacement of homes and businesses.
- Affordable housing, as property values may increase due to redevelopment potential around the Site and once the cleanup is complete.
- Houselessness.
- Earthquake (seismic) stability, tank farm concerns,[25] and crude oil shipments.
- Accidents and recontamination of the Site, Columbia River, ocean, communities, wildlife, parks, and structures (e. g., the St. Johns Bridge).
- Deeming the Willamette River as an industrial waterway and how transportation hurdles impact the community.
- Future diminished public connection to the Willamette River after the cleanup is mostly complete.[26]
- Information on how the Site cleanup can affect upland Brownfield remediation and future economic development.[27]
- Information on other contaminated sites affecting the overall health of the Willamette River once the PHSS cleanup is complete.
- Air quality issues from general industrialization or transportation operations.
- The long-term efficacy of Superfund laws.

25 Multnomah County plans to provide information on their work to require a certain level of insurance/bonding for at least some of the facilities that communities have concerns about (57).

26 This concern exists because there is high potential for development of the cleanup area, which may ultimately result in a lack of community access, connection to, and health benefits from the river.

27 Brownfields and Superfund are separate programs. A Site that is listed as a Superfund Site is ineligible for Brownfield funding (58). Generally, the federal government is not involved at Brownfields. Rather, state and tribal response programs play a significant role in cleaning up and helping to revitalize these sites, frequently through state voluntary cleanup programs (59). While Brownfield remediation is closely related to Superfund work because sometimes a Superfund Site can later become a Brownfield Site, these are separate programs and separate processes.

6. Environmental Justice Site History and Considerations

Purpose

Upon careful review of concerns and issues raised by tribal members, tribal representatives, and community members, including over one thousand comments received during the Proposed Plan comment period on the perceived lack of attention to environmental justice (EJ) issues, the U.S. Environmental Protection Agency (EPA) recognized that more information about EJ considerations for communities and the six federally recognized Tribes (the Tribes) affected by the Portland Harbor Superfund Site (the PHSS or the Site) should be included in the Community Involvement Plan (CIP). Per Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations[28] and EPA's mission, EPA focuses on environmental and public health challenges that face our nation's minority, low-income, tribal, and indigenous populations (15). EPA's 2014 Policy on Environmental Justice for Working with Federally Recognized Tribes[29] addresses how EPA will incorporate EJ considerations into federal activities relating to tribal governments and indigenous peoples (16).

At the PHSS, EPA has actively engaged and involved communities with EJ concerns. Please see Section 2.35.2 of the Record of Decision (ROD) Responsiveness Summary[30] for a more complete history. However, EPA recognizes that it can always do more. Environmental justice will only be achieved when everyone enjoys the same degree of protection from environmental and health hazards, along with equal access to the decision-making process about how to maintain a healthy environment in which to live, learn, and work. To this end, this section strives to achieve the following three goals:

1. Discuss **Portland's EJ History**, including Native people and tribal members. EPA recognizes that understanding and acknowledging injustices of the past – including EPA's own injustices - is critical to understanding how to move forward with future outreach to vulnerable and overburdened communities at the PHSS.[31]
2. Provide a general **EJSCREEN review of the Portland Harbor Superfund Site** that includes a 3-mile radius around the PHSS area. EPA recognizes this is an initial review and cautions that an analysis of a large area has limitations and may dilute data (discussed below). EPA recognizes that additional work and education with EJSCREEN, preferably on smaller project area scales, needs to be conducted.
3. **Inform Goal 7 of EPA's Community Involvement Action Plan** (Section 7), which is to provide targeted cleanup-related outreach to overburdened communities where vulnerable populations may be present, such as the following: schools; Oregon Women, Infants, and Children (WIC) Clinics and Authorized Retailers; senior service sites; community centers; public and subsidized housing; and churches.

Portland's Environmental Injustice History

To understand the status of environmental injustice concerns and characteristics in the Portland area, a brief history of environmental inequality is presented below. This history is arranged in the following order: Tribal history, historic legal practices, modern impacts of historic legal practices, and history of specific Portland neighborhoods and geographic areas.

EPA would also like to acknowledge that the history presented in this section is abridged. While much research went into writing this section, there are countless narratives, experiences, and facts that are not represented here. This section includes the environmental injustice history related to the Site area in the last 100 years, and notable events with clear impacts associated with environmental injustice in the Portland Area.

Three masked women hold a Black Lives Matter sign in St. Johns, 2020
photo credit: Sarah Taylor

28 Link, Executive Order 12898: https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice

29 Link, 2014 Policy on EJ for Working with Federally Recognized Tribes: https://www.epa.gov/sites/production/files/2017-10/documents/ej-indigenous-policy.pdf

30 Link, ROD Responsiveness Summary: https://semspub.epa.gov/work/10/100036257.pdf

31 The City of Portland spends significant resources acknowledging how the past has resulted in present day inequity as they work to plan equitably into the future. The City's September 2019 report titled *Historical Context of Racial Planning* is a good example of the acknowledgment of the past. Link: https://www.portland.gov/sites/default/files/2019-12/portlandracistplanninghistoryreport.pdf

Tribal History

Portland's environmental injustice history begins with Native people who lived in the area long before Europeans arrived. Modern-day Portland formed around and on the lands of Native people, including the Multnomah, Wasco, Cowlitz, Kathlamet, Clackamas, Bands of Chinook, Tualatin Kalapuya, Molalla, and many other Tribes. These Tribes were connected to the plentiful river-linked natural resources in the area including the fish, the wildlife, the plants, and the habitat. The Native people maintained a self-sufficient lifestyle from the beginning of time. However, Europeans arrived in the 18th and early 19th centuries and spread disease, which resulted in death for Native people and the imposition of environmental problems.

As time progressed, additional environmental injustices were imposed upon Native people and tribal members. During World War II, more Native people migrated to Portland because of the opportunity for work in the wartime industry. The Vanport area provided significant employment to Native people and tribal members; however, tragedy struck with the Vanport Flood (see 'Geographic Considerations' and 'Vanport City' below). Later, federal and Oregon state policies (briefly mentioned in Table 2 below) also contributed to the suppression of Native people and the Tribes. Additionally, growing industry and development resulted in a significant deterioration in the quality of natural resources depended on by Native people and tribal members.

Aerial view of Vanport
photo credit: Oregon Historical Society

Today, Portland has the 9th largest urban indigenous population in America, and the Portland urban Native community encompasses varying degrees of tribal affiliation from roughly 400 different Tribes. Almost one-in-three Native families in Multnomah County live in poverty. High school graduation rates and college attendance rates are very low compared to White students and a multitude of health disparities exist for tribal members and Native people (12).

EPA recognizes the strong connection the six federally recognized Tribes (the Tribes) and Native people have to the environment and their past and present role in the protection of the environment and public health (18). Specifically, EPA realizes the burden placed on Tribes and Native people because of the PHSS contamination and the restrictions on consuming fish and shellfish.

Submerged buildings during the Vanport flood
Oregon Historical Society

Historic Timeline

The table below is a timeline of key dates and events related to Portland's environmental injustice history. EPA chose to highlight these events due to their impacts on the communities involved with the PHSS.

Table 2: Timeline of Historical Events in Portland, OR, Related to Environmental Injustice

Years	Historical events
Early 1800s	American settlers begin moving into the area that would become modern-day Oregon, drawn by abundant natural resources, and motivated by religious, political, and personal motives.
1857	Oregon adopts a state constitution that bans African Americans and Black Americans from coming to the state, residing in the state, or holding property in the state (19).
1859	Oregon becomes the 33rd State in the U.S. to have a policy explicitly forbidding African American and Black American people from living in its borders (19).
1861-1865	The U.S. Civil War leads to a need for building materials, spurring timber harvesting in Oregon. Timber harvesting accelerates the displacement of Native residents and begins a concentration of industry and capital in Portland.
1891	Portland annexes Albina (20).
1915	Portland annexes Linnton and St. Johns which led to the placement of City services contributing to contamination (i.e., fossil fuel tanks, railroad yards, etc.).
1919	Realty Board of Portland approves Code of Ethics forbidding realtors and bankers from selling or giving loans to racial and ethnic minorities for properties in white neighborhoods.
1939	African Americans and Black Americans move to Oregon for jobs in the shipyards; most of them live in public housing created by the federal government in a flood zone.
1930s	The practice of redlining, the process of denying loans to people who lived in certain areas, is used by banks in Portland and across the U.S. to reinforce racial segregation (21).
1948	The Columbia River floods wipe out the entire Vanport public housing project, which displace and leave houseless the entire population of 18,500, of which 6,300 were African Americans and Black Americans.
1950s	Federal Relocation Policy begins for the Tribes. The federal government forces Native people to relocate to Portland, and six other major cities (2).
1951	The Housing Authority of Portland demolishes Guild's Lake Courts, which was one of only two public housing developments that permitted African American residents. This action displaces African Americans and Black Americans (2).
1954	The federal government enacts the Western Oregon Termination Act and Klamath Termination Act. Many Oregon Tribes lose federal recognition and experience a significant loss of resources (21).
1956	Voters approve construction of an arena in the historically African American and Black American Albina Neighborhood, destroying existing homes.
1956	The Federal Aid Highway Act provides funds for Portland to build Interstate 5 and Highway 99, leading to redevelopment and displacement in Albina.
1959	A zoning code update expands single-family zoning to almost all residential areas of Portland, which limits the ability to construct apartments that are typically more affordable than single family housing (21).
1962	The widening of St. Helens Road (Highway 30) in Linnton displaces and severely impacts residents and businesses, tearing down most of downtown and its vitality (22).
1970-1980	Practice of redlining in Portland continues, leading banks to deny loans to people of color (21).
1981-2000	During this time, the city annexed most of the land to the east of I-205 within the Urban Services Boundary (23).

In addition to these events, there are historical legal practices underpinning the environmental injustice history in the Portland area, including three practices that impacted the Portland area the most. These practices are racial covenants, redlining, and eminent domain. Understanding the history of environmental injustice in the Portland area requires a knowledge of how these practices relate to and shape modern actions of zoning, planning, and land use.

Zoning is the division of a city or county by regulations into areas, or zones, which specify allowable uses for property and size restrictions for buildings in these areas. Source: American Planning Association's Planners Dictionary[32]

32 https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-521-522.pdf

Racial Covenants

Real estate developers in the 20th century created racially restrictive covenants, which were private agreements that forbid non-White people from occupying or owning property. Racial covenants were a key element of segregationist policies across the country and developers put these covenants into place in Portland starting as early as the 1900s (24). Racial covenants prevented specific minority groups from owning and living in areas of Portland.

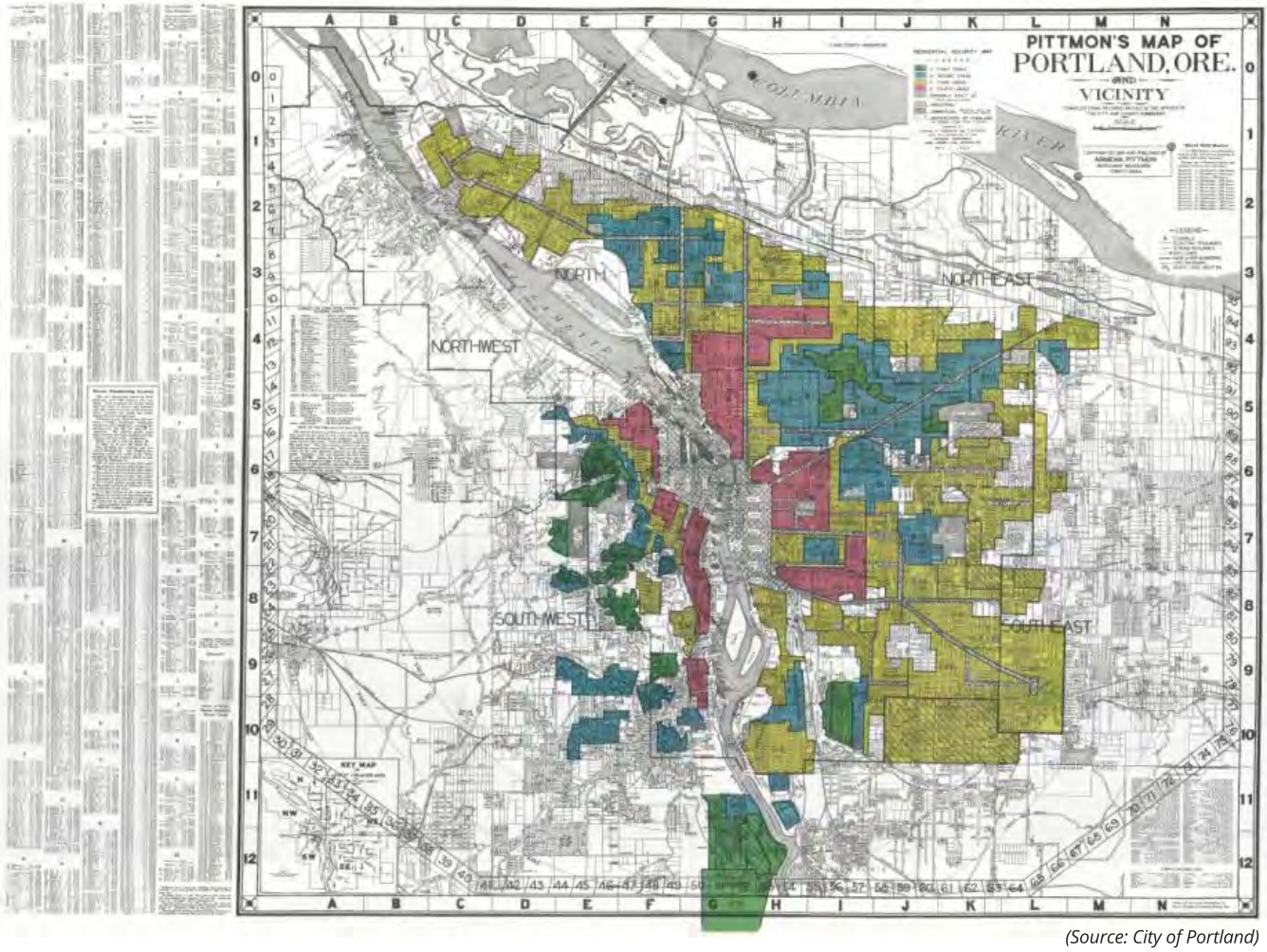
Real estate developers restricted the ability of African Americans and Black Americans to buy and rent homes in Portland. As outlined in the timeline above, in 1919, the Portland Realty Board adopted a rule as part of their Code of Ethics regarding who could receive a loan. This rule declared it unethical for an agent to sell property to either "Negro" or Chinese people in a White neighborhood (21). As a result of this practice, many African Americans and Black Americans began settling in the neighborhood known as Albina and in the Vanport public housing project. Both Albina and Vanport are discussed in the next section regarding geographic considerations.

Redlining

In the 1930s, one of the primary tools that banks used to reinforce racial segregation was called redlining. Figure 8, below, shows a 1934 map indicating red areas which were deemed "less desirable." Redlined areas were often where people of color lived, and banks treated these areas as riskier investments. The areas that were green and blue were where White residents lived and banks perceived these areas as being the safest.

Maps like the one in Figure 8 below were used in Portland and across the country to deny African Americans and Black Americans and others—including overburdened communities, Jews, low-income, tribal, and indigenous people—from owning homes. The practice of redlining in the City of Portland was a key factor in preserving racial segregation, intergenerational poverty, and the wealth gap between white Portlanders and most other racial groups in the city (21).

Figure 8. A 1934 Map of Portland Showing Neighborhood Classifications Under the Homeowners Loan Corporation



(Source: City of Portland)

There is evidence that redlining remained a common practice for banks in Portland until the 1990s (21). By impacting who could buy and own property, redlining also set the stage for overburdened communities to be situated in less desirable residential areas near sites associated with harsher climate and environmental hazards (21). In effect, these maps were past tools contributing to modern environmental injustice issues in the Portland area.

Eminent Domain

The practice of eminent domain allows the government to take private property for public use. In the City of Portland, eminent domain was used to clear out the land for the development of what is currently downtown and the location of Keller Fountain (21). Additionally, in 1956 eminent domain was utilized to build the Memorial Coliseum sports arena, which demolished 476 homes. African Americans and Black Americans lived in about half of those demolished homes and as a result, eminent domain displaced many families in Lower Albina (19). Governments used eminent domain to displace residents and homes, as well as destroy businesses and places of worship (21). In many ways, the use of eminent domain was also a predecessor to modern gentrification.

Geographic Considerations

In addition to understanding the legal practices underpinning the environmental injustice history in the Portland area, it is important to understand geographic dynamics that have contributed to environmental injustice concerns. For this CIP, geographic considerations focus on specific historic neighborhoods and their legacy in the Portland area. Focusing on historic neighborhoods is place-based and provides insight into how communities have formed, changed, and disappeared.

Three main geographic areas in Portland have historic environmental injustice concerns related to the PHSS, including:

- Vanport City, Oregon;
- Historic Albina District in Portland; and
- Inner Northeast Portland.

— Vanport City

Vanport City, Oregon was a city of wartime public housing in Multnomah County and was nestled between Portland, Oregon and Vancouver, Washington (25). During World War II, the Oregon Shipbuilding Corporation was one of the original nine shipyards built as part of the federal Emergency Shipbuilding Program, and it employed tens of thousands of people. Located on the Willamette River, it built nearly 600 ships in the period between 1941–1945. There were three additional Kaiser Shipyards in the area, along what is now the PHSS. One was in the St. Johns neighborhood of North Portland, one was on Swan Island, and the other was on the Columbia River in Vancouver, Washington (26).

Vanport City was constructed during wartime to house the workers of the three area shipyards. It was home to 40,000 people, about 40% were African Americans and Black Americans and many others Native American, making it Oregon's second-largest city at the time and the largest public housing project in the nation. Other wartime public housing projects in the area included Columbia Villa (400 units of suburban-style low-rise apartments spread over 82 acres), University Homes, and Guild's Lake Courts of Northwest Portland, which established segregated sections of the development for African American and Black American wartime workers (27). Following the war, the closure of the shipyards shrank the labor market and the population (28).

— *The Vanport Flood*

The Vanport area is most known for the Vanport Flood of 1948. The entire Vanport public housing project flooded, leading to the loss of homes, property, and community. No early warning was provided to Vanport residents about the potential destruction from the flood, even though the Housing Authority of Portland worked to protect files and equipment in the area in advance (29).

Aerial View of the Vanport Flood, 1948
photo credit: Oregon Historical Society

Overall, the tragic Vanport Flood of 1948 resulted in the displacement of over 18,000 residents (one-third African American and Black American). Many Vanport residents were moved to Guild's Lake Courts, another public housing community. However, by 1952 the Housing Authority of Portland. largely demolished Guild's Lake Courts to make way for industry (30).

Children at Swan Island refugee center set up by the Red Cross after the Vanport Flood
photo credit: Oregon Historical Society

People wading through the waters of the Vanport Flood, 1948
photo credit: City of Portland Archives

Refugees, 1948
photo credit: Oregon Historical Society

Evacuees at Trinity Episcopal Church, 1948
photo credit: Al Monner, Oregon Journal

— Historic Albina District in Portland

Children playing on a slide during a picnic after an Albina Neighborhood Improvement block clean-up, 1963
photo credit: City of Portland Archives

The City of Albina was founded in 1873 and in July 1891 the city was annexed by the City of Portland. The historic Albina District in Portland has a varied history that includes displacement, residential housing change, and outside forces impacting the community. Due to the exclusionary and segregationist practices of the Realty Board of Portland, Albina was the only place African American and Black American community members were legally allowed to buy homes (25). Lower Albina was an area where African American and Black American community members lived and worked, particularly during World War II when a large influx of African American and Black American workers moved to Portland to fill jobs for the local war effort (33).

Protestors demand that Emanuel Hospital provide the jobs it promised and keep the health clinic open, 1971
photo credit: Oregon Historical Society

The Memorial Coliseum development and Emmanuel Hospital expansion displaced residents and community members, multiple times in some circumstances. Additionally, in the 1960s, the development of the Interstate-5 freeway divided the Albina neighborhood and increased the neighborhood's proximity to traffic and vehicle emissions (31). These construction efforts required government to use eminent domain to acquire property.

Over time, White residents have gentrified and displaced the African American and Black American community in Albina: the percentage of African American and Black American residents in Albina dropped to 28% in 2010 from 68% in 1990 (25). In Portland, there is evidence supporting the notion that housing market actors helped sections of the Albina District reach an advanced stage of decay, making the area ripe for reinvestment (21). Today, the Albina neighborhood is in North and Northeast (NE) Portland and includes the Eliot neighborhood that borders the PHSS. Despite gentrification and displacement by White residents, the Albina District still includes the highest proportion of people of color and the lowest income levels in both Portland and the state of Oregon (32).

Koin 6 News camera capturing the presentation of flowers in a newly rehabbed house, 1969
photo credit: Albina Neighborhood Improvement Program slides, City of Portland Archives

— Inner Northeast Portland

The Inner Northeast Portland area is comprised of several neighborhoods, including Eliot, Boise, Humboldt, and others[33]. Eliot, Boise, and Humboldt were part of the historic Albina District and Eliot is on the eastern bank of the Willamette River.

As explained above, the construction of the Memorial Coliseum and Interestate-5 displaced much of the African American and Black American population in this area (35). In the mid-20th century, White developers began buying up cheap land, leveraging urban renewal dollars to build condominiums, restaurants, and boutiques. This further displaced the African American and Black American community to Portland's outskirts (33), including East Portland[34], most of which the City of Portland annexed in the 1980s and 1990s.

As of 2020, North Mississippi Avenue, in the Boise Neighborhood, is a popular retail street with eclectic stores. Historically, this street was home to many African American and Black American-owned businesses before government megaprojects, urban renewal policies, and white developers displaced many African American and Black American residents (17). The Humboldt neighborhood is home to Portland Community College Cascade Campus and the Legacy Emanuel Medical Center occupies eight square blocks in the Eliot neighborhood.

Additional Portland Neighborhood Information

In addition to Vanport City, the historic Albina District, and Inner Northeast in Portland, there are other neighborhoods and geographic areas with their own environmental and racial histories near the PHSS. Appendix A provides a high-level overview of the following neighborhoods *(alphabetically listed)*: Boise/Eliot/Humboldt; Cathedral Park; Kenton; Linnton (including part of Forest Park's hills); Northwest; Old Town/ Chinatown; Overlook; Pearl District; Sauvie Island (which is outside of Portland city limits); St. Johns; and, University Park.

Burlington Northern Railroad Bridge, or St. Johns Railroad Bridge
photo credit: Sarah Taylor

Modern Impacts

Portland was named the fastest-gentrifying city in America by *Governing* magazine, due to its rapidly changing neighborhood housing markets and dramatic racial turnover in the core of the city (36). However, as discussed throughout this EJ section, the demographic changes and gentrification of Portland have historical roots. There is an intense distrust and anger about past and current practices that spur gentrification and

33 According to the Northeast Coalition of Neighbors (NECN), in addition to Eliot, Boise, and Humboldt other Inner Northeast Portland neighborhoods include Prescott, Alameda, Sabin, Irvington, Woodlawn, Vernon, Concordia, Lloyd, and Sullivan's Gulch: https://www.portlandoregon.gov/civic/48711.

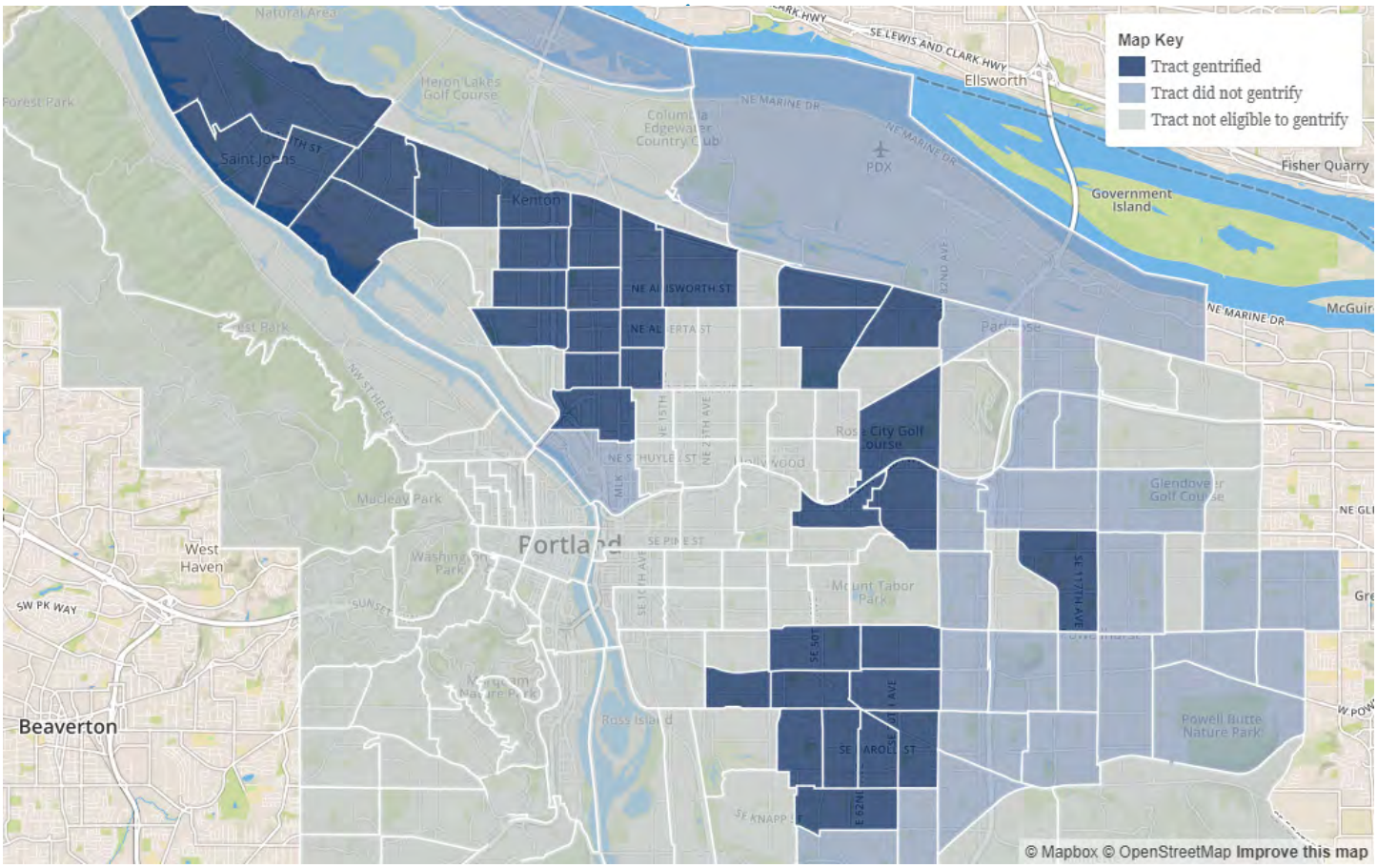
34 In modern day, East Portland generally refers to the portion of present-day Portland that lies east of 82nd Avenue.

displacement (34). This section focuses on the gentrification and displacement that has occurred in Portland through 2015[35], which exacerbate environmental injustices and are modern threats to communities due to the high cost of living in the Portland area.

Gentrification

Gentrification occurs when a neighborhood has attractive qualities—for example, location or historic architecture—but has relatively low economic value. Gentrification changes neighborhood character by affecting the housing market and economy while disrupting existing demographics in an area. See Figure 9 below for a map of gentrification in Portland. This map was created using data from the 2000 census through the 2015 American Community Survey estimates. The areas in the map focus on census tracts. A census tract is a small subdivision of a county, roughly the size of a neighborhood, that represents the smallest scale that the U.S. Census Bureau uses to collect data to analyze populations. This map shows which tracts have been gentrified, which have not been gentrified, and which are not likely (or "eligible") to gentrify. To assess gentrification, this map considers growth rates, inflation-adjusted median home values, and the percentage of adults with bachelor's degrees (34).

Figure 9. Portland Gentrification Map: 2000 Census – 2015 American Community Survey Estimates[36]



Note: *Data shown corresponds to 2000 census tract boundaries, which have very likely changed. Figures shown are calculations from 2009-2013 American Community Survey estimates.*

35 Data through 2015 was used for the purpose of the EJ section since the 2020 census tract data was not yet available at the time the 2020 EPA CIP was written.

36 Portland Gentrification Map: 2000 Census – Present: https://www.governing.com/gov-data/portland-gentrification-maps-demographic-data.html

Displacement

Displacement is one of the results of gentrification and has several dimensions of its own. Displacement can include removal from homes, loss of businesses in the neighborhood, and even cultural loss as institutions and cultural hubs change and no longer serve the residents in the area. Residential displacement is perhaps the most destructive form of displacement. Residential displacement includes the effects of concentrated poverty on schools, the long distances low-wage workers need to travel between their homes and their jobs, and the social and economic costs of the health, educational, and employment impacts of housing instability on the overall city (34).

Portland's African American and Black American community have experienced the most severe displacement, with about one-third of the region's African American and Black American population having been displaced from their historical homes in northeast Portland in ten years from 2000-2010 (34, as calculated by the author). This more recent displacement is rooted in African American and Black American history in Portland.

Aerial view showing Kelly Butte and surrounding area looking northeast, 1963.
Much of the neighborhood in the lower left would be leveled for the I-205 freeway and other projects.
photo credit: City of Portland Archives

For example, the displacement that occurred from the Vanport Flood resulted in many African Americans and Black Americans living in temporary defense housing or transitioning to the already overcrowded Albina District (29). When funding from the Federal Highway Act of 1956 allowed Portland to build Interstate-5 and Highway 99, this construction continued the displacement of African Americans and Black Americans from the Albina District into formerly rural areas, such as East Portland (29, 61).

East Portland historically had remained more rural with gradual development occurring until post-World War II, when development in the area spiked with single-family housing and other urbanization projects (62). Then, the Interstate-205 highway project that began in the 1960s was completed in 1982 and divided the community and increased the neighborhood's proximity to traffic and vehicle emissions. As housing prices and values climb in Portland's urban core, East Portland is not experiencing the same rise because it is not seen as desirable as other neighborhoods/areas. As a result, low-income, minority, immigrant, and refugee community members continue to settle in East Portland to access more affordable housing (29, 63).

I-205 freeway project finished, 1982
photo credit: The Columbian, Clark History

2020 EJSCREEN Review of the Portland Harbor Superfund Site

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.

Why is EJSCREEN an Appropriate Choice for EPA?

EPA developed EJSCREEN to highlight places that are candidates for further review, analysis, or outreach to better characterize environmental injustice issues in geographic areas. Due to the complexities of the PHSS and the limitations of EJSCREEN, its use as a tool must be used in conjunction with community ground-truthing, analysis, 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 PHSS, 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. EJSCREEN relies on Census data and currently, the 2013-2017 American Community Survey data can be downloaded to accompany the EJSCREEN report. To learn more about EJSCREEN, please review EPA's EJSCREEN Technical Documentation[37].

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 PHSS covers nearly 11-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.

EJSCREEN is a Screening Tool Only

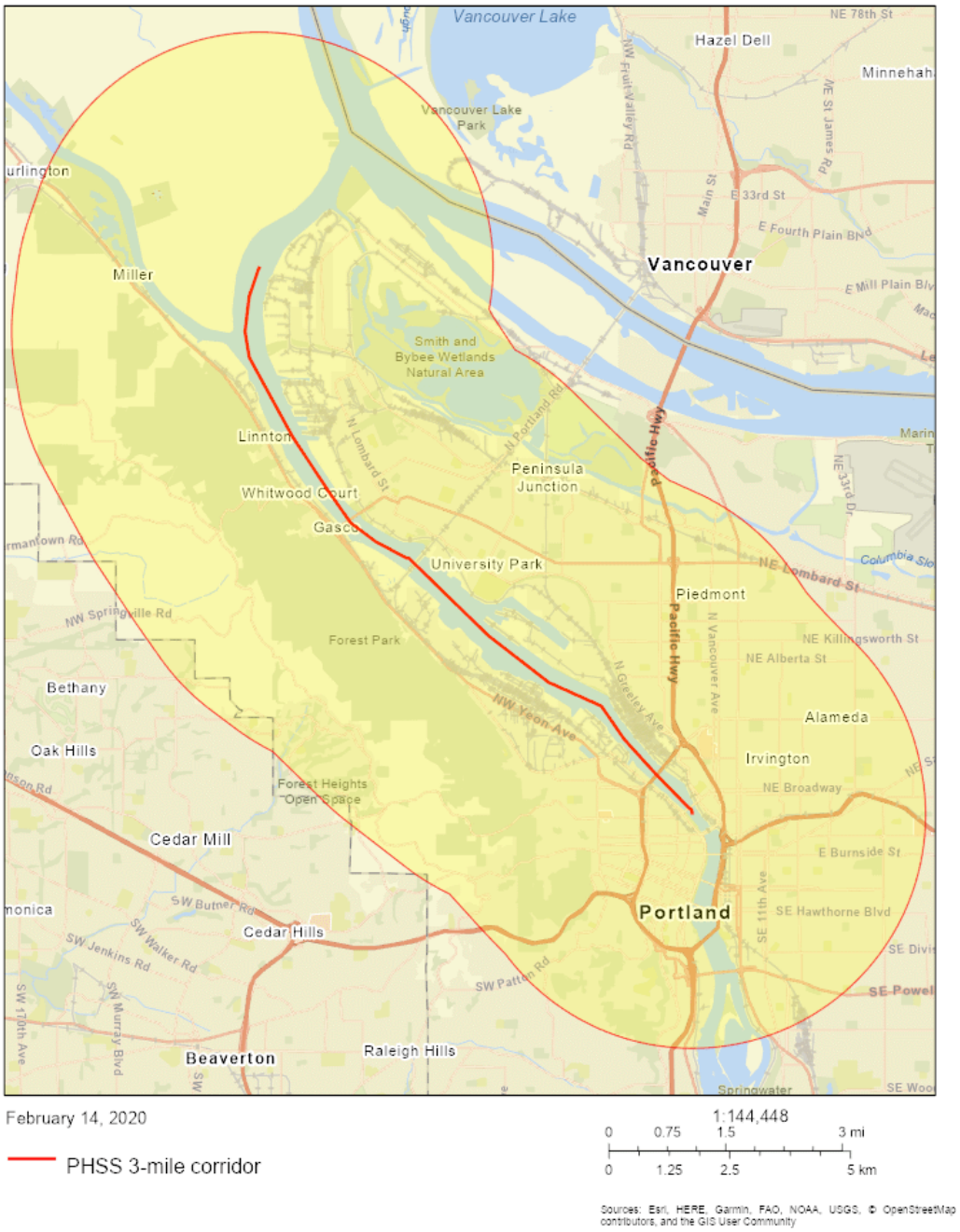
EJSCREEN is a screening tool (*not* a decision-making tool) that examines *some* of the relevant issues related to environmental justice, and there is uncertainty in the data included. Therefore, supporting local knowledge is needed for communities to evaluate sites, develop tools, decide on communication 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.

Parameters of General EJSCREEN Review for the PHSS

In this EJSCREEN review for the PHSS, a 3-mile radius around the PHSS was used, and several additional data layers were incorporated as described below.

37 Link, EJSCREEN Technical Documentation: https://www.epa.gov/sites/production/files/2017-09/documents/2017_ejscreen_technical_document.pdf

Figure 10. 3-Mile Radius Around the PHSS



Use of a 3-mile Radius[38] Around the PHSS Cleanup Area

This EJ Screen review initially looked at the demographics and environmental indicators within a 5-km radius (approximately 3 miles) of the PHSS. This radius was chosen because all EJSCREEN environmental indicators that involve proximity to an area use a standard practice of a 5- km radius. Please consider the following two points about this 3-mile radius:

1. The 3-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 3-mile radius, EPA may still conduct outreach to that school regarding the PHSS.
2. Parts of the 3-mile radius (or buffer) around the PHSS do not include any people or facilities (such as parts of Forest Park and the Willamette River). This affects how the data is averaged and displayed in this EJSCREEN review.

38 Due to recommended feedback from community leaders, EPA may explore using a larger screening radius for future EJSCREEN trainings.

Data Utilized

This EJSCREEN review is based on American Community Survey data from 2013–2017. Additional information (listed below) was incorporated for this review to help further inform outreach to vulnerable populations who may visit or use these facilities. 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) Public Schools *(data in EJSCREEN).*
2) Senior Service Sites *(data from Multnomah County).*
3) Oregon WIC Clinics and Authorized Retailers *(data from the Oregon Health Authority).*
4) Community Centers *(data from Metro Regional Government).*
5) Public Housing and Subsidized Housing *(data in EJSCREEN).*
6) Churches *(data in EJSCREEN).*

EJSCREEN Results for the PHSS Review

Despite the cautions outlined above for applying EJSCREEN to a large area (such as the full PHSS), EPA decided to provide the general results of a full EJSCREEN review because of community feedback during CIP interviews. However, as stated in the EJ Action Plan (Objective 7), for future EJSCREEN reviews EPA recommends focusing on project-specific reviews for better analysis power and data clarity.

Changing Data & EJSCREEN
Please note that this PHSS 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's Action Plan reflects that another overall EJSCREEN review will need to occur when updated data are available (Section 7, Objective 7).

The PHSS river corridor includes the nearly 11-mile stretch of the PHSS surrounded by a 3-mile buffer (Figure 10). The EJSCREEN review area is over 85 square miles with more than 250,000 people. Environmental Indicators are high for all but one value at the state and regional levels and for all but two at the national level. The "Environmental Indicator for Superfund Proximity" is at the 88th percentile for the national level. This means that compared to all other areas of the U.S., only 12% are closer to Superfund Sites than the areas along the PHSS. Of the population in this EJSCREEN area, 25% are minority, 29% are low-income, and 61% have a bachelor's degree or higher. Tables 3–6 below provide more specific information on some of the demographic and environmental indicators at the PHSS in addition to some general information from the American Community Survey.

Table 3. Demographic Indicators for the PHSS EJSCREEN Review (for 3-mile radius)

Demographic Indicator	Percentile in the State[39]	Interpretation
Minority Population	63	37% of Oregon's cities have a higher percentage of minority populations than the area within 3 miles of the PHSS.
Low Income *(where the household income is less than or equal to twice the federal poverty level)*[40]	42	58% of Oregon's cities have a higher percentage of low-income households than the people living within 3 miles of the PHSS.
Linguistically Isolated Population *(households in which all members age 14 years and over speak a non-English language and speak English less than "very well")*	62	38% of Oregon's cities have a higher percentage of linguistically isolated populations than the people living within 3 miles of the PHSS.
Population with Less Than High School Education	29	71% of Oregon's cities have a higher percentage of populations with less than a high school education than the people living within 3 miles of the PHSS.
Population Under Five Years of Age	40	60% of Oregon's cities have a higher percentage of populations under five years of age than the people living within 3 miles of the PHSS.
Population Over 64 Years of Age	32	68% of Oregon's cities have a higher percentage of populations over 64 years of age than the people living within 3 miles of the PHSS.

Table 4. Environmental Indicators at or Above 80% for the PHSS EJSCREEN Review (for 3-mile radius)

Environmental Indicator	Percentile in the State	Interpretation
Particulate Matter	81	Only 9% of Oregon's population has a higher EJ index for traffic proximity than the people living within 3 miles of the PHSS.
Traffic Proximity and Volume	93	Only 7% of Oregon's population has a higher EJ index for traffic proximity than the people living within 3 miles of the PHSS.
NATA[41] Diesel Particulate Matter (PM)	95	Only 5% of Oregon's population has a higher EJ index for traffic proximity than the people living within 3 miles of the PHSS.
NATA Cancer Risk	82	Only 8% of Oregon's population has a higher EJ index for traffic proximity than the people living within 3 miles of the PHSS.
NATA Respiratory Hazard Index	86	Only 4% of Oregon's population has a higher EJ index for traffic proximity than the people living within 3 miles of the PHSS.
Lead Paint Indicator	88	Only 12% of Oregon's population has a higher EJ index for lead paint than the people living in the 3-mile buffer around the PHSS. Minority and low-income individuals tend to live in older housing more often than the rest of the U.S. population.

39 Please note, "percentile" refers to a way of seeing how local residents compare to everyone else in the State (or the region or nation depending on the kind of percentile used). For more information on percentiles, please visit https://www.epa.gov/ejscreen/how-interpret-standard-report-ejscreen

40 Link, federal poverty level: https://aspe.hhs.gov/poverty-guidelines

41 NATA stands for the National-Scale Air Toxics Assessment. This is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations.

Table 5. American Community Survey Values of Interest in the PHSS EJSCREEN Review (3-Mile Radius)

Please note: *The data presented in the table below was pulled prior to the COVID-19 outbreak in 2020. The data related to renter occupied housing and civilian unemployed labor force has changed because of COVID-19.*

American Community Survey Value	Percentage of the Population within the 3-Mile PHSS Radius	Interpretation
Renter Occupied Housing	~54%	54% is a relatively high value for renter occupied housing. The higher percentage for this value translates to a higher amount of turnover in the population. This, in turn, may translate into potential difficulties with communication due to high turnover.
Civilians Unemployed in Labor Force	~4%	The national unemployment rate as of January 2020 (before the COVID-19 pandemic) was 3.6% (37), so the value of 4% within the PHSS EJSCREEN review area is in line with this national value.

Table 6. Additional Information on Population Within 3 Miles of the PHSS from the American Community Survey (2013-2017)

Population Reporting One Race	Percent of Population Within 3-Mile PHSS Buffer
White	~81%
LatinX	~8%
Black	~6%
Asian	~5%
American Indian	~1%

Additional Data Examined for the EJSCREEN Review

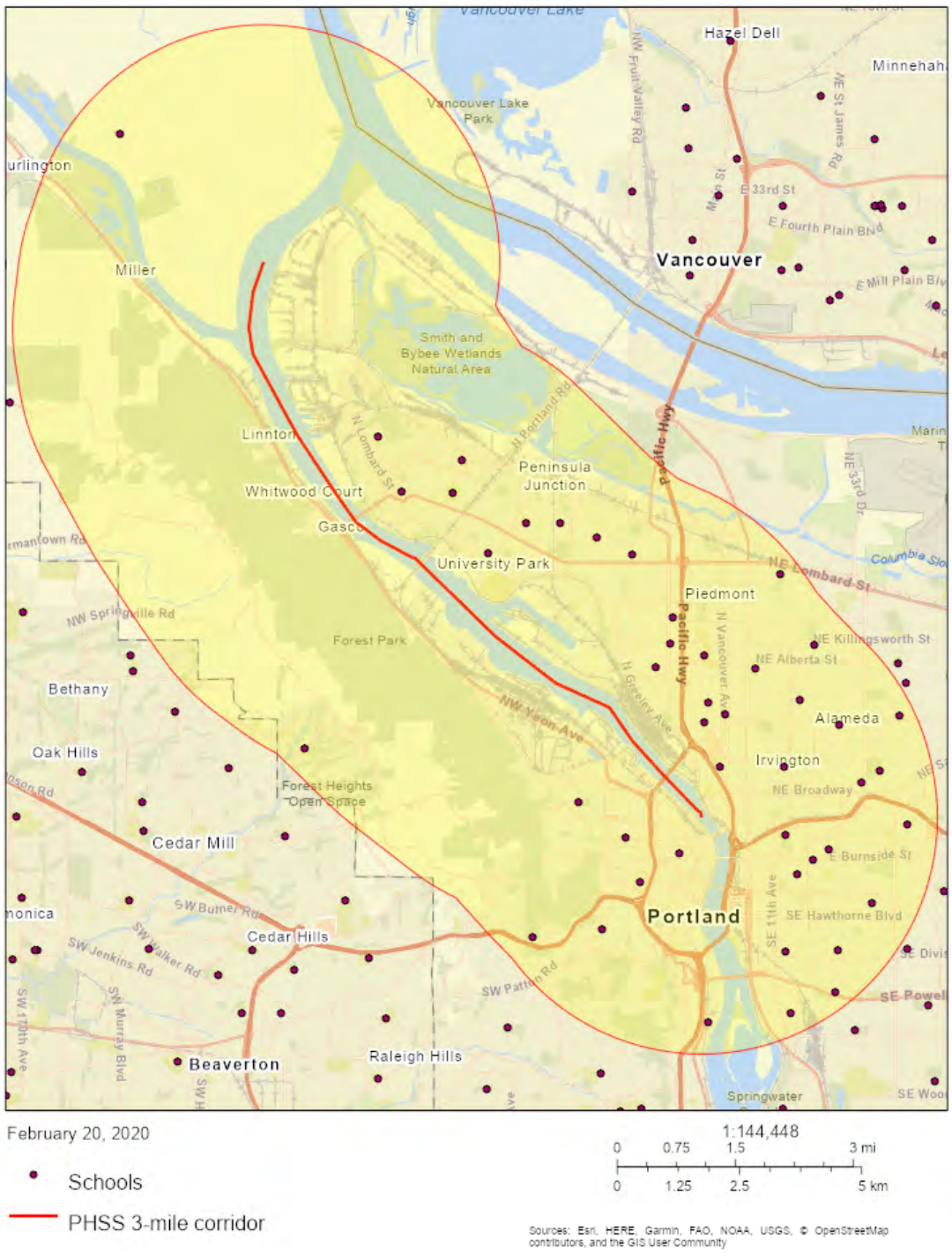
EJSCREEN is also able to pull in other information to better understand an area. In general, while the specific names of the facilities are not mentioned in this review, EPA has more detailed information and looks forward to working with existing and new partners by providing further information about 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 3-mile radius around the Site. Some of those schools are Sitton, James, Johns, Boise, Elliott, Roosevelt, and Astor. Figure 11 below provides a complete map of all the schools in the 3-mile PHSS radius, which will help EPA focus on outreach efforts moving forward.

Roosevelt High School in St. Johns
photo credit: Sarah Taylor

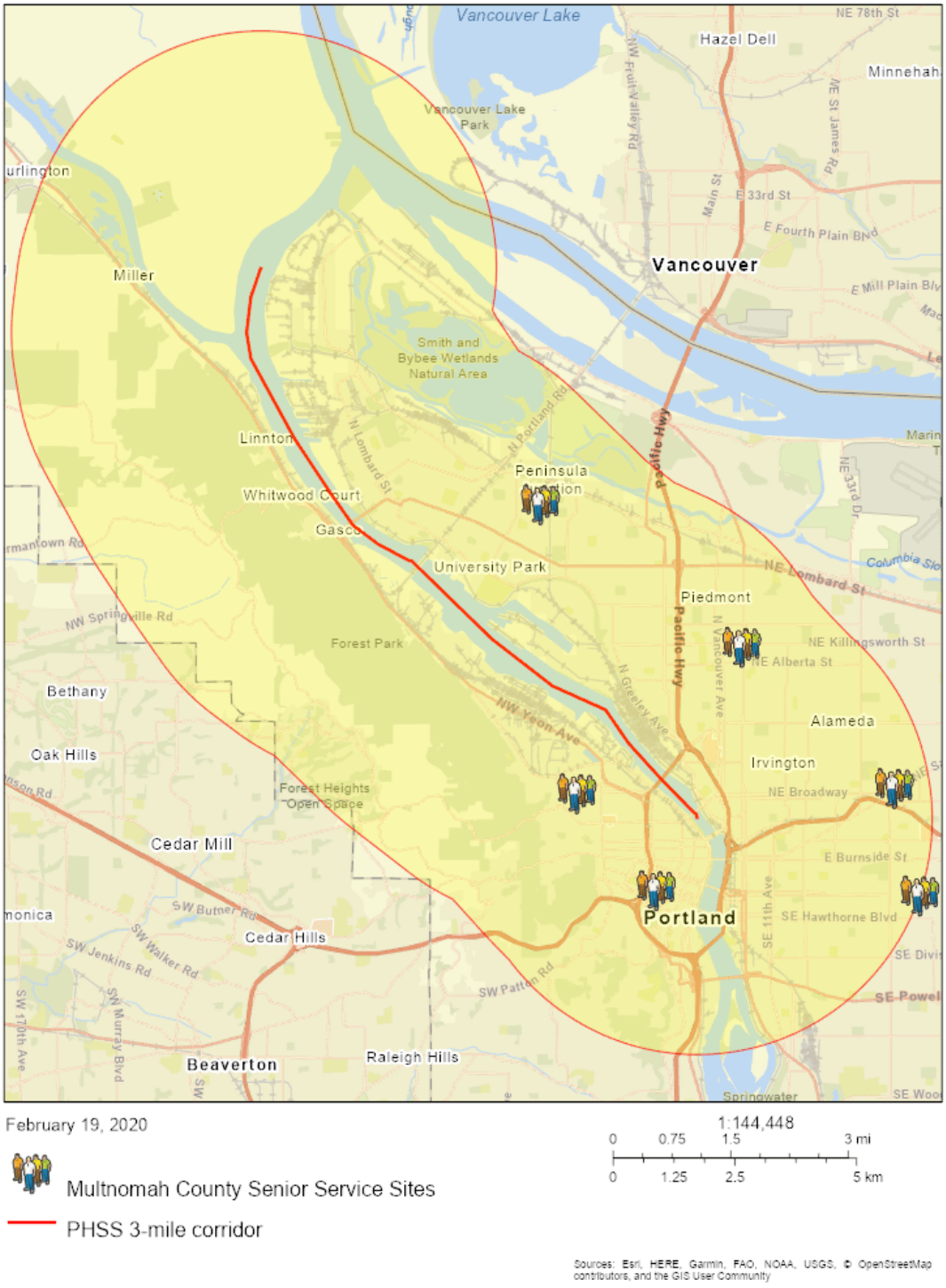
Figure 11. Public Schools Within a 3-Mile Radius of the PHSS



Senior Centers

While the EJSCREEN demographic indicator 'Population Over 64 Years of Age' was not flagged as particularly high, a better understanding of areas where senior citizens may gather is important because they are also a vulnerable population. As a result, Figure 12 below captures senior centers in the Portland area based on data from Multnomah County to assist EPA with outreach efforts (38).

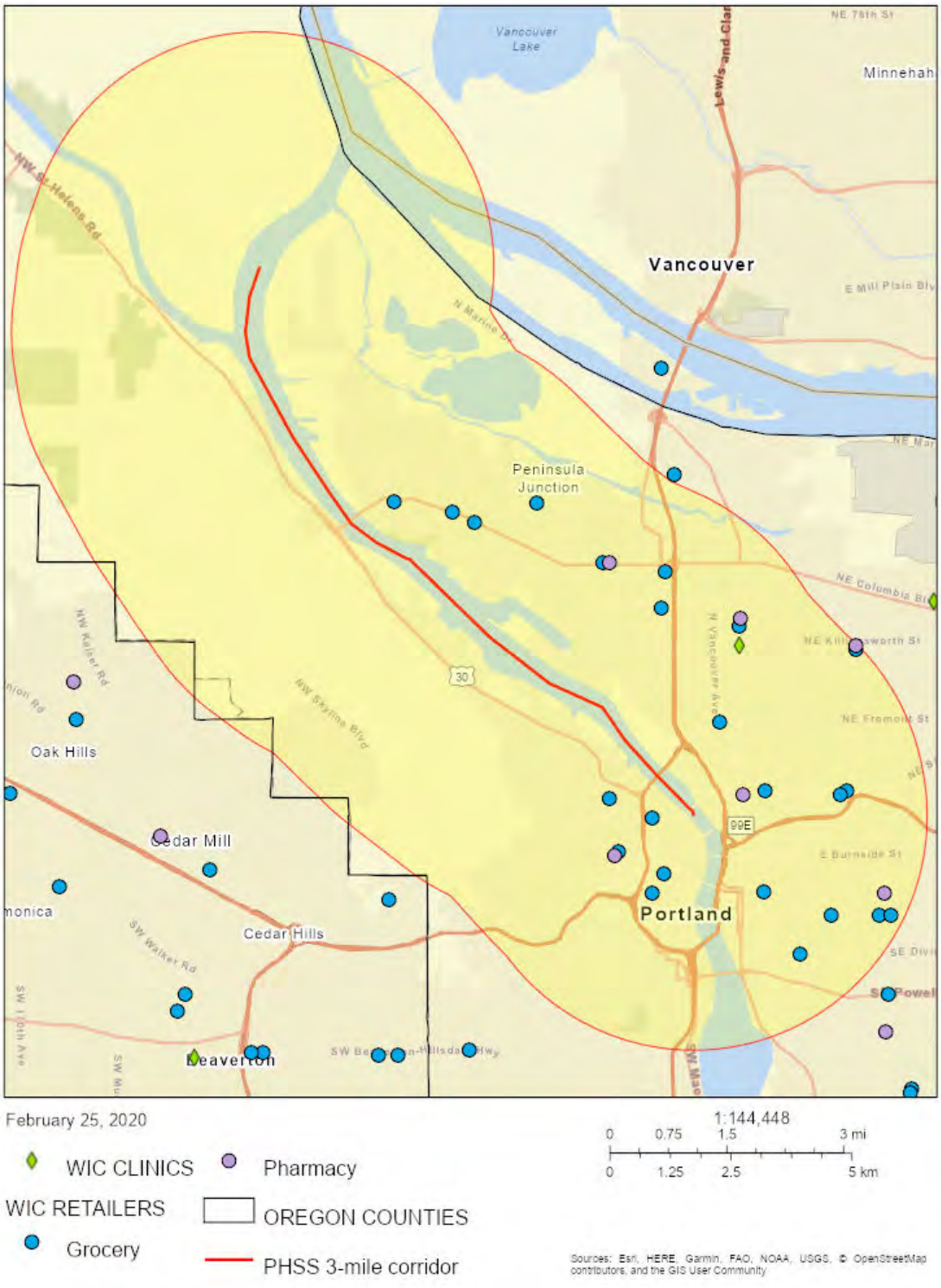
Figure 12. Senior centers within a 3-mile radius of the PHSS



Women, Infants, and Children (WIC) Clinics and Authorized Retailers

WIC locations are another excellent place to conduct health-related outreach to the PHSS by providing relevant materials and resources. Please note, there are WIC Clinics which provide nutrition counseling, and referrals to health care and social services and WIC Retailers which provide foods (primarily through retail grocery stores) (39). Figure 13 below captures these WIC locations using data from the Oregon Health Authority (40).

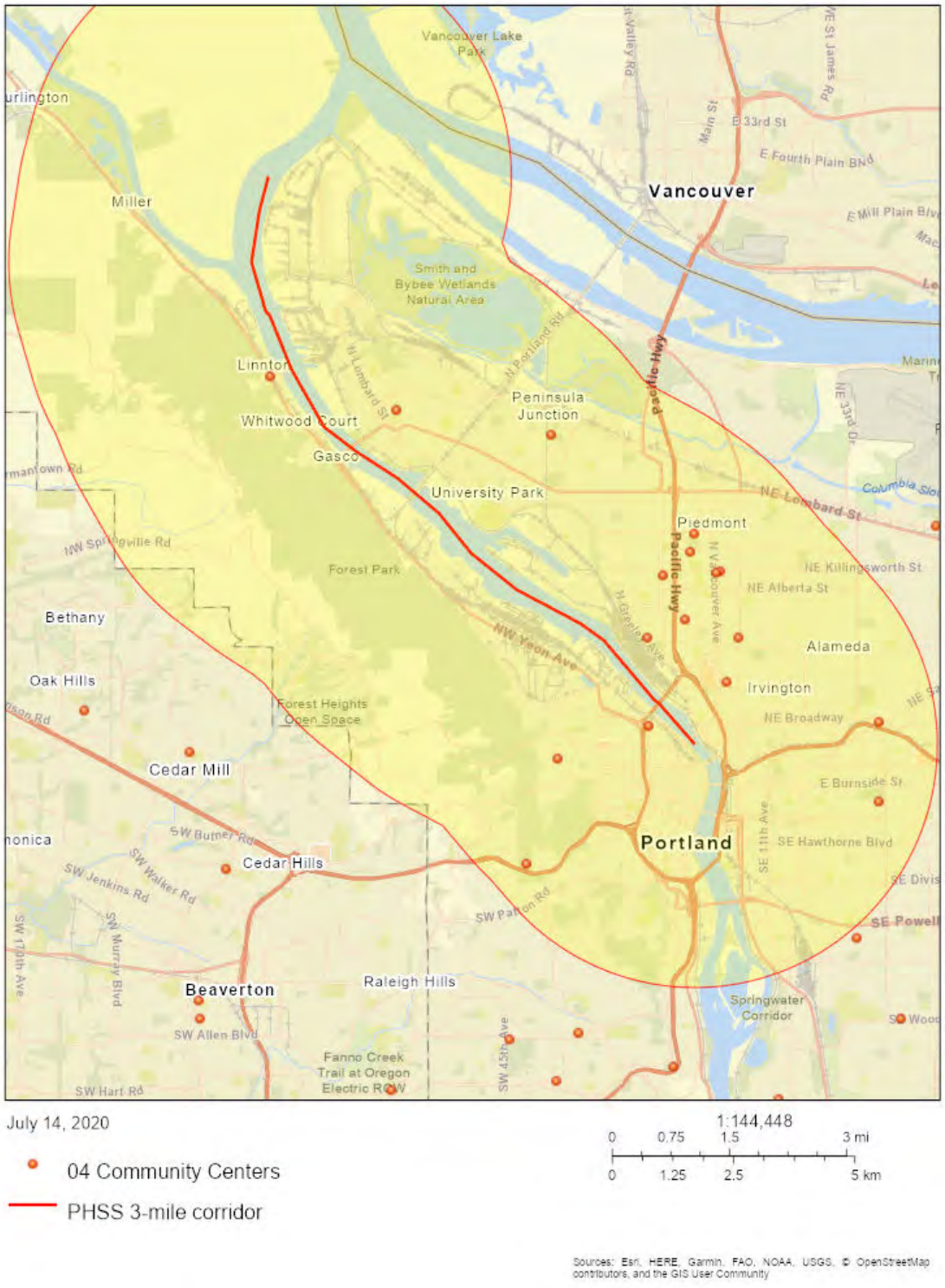
Figure 13. WIC Locations Within a 3-Mile Radius of the PHSS



Community Centers

EPA conducts some outreach by providing materials and hosting meetings in some Portland-area community centers. However, Figure 14 below provides a more comprehensive list of community centers based on data from Metro Regional Government so that EPA and other partners can better focus their outreach efforts (41).

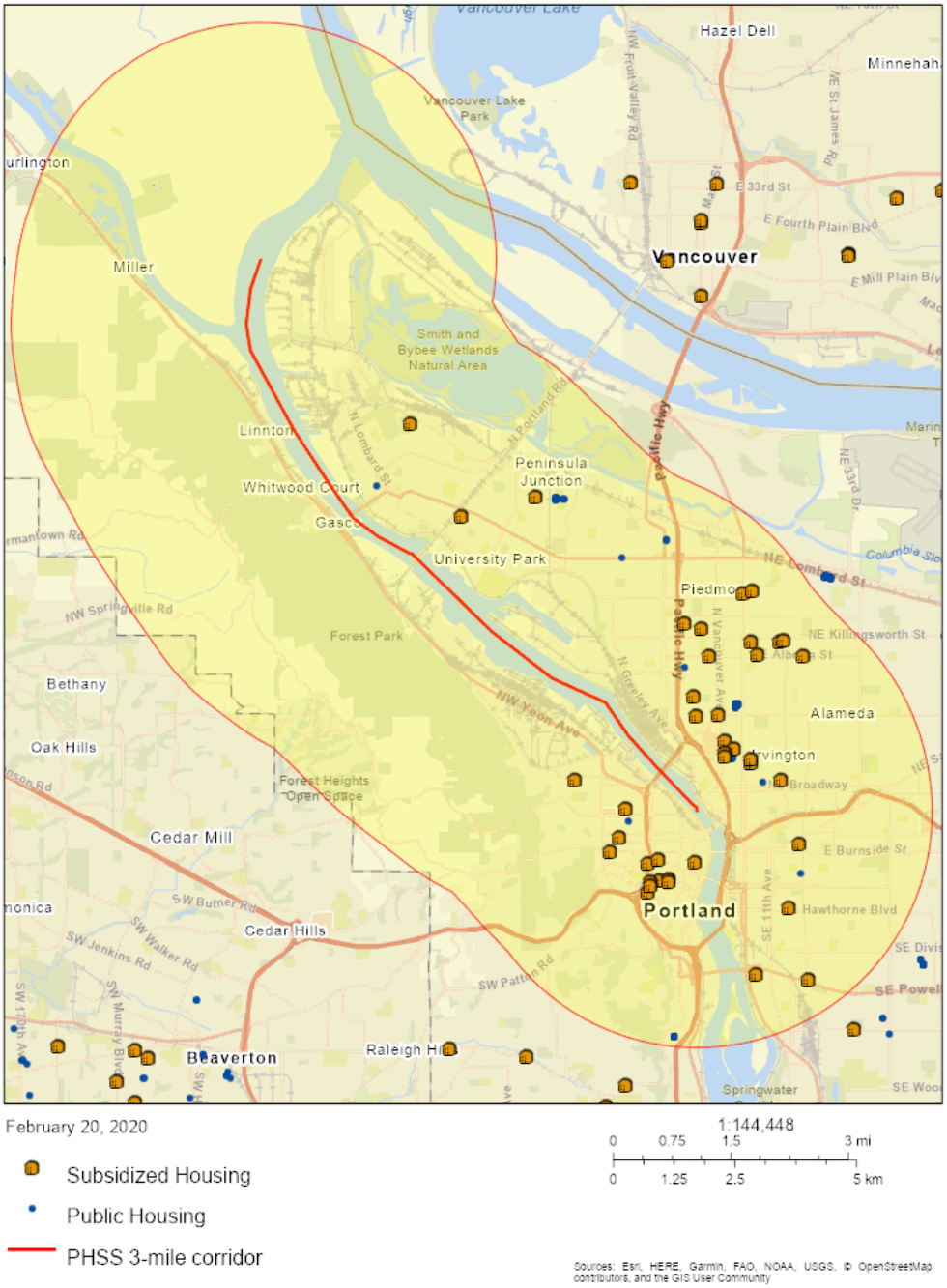
Figure 14. Community Centers Within a 3-Mile Radius of the PHSS



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. Nationally, more than half of families in public housing are led by someone who is 62 or older and/or disabled. Furthermore, roughly 65% of families in public housing are led by a person of color (42). Lastly, people residing in public or subsidized housing within 3-miles of the PHSS 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 upstream of the PHSS toward South Portland (Figure 15 below).

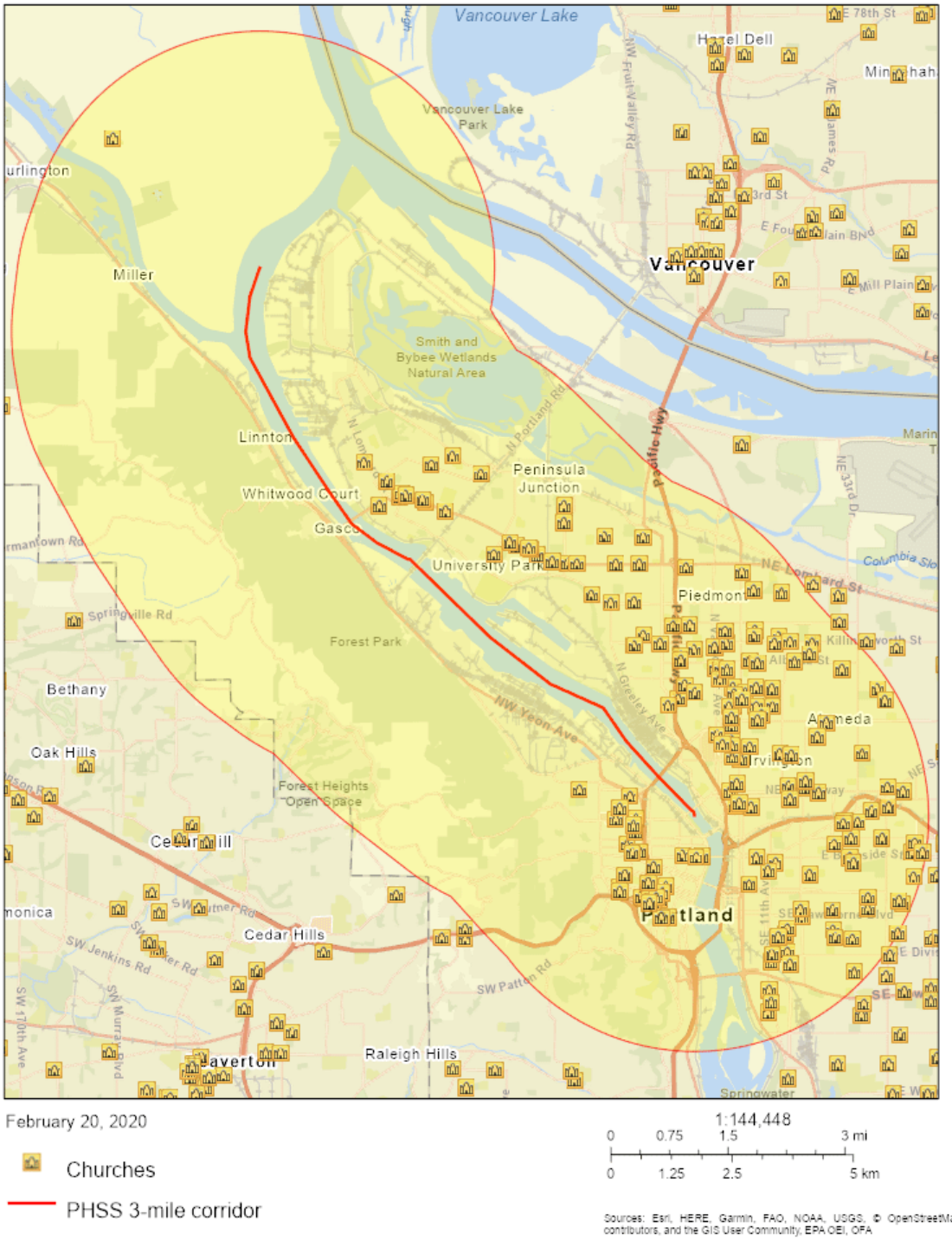
Figure 15. Public and Subsidized Housing Within a 3-Mile Radius of the PHSS



Churches or Faith-Based Institutions

Another piece of information provided in EJSCREEN is the location of churches or faith-based institutions. Churches and faith-based institutions were included as part of this overall EJSCREEN analysis because some research indicates that when health programs are developed or delivered in partnership with churches or faith-based institutions, health outcomes may improve (43). Additionally, churches and faith-based institutions may have existing programs and support for vulnerable populations. As a result, EPA, and other partners should consider reaching out to churches and other faith-based institutions as the PHSS cleanup moves forward to provide information and resources. EJSCREEN shows that more concentrated areas of churches and faith-based institutions are located upstream of the PHSS toward South Portland (Figure 16 below).

Figure 16. Churches within a 3-mile radius of the PHSS



Conclusion

This EJSCREEN review yields that there are communities located within a 3-mile area around the PHSS that are vulnerable to environmental injustices. This analysis is being used to help inform EPA's Community Involvement Action Plan (Section 7). Some specific considerations from this general EJSCREEN review include:

- Due to cautions and limitations regarding the use of EJSCREEN on a large area, EPA recommends performing project specific EJSCREEN reviews (see Section 7, Objective 7).
- Environmental Indicators are generally elevated for this area, particularly for Traffic Proximity and Volume, and NATA Diesel Particulate Matter (PM), both of which show indicators over the 90th percentile in the state.
- Demographic Indicators are slightly elevated for the Minority Population and the Linguistically Isolated Population when compared with the rest of Oregon State.
- Targeted outreach to schools, senior service sites, WIC locations, community centers, public and subsidized housing, and churches and faith-based institutions should be considered.

7. EPA's Community Involvement Action Plan

The Community Involvement Plan (CIP) Action Plan describes the methods the U.S. Environmental Protection Agency (EPA) will use to address concerns and meet the needs of the six federally recognized Tribes involved (the Tribes), communities, and neighborhoods now and as the cleanup proceeds in the Portland Harbor Superfund Site (the PHSS or the Site) over the coming years

Over the course of three years, EPA conducted extensive outreach with tribal members, tribal representatives, and community groups. Based on their ideas, questions, and requests EPA developed two main goals to achieve and seven supporting objectives with accompanying actions to implement and attain the identified goals as follows.

CIP Goals & Objectives/Actions:

GOALS

1. Educational Outreach: Establish, maintain, and expand educational outreach to the Tribes and communities.

2. Information Dissemination: Provide accurate and timely information through the avenues and in the formats best suited to reach all interested people.

OBJECTIVES/ACTIONS

1. Coordinate with the Tribes, community, neighborhood groups, the Oregon Department of Environmental Quality (DEQ), other government agencies, and potentially responsible parties (PRPs).

2. Attend tribal and community events and provide printed material.

3. Promote transparency, communicate early, provide opportunities for informal feedback, and inform of formal public comment periods.

4. Invite tribal members, tribal representatives, and community members to EPA-sponsored meetings and events, especially to quarterly meetings.

5. Support technical assistance needs and economic development opportunities.

6. Maintain accurate, thorough, and up-to-date information.

7. Apply specific Environmental Justice (EJ) actions for the Site.

Please see Table 7 below for details on the Objectives/Actions to achieve the Educational Outreach and Information Dissemination Goals for this Community Involvement Action Plan.

Table 7. EPA's CIP Action Plan

EPA's Community Involvement Action Plan

OBJECTIVES	ACTIONS
1 **Coordinate with the Tribes, community, neighborhood groups, DEQ, other government agencies, and PRPs.**	• Determine and implement the best ways to meet the Tribes' and community groups' needs for accurate and timely information on PHSS-related health and natural resource issues. • Coordinate with government agencies, Technical Coordinating Team (TCT) (which includes the Tribes), Portland Harbor Natural Resource Trustee Council, Traditional Ecological Knowledge (TEK), and PRPs on health and natural resource issues and fish and shellfish advisories. • Participate in individual government-to-government consultation with each of the Tribes involved at the PHSS. Either upon the request of the individual Tribe or by conducting outreach to each individual Tribe, request the opportunity to provide briefings to elected tribal leadership.
2 **Attend tribal and community events and provide printed material.**	• Inform the Tribes and community groups that EPA offers PHSS presentations, covering either the entire Superfund process, the cleanup process, or a project area-specific process. • Provide user-friendly fact sheets and maps during presentations and make these materials available online. • Offer presentations to schools, churches or faith-based institutions, and neighborhood associations; host tables at community events; participate in river tours and paddles; conduct one-on-one phone calls; utilize word-of-mouth; conduct additional interviews; convene focus groups; and, explore the use of art mediums. • Attend a tribal water ceremony (only if appropriate and if EPA is invited).
3 **Promote transparency, communicate early, provide opportunities for informal feedback, and inform of formal public comment periods.**	• Use communication principles (more detail provided below in Table 8). • Apply messaging actions, specifically strength-based language, e-mail, public notices, news releases, media, and traditional outreach (see Table8 below). • Use specific tools, such as developing a comprehensive and dedicated PHSS Web site, focusing on social media and online resources, creating fact sheets/ flyers/visual aids, supporting community science, and potentially using text alerts for tribal members, tribal representatives, and community members (see Table 8 below). • Focus on educational opportunities such as river tours and paddles, fish, and shellfish advisory work (by collaborating with other public agencies, specifically Multnomah County and the Oregon Health Authority), and public art (see Table 8 below). • Provide informal feedback opportunities during remedial design and remedial action and inform tribal members, tribal representatives, and community members of any opportunities for formal public comment (see Table 8 below).

OBJECTIVES	ACTIONS
4 **Invite tribal members, tribal representatives, and community members to EPA-sponsored meetings and events, especially to quarterly meetings.**	• Host quarterly meetings and community information sessions and integrate tribal perspectives. • In addition to ad-hoc or one-time presentations on various topics, EPA will inform the public of the overall progress of the cleanup, and will also provide information regarding specific project areas: 1) progress to date; 2) on-going planning, design, and negotiations; and, 3) future steps in the process.
5 **Support technical assistance needs and economic development opportunities.**	• Partner with groups that will further EPA's goals of educating and informing the public regarding the PHSS process: initiate Community Science programs; explore the possibilities of the Superfund Redevelopment Program; and, support the Superfund Job Training Initiative for workers in the Willamette Valley. • Maintain and support the Technical Assistance Grant (TAG) and Technical Assistance Services for Communities (TASC). • Collaborate with Oregon State University's Superfund Research Program. • Provide targeted technical support when needed (e.g., seismic activity, climate change, alternative technologies, etc.) • Establish a timeline for technical assistance needs and economic development opportunities to occur. • Encourage equitable workforce contracts, such as minority- or women-owned small businesses. • Consider utilizing community science, if applicable and appropriate.
6 **Maintain accurate, thorough, and up-to-date information.**	• Develop a PHSS Web site designed for easy access and use by the public, promoting clarity and transparency through clear messaging and offering an avenue for informal feedback. • Promote education/information access by compiling PHSS resources in one place such as the following: EPA PHSS public Web site link, the DEQ PHSS Uplands public Web site link, information about the quarterly Public Forums, and the links of other PHSS-related sites (e.g. the Portland Harbor Community Advisory Group). Consider providing this resource compilation in a useful format to distribute at tribal and community events. • Strive to update the CIP when new information is available or existing information changes. • Maintain Information Repositories (more detail below). • Work with other information sources for the PHSS to ensure consistent information (e.g., City and State Information Management Platform, etc.)

OBJECTIVES	STRATEGIES/ACTIONS
7 **Apply specific Environmental Justice (EJ) actions for the Site.**	• Conduct coordinated outreach with Multnomah County and the Oregon Health Authority (OHA) to tribal and community members who are catching, selling, and/or consuming resident fish and shellfish. • Evaluate air quality during remedial design. • Provide targeted outreach to schools, senior service sites, WIC (Women, Infant, and Children federal assistance program) locations, community centers, public housing and subsidized housing, and churches and faith-based institutions within a 3-mile radius of the PHSS. • Inform tribal members, tribal representatives, and community members of EJ grant opportunities. • Provide interpretation, translation, and community liaison services as appropriate. • Provide ongoing EJSCREEN training for tribal members, tribal representatives, and community members. • Support tribal and community leaders in another overall EJSCREEN review in which the tool incorporates updated information. • Support tribal and community leaders in project specific EJSCREEN reviews during remedial design and remedial action.

EPA may modify or add more goals, objectives, and strategies/actions as the cleanup process proceeds and coordination occurs with Tribes, community, and neighborhood groups, DEQ, and others to determine the best ways to meet these goals.

The following sections include detailed information on the above objectives and how EPA will implement the associated actions.

1 Coordinate with the Tribes, Community, Neighborhood Groups, DEQ, Other Government Agencies, and PRPs

EPA works with the Tribes and a variety of agencies, organizations, and PRPs to update community members and other interested groups (e.g., congressional representatives) about the status of the cleanup plan and to seek their input. EPA will continue this effort throughout the cleanup process while acknowledging that other entities' funding or other factors might limit their ability to participate fully. More information about this coordination is provided below.

Technical Coordinating Team (TCT) and Legal Coordinating Team (LCT)

As stated in Section 2, the TCT and LCT have express authority under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) due to their role as Natural Resource Trustees. The TCT reviews documents and plans, while the LCT reviews legal documents and participates in developing negotiation strategies. EPA will continue to uphold the 2001 Memorandum of Understanding (MOU) and keep the TCT and LCT well informed and involved.

The TCT meets twice a month and per the MOU is the primary means of coordination and communication of data and information concerning the Site by the respective Lead Agencies, the Tribes and Natural Resource Trustees. The TCT MOU has a section on confidentiality because some topics or documents that are reviewed may be "privileged and confidential" due to project status or ongoing negotiations. Final documents and agreements are made public.

As requested by communities through the interview process, EPA will provide regular community involvement updates to the TCT and, whenever possible, look for opportunities when community members can connect with TCT members.

The Tribes

As stated in Section 3, the Tribes are formally consulted as sovereign nations through a government-to-government consultation process with EPA at key points during the investigation, the analysis of alternatives, and the cleanup selection phases.

Additionally, EPA will continue to closely coordinate with the Tribes throughout the design, construction, and long-term monitoring of the PHSS cleanup via the TCT. EPA will rely on the tribal representatives to relay information on the cleanup to their membership. This close relationship with the Tribes will also help to address tribal issues and concerns (see Section 3). Specifically, through the TCT EPA plans to:

- Work with the Tribes during in-water work to minimize effects of the cleanup on migratory species and to be clear about the effects of the cleanup;
- Clarify the effects of the cleanup on salmon and lamprey;
- Provide updates on fish and shellfish advisory work by the Oregon Health Authority (OHA) and Multnomah County;
- Coordinate and discuss ways to maintain TEK; and,
- Keep the Tribes informed about other engagement opportunities (e.g., quarterly meetings and the potential Collaborative Group or Roundtable) so that their perspectives and input may be heard and considered in other venues.

Appendix C lists tribes and tribal organizations that EPA plans to work with and inform.

Community Groups

EPA understands providing information to community leaders so that they may disseminate this information to their groups is the most powerful and effective way to provide information about the PHSS cleanup. Appendix C also lists the community organizations that EPA plans to inform using this strategy. Some of the key community groups involved in the Site are described below:

- **Portland Harbor Community Advisory Group (PHCAG):** With a long history, PHCAG formed in 2002 to provide a public forum for community members to communicate, present, share information, become educated, and discuss their needs and concerns related to the Site (44).
- **Portland Harbor Community Coalition (PHCC):** Founded in 2012, PHCC focuses on elevating the most impacted groups (American Indians, African Americans, Black Americans, immigrants, and houseless communities) and advocates for a just and equitable cleanup (45).
- **Willamette Riverkeeper**: Willamette Riverkeeper has the sole mission to protect and restore the Willamette River and was founded in 2000 when the Site was first listed. Willamette Riverkeeper managed the EPA Technical Advisor Grant (TAG) for the Site until 2016 (46).
- **Portland Audubon**: With more than 100 years of advocacy work, the Portland Audubon has a long history with the Site and strives to protect birds, wildlife, and the natural environment upon which life depends (47).
- **Willamette River Advocacy Group (WRAG)**: Although its members have been involved in the Site cleanup for a long time, the WRAG formed in 2018. WRAG manages the TAG for the Site and is actively working with other key community groups to ensure that technical assistance information is shared with the broader Portland community (48).
- **Neighborhood Associations:** There are many neighborhood associations that have been involved in the Site cleanup. For a full list of these groups, see Appendix C.

Downstream Communities

Note that EPA does not expect the cleanup to have negative effects on downstream communities. EPA will be taking measures to protect the river during cleanup and prevent the migration of contamination.

Oregon Department of Environmental Quality

As previously mentioned, DEQ is responsible for the upland portion of the Site. These source control efforts will ensure that cleaned up areas are not re-contaminated and that the cleanup is effective over the long term. DEQ is also responsible for coordinating with state and local efforts such as the Oregon Plan for Salmon and Watersheds and the City of Portland Salmon Safe project. These projects help to ensure that work within the PHSS is linked to ongoing Willamette River restoration work.

Partnership with Local, Regional, State, and Federal Agencies

EPA recognizes that often jurisdictional boundaries and the scope of different local, regional, state, and federal agencies are not clearly understood because the natural resources within and outside the Site area are interconnected. As a result, EPA values its partnerships with other local, regional, state, and federal agencies. EPA strives to provide clear and consistent messaging whenever possible across all government organizations involved with the PHSS. EPA will strive to continue prioritizing this collaboration by supporting the efforts of the Public Agency Workgroup, coordinating with Public Health Agencies, and continuing to support the Willamette River Toxics Reduction Partnership.

City of Portland - Portland Harbor Community Involvement Program

Portland communities have long requested increased public engagement for the PHSS. In 2018, the City of Portland began working with community members to identify their priorities for the Superfund cleanup process. In 2019, the City launched a specific program to support involvement of overburdened communities and provide opportunities for public participation by those who will be impacted by the cleanup process. The City of Portland's Public Involvement Program is focused on improving Portlanders' understanding of the Superfund cleanup process, increased transparency in the process, and strong collaboration among public entities and Superfund-affected communities. The City has issued grants to advance these goals and involve community in the cleanup process.

Public Agency Workgroup

The cleanup of the PHSS is intended to provide long-term health improvements. However, there are many tribal and community concerns that involve multiple agencies or an agency other than EPA. As a result, EPA and its local, state, and other federal agency partners are working together to promote healthy living and well-being on a regular basis. In 2018, the State of Oregon Governor's Office formed a quarterly public agency workgroup with EPA, the Multnomah County Health Department (a local government agency), OHA (a state government agency), City of Portland, Port of Portland, DEQ, and the Oregon Department of Transportation. The goal of this group is to discuss tribal and broader regional community concerns and opportunities.

Public Health Agency Coordination

EPA works closely with the Agency for Toxic Substances, and Disease Registry (ATSDR, a federal government agency). Separately from EPA's work, OHA and ATSDR partnered to conduct a public health assessments for the PHSS. These Public Health Assessments cover health concerns related to fish and shellfish consumption and health concerns surrounding the East Parcel Beach portion of Willamette Cove (49,50). EPA will engage these agencies to help provide and explain existing health study work (including previous or future OHA and ATSDR Public Health Assessments) to tribal and community members. EPA will explain the differences between Public Health Assessments and EPA's PHSS risk assessment work. They will also work together to develop health messages and strategies for reaching out to communities within the Site and fisher communities.

Fish Advisory Workshop with the Multnomah County Health Department
photo credit: Multnomah County Health Department

Additionally, EPA coordinates with Multnomah County Environmental Health (MCEH) because they currently implement the interim Fish Advisory Outreach Program for the Site. The program was initially funded for two years by the City of Portland, State of Oregon, and Port of Portland to inform potentially impacted communities of their health risk when consuming fish and shellfish. MCEH took a Human-Centered Design approach to outreach by holding workshops from September 2018 to June 2019 where ideas were designed for and by the impacted

communities. The risk communication concepts will be prototyped, brought back to the community for input, and included in an ongoing communication plan. EPA will continue to work closely and support Multnomah County in these efforts.

Willamette River Toxics Reduction Partnership

While technically outside of the PHSS cleanup scope, the Willamette River Toxics Reduction Partnership developed a story map[42] as an alternative to a watershed plan to present information on toxics in the Willamette River and provide public education on reduction of toxics entering the PHSS. Further work to reduce inputs of contaminants of concern in the watershed will allow the cleanup of the Site to be more successful. The map contains information on historic and legacy sources of contamination of the river, perspectives from the Tribes on the importance of a clean river, and information on an environmental science mentoring program for youth of color. The link to the map can be found on the Willamette River Toxics Reduction Partnership[43] EPA Columbia River Web site.

Potentially Responsible Parties

There are more than 150 PRPs responsible for the PHSS contamination, including private and public entities. The EPA has detailed information on how to finds and identifies PRPs[44].

EPA encourages PRPs, both private and public, to engage with their communities on issues impacting them. EPA may coordinate with PRPs to conduct outreach to overburdened communities and potentially provide resources for community groups. EPA may also work with PRPs to increase transparency during both the remedial design process and remedial action work. EPA will also consider tools, such as its 2014 Community Engagement Initiative Enforcement Report (51), to help encourage more meaningful involvement of communities with PRPs early and often throughout the process.

2 Attend Tribal and Community Events and Provide Printed Material

EPA understands the importance of small-scale outreach to reach tribal members, tribal representatives, and community members who might not usually attend a formal meeting about the cleanup. As such, EPA will strive to attend at least four events and meetings per year and offer tabling, presentation, and education where people already gather. EPA will strive to rotate the events that it attends each year. A list of specific events is included in Appendix B, and feedback on events and meetings from interviewees is included below.

Tribal Membership Meetings

If invited, then EPA could attend Tribal Membership Meetings to provide updates and answer questions. EPA could attend these meetings if first requested by a tribe.

If Invited by the Tribes, Attend a Water Ceremony

A community group (not a tribal member) recommended that if (*emphasize "if"*) EPA is invited by a tribe, that EPA will strive to attend the water ceremony for the Willamette River that is periodically organized by the community and/or tribal members. Please note that this was not a request from the Tribes, but rather a community group, who stated that this experience might help to expand EPA's understanding of the water's significance to the lives of tribal members.

Neighborhood Association Meetings

EPA recognizes the importance of maintaining relationships, staying involved with the community, and providing informational updates to neighborhood associations. EPA acknowledges that neighborhood associations are volunteer-led, and EPA will support engagement to improve interactions regarding the cleanup. EPA will strive to offer support for neighborhood association meetings as requested and coordinate in advance to help contribute to increased participation. EPA will adjust the frequency of its attendance at neighborhood association meetings as

42 Link, story map: https://willametterivertoxicsreductionpartnership.org/ (note that this hyperlink may not be accessible on all internet browsers; please try Internet Explorer or Safari for access)

43 Link, Willamette River Toxics Reduction Partnership: https://www.epa.gov/columbiariver/willamette-watershed-toxics-reduction-partnership

44 EPA's Finding PRPs link: https://www.epa.gov/enforcement/finding-potentially-responsible-parties-prp

needed, update attendees on the cleanup progress, and provide an opportunity for attendees to ask questions and convey concerns to EPA.

Additionally, many of these groups maintain their own listservs and their members have access to neighborhood forums through newsletters and social media groups. EPA would like to use listservs to send messages to neighborhood associations that can be shared through their groups and on their Web sites. Some residents might prefer to receive information from their community sources instead of from EPA.

Youth Education and School Events

EPA will make project information available to schools to assist them in developing educational projects related to the PHSS. Educators and students may e-mail EPA at HarborComments@epa.gov for information or to request a visit or virtual presentation to their school from an EPA representative.

Engaging youth is a priority so that the next generations understand the many facets and overall importance of the PHSS cleanup. EPA realizes that opportunities to work with youth at the elementary, middle, and high school ages, as well as with college and university students, will support the ongoing success of the cleanup. EPA will consider supporting Science, Technology, Engineering, and Mathematics (STEM) student programs that reach youth of color and low-income communities. EPA will consider partnering opportunities with youth and students to help EPA reach their communities such as by providing tools or programs, disseminating information to schools, and providing kid-friendly materials (e.g., coloring books). EPA will also coordinate and collaborate with other organizations that are doing educational outreach, such as the City of Portland. EPA will support its partners in educational programming and if possible, consider scoping out its own educational program.

Children sitting under the St. Johns bridge, eating ice cream
photo credit: Sarah Taylor

EPA presents at the 2017 Children's Clean Water Festival at the University of Portland
photo credit: EPA

Churches or Faith-Based Institutions

EPA will also work with interested churches and faith-based institutions, such as mosques, synagogues, halls, temples, and others, to provide project information. Working with churches and faith-based institutions can be a good way to get connected with communities. This is especially true for specific cultures and communities that are faith oriented. However, some interviewees noted that when working with churches and faith-based institutions it is important to connect with an existing member to help disseminate information in coordination with the organization's leadership; otherwise leaders may not be receptive to providing information.

Other Events and Meetings

To ensure that impacted communities are educated on the cleanup, EPA staff members are available to meet or attend in-person or virtual events with local officials, tribal members, tribal representatives, stakeholder organizations, community or business leaders, media representatives, and others to provide briefings on various aspects of the PHSS cleanup. EPA will make every effort to accommodate these requests, based on staff availability. EPA can also work with DEQ, PHCAG, and PHCC to make these presentations available.

3 Promote Transparency, Communicate Early, Provide Opportunities for Informal Feedback, and Inform of Formal Public Comment Periods

Use Communication Principles

EPA will use the following principles when conducting tribal and community outreach:

- Focus on positive communication, use people's time wisely, and focus on highlighting significant changes.
- Strive for transparency while acknowledging difficulties with doing this in accordance with the 2001 TCT MOU.
- Acknowledge that there are other critical issues to the Tribes and communities; do not assume that the PHSS is their priority issue.
- Utilize a peer education model to educate tribal members, tribal representatives, and communities. Train them on what is important to convey to their peers.
- Build and work from accurate timelines. Timelines need to consider that there will regularly be tribal members, tribal representatives, and community members who need to catch up.
- Continue to assess interested parties to ensure that they want to be involved.
- Do not require individuals to provide their names and addresses.
- Ensure that translation and interpretation services are provided whenever requested or appropriate, per communication with the tribal members, tribal representatives, and community leaders.
- Use language that does not necessitate choosing between tribal interests and the economy; clean rivers are necessary for a strong economy.

In addition to the communication principles above, EPA will strive to implement many different messaging actions, specific tools, and education opportunities. Furthermore, EPA will provide informal feedback opportunities during remedial design and remedial action and inform tribal members, tribal representatives, and community members of any opportunities for formal public comment. Table 8 below provides more detail on this work.

Table 8. EPA's Messaging, Tools, Education, Informal Feedback Opportunities and Formal Public Comment Periods

MESSAGING

— Use Strength-Based Language

The use of strength-based language was a recommendation from some of the tribal interviewees; however, this principle can be applied to other community groups as well. "Strength-based language" is described as framing an issue or problem in terms of a solution or opportunity instead of focusing on the barriers. Another component of strength-based language is to actively engage and solicit feedback instead of presenting pre-developed solutions. An example of non-strength-based language would be, "Here are four solutions to Problem X. What do you think of these?" whereas a strength-based language example would be, "Even though EPA is here to lead this process, EPA would like it to be guided by local perspectives. What are some solutions you can see to Problem X?" In using strength-based language, EPA can seek to involve and collaborate with tribal members, tribal representatives, and community groups.

— E-mail

EPA maintains a PHSS e-mail distribution list (a free, subscription-based, and electronic news distribution system) to share regular updates related to the cleanup. Notifications and information for recipients to share with their internal networks are distributed through this listserv, including information about upcoming meetings. Numerous neighborhood e-mail addresses are included in these e-mails to ensure that the information is distributed accordingly. Contact HarborComments@epa.gov or the current EPA Community Involvement Coordinator (who should be listed on EPA's Portland Harbor Web site[45]) be added or removed from the listserv.

— Public Notices, News Releases, and Media

When appropriate, public notices will be developed and submitted to existing local newspapers, newsletters, diverse media channels, radio stations, and television to announce public meetings and other community involvement opportunities. EPA may provide additional updates and information to key newspapers, radio stations, and television channels.

— Traditional Outreach

During the cleanup, EPA will continue to use traditional outreach methods to provide information and notifications to tribal members, tribal representatives, and community members. EPA currently utilizes approaches such as one-on-one phone calls, word-of-mouth, and in-person check-ins to disseminate information. However, EPA has heard that relying solely on word-of-mouth is not always effective for the Tribes and a combination of methods is more appropriate. Since the life of this project is long-term, EPA will consider conducting future interviews or convening focus groups with the Tribes and interested community groups to gain feedback and improve upon ongoing outreach methods.

45 Link, EPA's Portland Harbor Web site: www.epa.gov/superfund/portland-harbor

TOOLS

— Dedicated Web site

EPA will develop a comprehensive and updated PHSS information Web site and will:

- ***Post fact sheets*** developed on topics related to the Site in a fact sheet library;
- ***Explore the possibility of creating a "search with a question" option*** (i.e., typing a question into the Web site and getting a response);
- ***Assess its ability or other interested parties' capabilities*** to communicate through crowd-sourced mapping Web sites like Hey Willamette![46]; and,
- ***Consider ways to share data as quickly as possible*** with the Tribes and community members; however, it is important to note that sampling data takes time to process due to EPA's rigorous quality assurance and quality control procedures. EPA notes that community leaders are particularly interested in updates on any air quality and sediment samples that are taken.
    - The City and State entered into an agreement[47] with EPA in November 2019 to develop the sitewide Institutional Controls Implementation and Assurance Plan and to scope an online information management platform that will serve a variety of information needs for the site. As this effort evolves, EPA will continue to look for opportunities to utilize this tool.

The Hudson River Superfund Site's data management Web site was suggested as an example that EPA could use for the PHSS Web site.[48]

— Social Media and Online Resources

The rise of digital forms of communication (e.g., Web sites and social media, such as Facebook, Instagram, Twitter, YouTube, vlogs/blogs, podcasts, and various phone applications (apps) such as Next Door) means many people in the Portland area rely less on traditional media. Many people in the Portland area turn to social media and online resources to communicate or supplement written information sources. EPA disseminates important information and/or meeting notices on EPA's social media pages and through the points of contacts who manage various neighborhood social media groups and/or other online resources. EPA will not use social media as a communication tool in place of more traditional channels, and EPA's use of social media regarding the PHSS will be additive.

— Fact Sheets and Flyers

PHSS fact sheets and flyers are principal tools for providing site-related information to the community. EPA will create fact sheets and flyers, as events dictate, to advertise upcoming meetings or in response to community requests for specific kinds of information. EPA will strive to develop documents that:

- Summarize technical information through easy to understand language and high-level, factual, neutral, and succinct messaging;
- Include visuals, graphics, photos, definitions, and large print text (see below for potential types of visual aids); and,
- Include agency contact information and refer people to the Site Web site for more technical information.

EPA will decide the best way to disseminate fact sheets and flyers by:

- E-mailing directly to the PHSS mailing list, posting to the Site Web site in the fact sheets library, mailing to residents, and/or providing at meetings; and,

46 Hey Willamette! is a mapping program for community members and stakeholders to monitor environmental health issues in the PHSS (60).

47 Administrative Settlement Agreement and Order on Consent for Remedial Design of Site-Wide Institutional Controls Implementation and Assurance Plan and Information Management Plan: http://semspub.epa.gov/work/10/1566107.pdf

48 EPA cannot locate the current Hudson River Superfund Site Web site to provide a link in this document.

- Translating factsheets and flyers into other languages[49] as needed in consultation with the communities.

— Visual Aids

Visual aids may be used as a tool in communicating information regarding project work areas, processes, and technologies related to the cleanup. EPA will collaborate with partners and interested tribal and community leaders to develop informational posters on the cleanup that may be posted in community gathering places (e.g., neighborhood centers, community clubs, tribal centers, along the river, and in other areas). EPA also plans to develop a map of the Site with interested tribal members, tribal representatives, and community members and other partners that recommends areas for walking and other recreation activities. Updates of this map may be needed throughout the cleanup process.

To better tell the story about the PHSS cleanup, EPA can develop a short, engaging video to describe the Superfund process, how the PHSS became a Superfund site, how it is being cleaned up, and how people can get involved with the cleanup. EPA will consider producing video recordings with partners that describe project activities, such as data sampling, options for cleanup, reasons why certain methodologies are being used, timelines, timeframes, costs, and the monitoring plan for polychlorinated biphenyls (PCBs) in sediment and in fish and shellfish tissue.

— Community Science

EPA supports the use of community science in projects where applicable and appropriate (52). Community science covers a suite of innovative tools to enable the public to apply their curiosity and contribute their talents to science and technology. For the PHSS, many interviewees suggested that community science could be a way for students to learn more about the Site. While data collected from community science projects generally will not be used for remedial design or remedial action, EPA is supportive of scoping out potential community science projects to help the tribal members, tribal representatives, and community members learn more about the Site. For example, in other areas EPA has supported the development and use of the Local Environmental Observer (LEO)[50] that can be used to crowdsource information from local communities and topic experts on unusual animal, environmental, and weather events by sharing stories and pictures. This tool could be used at Portland Harbor, depending on community interest.

— Text Alerts for Tribal Members, Tribal Representatives, and Community Members

Tribal members, tribal representatives, and community members suggested text alerts to keep people informed about important and current information for Portland Harbor. EPA will work with its partners to explore the possibility of using this tool in the future. Additionally, EPA will adapt to evolving communication and technology developments over the coming years.

EDUCATION

— River Tours and Paddles

EPA will continue to collaborate with other agencies and groups that provide river tours and paddles, such as Portland Audubon, Willamette Riverkeeper, PHCC, the PHCAG, and others. EPA fully supports bringing people to the river and showing them the project area firsthand. This method of outreach will be focused on communities that may not be familiar with the project, such as children, colleges and universities, and houseless communities. EPA will strive to widely advertise any opportunity for a river tour to reach as many audiences as possible.

— Fish and Shellfish Advisory

As heard during interviews with community members, educational programs are an integral piece to ensuring human health within the PHSS; however, the Tribes stated the need for caution and coordination as EPA works

49 Some community leaders suggested that materials be translated per the Oregon State Elections Division, which now mandates materials be provided in six languages (Spanish, Chinese, Vietnamese, Russian, Somali, and English). Other languages suggested included Arabic, traditional script Chinese for older community members, and simplified Chinese for younger community members. Depending on outreach work, Burmese and Bhutanese may be beneficial for translation because these immigrant populations are growing in Portland.

50 Link, LEO Network: http://www.leonetwork.org/en/#lat=56.29442&lng=-158.4038&zoom=7

on this task. EPA will work with public health agencies to simplify and improve existing signage. For example, EPA will continue to partner with the Multnomah County Fish Advisory Program to post fish and shellfish advisory signage where people moor their boats, in parking lots at docks, and at piers. As described in Sections 3 and 4, EPA will support ongoing efforts to improve the understanding of the signs by creating visuals, making the information easy to understand and convenient to carry around (e.g., pocket guides), and offering the information in numerous languages. Lastly, EPA will improve fish and shellfish consumption education on when it is and is not safe to eat the fish and shellfish, how to prepare fish and shellfish, and how consuming contaminated resident fish and shellfish affects pregnant women and nursing infants.

A piano art piece by the river
photo credit: Sarah Taylor

— Art

EPA recognizes that the integration of art into infrastructure and community projects can be effective in educating and engaging community members. For example, EPA and its partners could connect with art residencies focused on the river. This might include a mural to show the history of the river. When possible, EPA will try to incorporate art projects into its community outreach work and support art projects.

INFORMAL FEEDBACK OPPORTUNITIES AND FORMAL COMMENT PERIODS

— During Remedial Design

There is no legal requirement to hold a formal comment period during the remedial design phase, but public notice of remedial design completion is required.

However, EPA knows that informal feedback allows the Tribes and communities to better understand the cleanup process and gain trust and confidence. Informal feedback also allows EPA to consider incorporating and integrating feedback into design plans (53). These open and transparent feedback loops are imperative to building trust and knowledge. During the remedial design phase, although it is not required, EPA will strive to:

- ***Use quarterly meetings and encourage information sharing programs*** to increase community education and capacity.
- ***Work with performing parties to share remedial designs in their conceptual phase and receive informal feedback that may influence the final design of the cleanup.*** Per EPA's remedial design agreements, if requested by EPA, then performing parties must conduct community involvement activities under EPA's oversight (51). Specific examples of this community involvement support during remedial design are outlined below:
    - As remedial design agreements are signed, EPA will strive to provide joint fact sheets with performing parties that explain the agreement and will maintain these fact sheets throughout the entire cleanup process.
    - At a minimum, EPA will encourage and work with performing parties to provide an information session to the public before or at the time the 30% design phase is complete or earlier depending on the agreement and area for each agreement that is signed by performing parties for remedial design at the PHSS. EPA plans to take and consider informal feedback during the information session and for a period after the session to be determined on a case-by-case basis. EPA will strive for 60 days based on community feedback. While EPA is not required to incorporate any feedback received, EPA will use the feedback to inform the remedial design process whenever possible.
- ***PRPs may provide additional information sessions and outreach to community leaders*** on an as-needed basis, depending on availability, and resources. Ideally, these information sessions could be incorporated into the existing EPA-led meetings. One example of planned additional outreach by PRPs is at the in-water Willamette Cove project area of the PHSS. At this location, the Willamette Cove In-Water Remedial Design Group (City of Portland, Port of Portland, and State of Oregon, through its Department of State Lands) have outlined a robust approach to meaningful community involvement by committing to build community

capacity on remedial design topics, providing regular updates, making site information understandable and more accessible.

- ***Hold additional information sessions during the design process,*** as appropriate, or during the release of major milestones.
- ***EPA senior leadership at headquarters and within the region will strive (whenever possible) to have face-to-face meetings*** with tribal members, tribal representatives, and community members.

EPA will continue to review this CIP and determine if it should be revised to describe further public involvement activities specific to the remedial design work when public involvement is not already addressed or provided for in the existing CIP. EPA will encourage timely and relevant informal feedback during this process.

— Prior to or During Remedial Action

Remedial action (RA) refers to the actual construction or implementation phase of a Superfund site cleanup that follows the remedial design (RD). **Formal public comment *may* be taken** prior to RA for different reasons. Information gathered during remedial design could lead to the decision that a significant or fundamental change to the Record of Decision (ROD) is appropriate. Fundamental changes to amend the ROD require a proposed plan and formal public comment before any final decision can be made. If any formal public comment is required, EPA will work with tribal members, tribal representatives, and community members to inform them of these required comment periods.

Prior to or during the RA phase, EPA may settle the liability of PRPs either through administrative agreements or judicial consent decrees. PRPs who agree to perform RA must do so through a judicial consent decree. Before any type of settlement can be finalized, **public comment *is* required**. EPA will conduct outreach to inform tribal members, tribal representatives, and community members of their opportunity to provide public comments for at least 30 days on any administrative and judicial settlement of liability.

Once RA begins at the Site, EPA plans to coordinate with all performing parties to provide regular updates about ongoing RA activity. Depending on the area and tribal and community interest, EPA may also coordinate with performing parties to provide supplementary information sessions during RA and collect informal feedback on an as-needed basis.

Remedial Design and Remedial Action Phases Explained

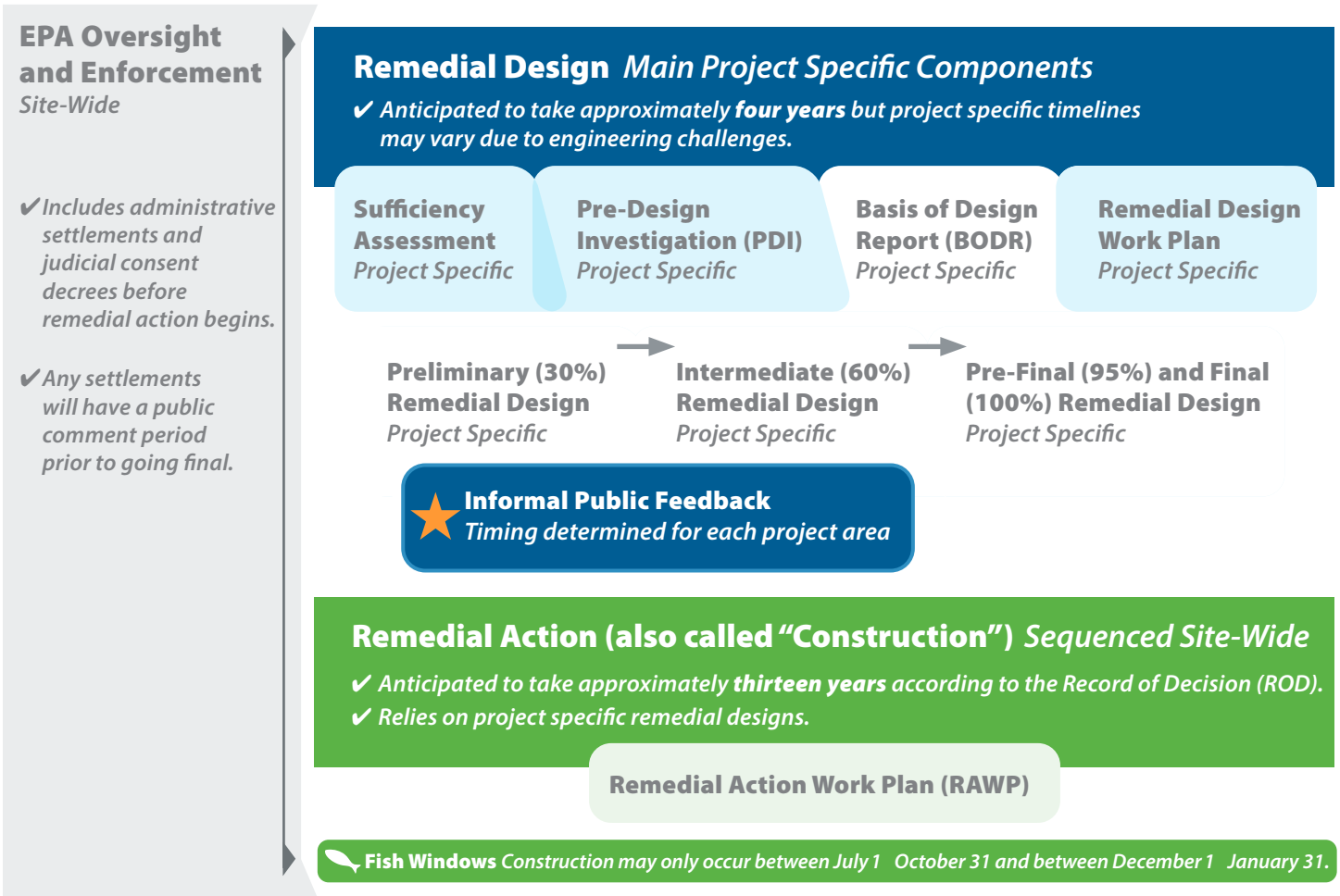
This CIP is designed to help inform the community on the remedial design (RD) and remedial action (RA) phases of the cleanup. As such, the ten key components of the RD and RA phases are outlined below. At most, if not all, of the PHSS project areas, EPA anticipates that performing parties (also referenced as 'working parties') will be completing these components with EPA oversight. Please note that depending on the project area, additional information may be needed outside of these main components.

1. **Sufficiency Assessment (SA):** An assessment that determines that the sources of contamination are sufficiently controlled before remedial action begins.
2. **Pre-Design Investigation (PDI):** An investigation that addresses data gaps by conducting additional field investigations.
3. **Basis of Design Report (BODR)**: A report that refines the specific project area for cleanup, also called the sediment management area (SMA).
4. **Remedial Design Work Plan (RDWP)**: A work plan that is prepared to provide an overall plan for remedial design activities that draws from information in the BODR.
5. **Preliminary (30%) Remedial Design (RD):** An initial (30%) draft of the remedial design plan.
    - **Informal Public Feedback (Specific to the PHSS):** For the PHSS, EPA will encourage and work with performing parties at each project area to provide an information session to the public before or at the time the 30% design phase is complete (or earlier depending on the agreement and area). EPA plans to take and consider informal feedback during any information session.
6. **Intermediate (60%) Remedial Design (RD):** This document continues to refine and improve the preliminary (30%) remedial design plan.

7. **Pre-Final (95%) and Final (100%) Remedial Design (RD):** The pre-final or final RD document provides a detailed design for the work to be accomplished during remedial design. The document refines and improves the intermediate (60%) remedial design plan. The Pre-Final RD will serve as the approved Final (100%) RD if EPA approves the Pre-Final RD without comments. Performing parties shall submit the Final (100%) RD for EPA approval.
8. **Administrative Settlements and Judicial Settlements for Remedial Action (RA):** EPA may settle the liability of PRPs:
    - **Formal Public Comment Periods for Settlements:** Any settlement will have a public comment period of at least 30 days regarding the settlement, typically not the cleanup, prior to finalization. EPA will conduct outreach to notify tribal members, tribal representatives, and community members of any upcoming formal public comment periods. Comments on the remedial design plans will not be useful at this phase. Informal feedback on remedial design plans should be provided to EPA at or before the Preliminary (30%) remedial design phase for each project area.
9. **Remedial Action (RA) Work Plan (RAWP):** Once the settlements are signed and entered, a RAWP will be developed to provide specific details on the implementation of the remedy to meet the remedial objectives.
10. **Remedial Action (RA) Begins:** During remedial action activity at the PHSS, EPA plans to provide regular updates. It is also important to note that due to the fish in the river, construction can only occur between July 1–October 31 and between December 1–January 31 (these are called "fish windows" so that there are dedicated times, even when construction work begins, when fish passage may still freely occur).

Below in Figure 17, please find these key components of remedial design and remedial action, represented in a visual format.

Figure 17. Simplified Remedial Design and Remedial Action Process for the PHSS



4 Invite Tribal Members, Tribal Representatives, and Community Members to EPA-Sponsored Meetings and Events, Especially to Quarterly Meetings

Formal meetings are structured meetings convened by EPA, either in-person or via the Internet (e.g., webinars). They are open to the public and feature education, presentations, and interaction with EPA, DEQ, the community, PRPs, and other parties as appropriate. In collaboration with the Tribes and communities, EPA will provide interpretation services upon request or need.

Portland Harbor Public Forum

Since 2018, EPA has held quarterly public forum meetings in partnership with DEQ and the PHCAG. Public forum meetings are opportunities to update the public on Site developments, address community questions, build relationships, as well as hear concerns, ideas, and informal feedback. Public forum meetings involve the use of a neutral third-party facilitator and note-taker with the issuance of a high-level meeting summary. Community leaders provide input on the agenda topics for these public forum meetings to ensure the format and topics are relevant and of interest to the community. EPA also works to provide potential agenda topic suggestions for PHCAG meetings because not all topics may be covered at Public Forums. EPA will ensure that future public forums are held at venues that are Americans with Disabilities Act (ADA)-compliant and that these public forums are well advertised. Please note that EPA's policy currently places strict limits on the Agency directly providing food at external events; however, there is a potential for groups working with EPA to donate food at external events. In the past, under CERCLA, EPA conducted formal public meetings for the PHSS cleanup's Proposed Plan and ROD. The current format of the public forum meetings is not intended to be used for public comments. Public comments, unless otherwise specified, occur outside of the public forum meetings. EPA will offer virtual or webinar options for public forums that pose challenging in-person circumstances (i.e., COVID-19).

Public Forum, December 11, 2019
photo credit: EPA

Community Leaders Group (CLG)

Starting in 2018, EPA established the Community Leaders Group (CLG) based on recommendations heard during the interviews while developing the CIP. Many community leaders requested dedicated time with EPA and DEQ to better understand cleanup information. The CLG convenes interested community leaders, EPA, and DEQ to hear updates on the PHSS, ask questions, make comments, and share information separately from the public forum. Community leaders provide input on the agenda topics. Like the public forum meetings, the CLG meetings occur on a quarterly basis, utilize a neutral third-party facilitator and note-taker with the issuance of a high-level meeting summary. EPA will offer virtual or webinar options for CLG meetings that pose challenging in-person circumstances.

CLG Meeting on September 11, 2019
photo credit: EPA

Consider Convening a Collaborative Group or Roundtable

During the interview process, many interviewees recommended formation of a "Collaborative Group" or "Roundtable" to move the PHSS cleanup forward. In summary, the recommendation was that EPA, with support from DEQ, convene an inclusive group of representatives, including the agencies, communities, tribal members, and tribal representatives, and PRPs. The group could discuss the following: human health; remediation, environmental and ecological health, and redevelopment; upland source control; and, other related priorities. Additionally, community leaders stated that the group could transparently share information, provide opportunities for feedback and responsiveness, and strive to consider common ground whenever possible. The Collaborative Group could provide recommendations on topics such as cleanup schedule options and whether members have specific

preferences (e.g., 24-hour days to get cleanup done faster or shorter days for a longer period), whether construction will be disruptive to local businesses, and how to minimize the impacts to communities.

One important suggestion for the group identified by interviewees was the potential to offer compensation for participants. Offering optional participant compensation might increase participation from community groups. This would provide government agencies with the tools to build sustainable relationships with community-based organizations (CBOs) and ensure that their valuable time was respected. Unfortunately, EPA cannot directly provide this compensation, but EPA may explore other methods to potentially achieve this goal. The CLG is continuing discussion on this topic; however, at the meeting on December 11, 2019, the Community Leaders Group recommended to EPA and DEQ that this "Collaborative Group" take form and replace the CLG and the current public forum. It is requested that the Collaborative Group meetings take place in an ADA-accessible venue. As with other meetings that EPA convenes, it will hold these meetings virtually if circumstances make an in-person meeting untenable.

Tribal Member Considerations for Collaborative Group or Roundtable

During community interviews with some tribal members, specific considerations and suggestions were provided for a potential Collaborative Group or Roundtable including the following:

- The Collaborative Group or Roundtable will not replace government-to-government consultation.
- If tribal members participate in a Collaborative Group or Roundtable, then this should not be considered a government-to-government meeting or consultation. Only meetings with elected tribal leaders (or their designees) would constitute a government-to-government meeting.
- Tribal elders should not be held to a time limit when they speak. If tribal elders attend, then they should be able to speak for as long as they want.

5 Support Technical Assistance Needs and Economic Development Opportunities

Technical Assistance

EPA will work to make technical assistance information, resources, and products available to the community by using tools in Section 7, Objective 5 of this CIP. This includes coordinating Web postings or providing written summaries of these materials to groups that will help disseminate the information to their members. EPA also offers a variety of technical assistance programs to communities affected by Superfund cleanup efforts. Information about the Technical Assistance Services for Communities program and Technical Assistance Grants are below.

Technical Assistance Services for Communities

The Technical Assistance Services for Communities (TASC) is a program that provides independent assistance through a national 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 technical support, such as a technical expert, development of materials, etc., to review and explain information to communities. The services are determined on a project-specific basis and are provided at no cost to communities. This assistance supports community efforts to get more involved and work productively with EPA to address environmental issues. TASC services can include information assistance and expertise, community education, information assistance, needs evaluations, plan development, and assistance to help community members work together to participate effectively in environmental decision-making.

For example, the PHCAG and other community leaders initially requested that EPA's TASC program conduct a technical review of the PHSS ROD with the objective of helping the CAG understand the decisions in the ROD and, more specifically, how community concerns and comments were addressed. A TASC technical advisor reviewed commenter files shared by EPA and community group representatives and consulted with PHSS community group representatives by conference call and e-mail to develop a summary of how EPA addressed community concerns, and provided suggested actions for EPA to consider. The TASC technical advisor identified six primary community concerns and outlined how the ROD discussed these concerns in a report (in both English and Spanish) and shared them during the May 10, 2017 Portland Harbor CAG meeting.

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 cleanup proposals and decisions. This federal grant is typically awarded to an incorporated nonprofit organization of community members affected by a Superfund Site and may be renewed as needed. At the PHSS, the Willamette Riverkeeper managed the grant from 2001 until 2016. The WRAG was officially awarded the grant in September 2018 and currently manages it in 2020. By law, EPA only awards one TAG per Superfund Site at any one time.

Targeted Technical Support

EPA understands that there are many technical questions that are currently worrying tribal members, tribal representatives, and community members and that additional technical questions will continue to emerge as the PHSS cleanup continues. EPA will strive to provide timely technical support for these topics when needed in whatever format works best. For example, per community leader feedback, EPA addressed the topics of earthquake activity and climate change considerations during remedial design and the use of alternative technologies at the September 2019 Public Forum.

Oregon State University's Superfund Research Program

The National Institute of Environmental Health Sciences (NIEHS) houses the Superfund Research Program (SRP) to learn more about ways to protect the public from exposure to hazardous substances that are found at hazardous waste sites throughout the United States. The Oregon State University (OSU) Superfund Research Center, "PAHs: New Technologies and Emerging Health Risks" is a part of the NIEHS SRP and works to understand community concerns on the PHSS in collaboration with EPA and other groups. As the cleanup moves forward, EPA will continue to collaborate with OSU's SRP on technical issues (such as PCB volatilization) and facilitate community engagement in the cleanup.

Economic Development

Economic development and job creation are important to communities affected by the cleanup. There are two EPA-supported grant programs that address job opportunity interests in the community: (1) Superfund Job Training Initiative; and, (2) Environmental Workforce Development and Job Training. EPA also strives to consider how the local and regional workforce may be employed at the PHSS whenever possible and encourages equitable workforce contracts, such as contracting with minority- or women-owned small businesses. Although there is no formal program or regulation, in the past, EPA worked with PRPs who wanted to hire community members for sampling work on the PHSS. For example, EPA suggested members of the Oregon Bass and Panfish Club would be best suited for catching and collecting fish samples because of their local knowledge of the Willamette River. Additionally, EPA wants to consider having community-based translation and interpretation support for the efforts at the PHSS.

Superfund Job Training Initiative

The Superfund Job Training Initiative (SuperJTI) program combines extensive classroom instruction with hands-on training exercises for each participant. SuperJTI graduates have the technical skills to work on a broad range of construction, environmental remediation, and cleanup projects at Superfund sites. This national EPA contract provides job training to communities affected by hazardous waste sites. EPA also uses its community involvement program to create partnerships with local businesses, community organizations, and federal agencies to develop and support job training. The training for this program includes numerous potential elements. For example, it might include training focused on the following: job readiness and pre-employment skills; Hazardous Waste Operations and Emergency Response (HAZWOPER); CPR/First Aid; asbestos operations and maintenance; Occupational Safety and Health Administration (OSHA); construction safety; flagging; and, fall protection.

While EPA does not anticipate many jobs to be directly associated with the PHSS work, EPA hopes to use SuperJTI training periodically throughout the cleanup process provided funds continue to be available for the program. EPA will encourage performing parties and contractors to hire locally but cannot require parties to do so. While the SuperJTI process facilitates job placement, there are no guarantees. To maximize opportunities to place trainees in jobs soon after completion of training, local partnerships strive to coordinate training with the available jobs in the community. The goal of SuperJTI is to help participants get a "foot in the door." As of 2020, EPA is working to scope

out the possibility of a SuperJTI pilot during remedial design. EPA recognizes that the SuperJTI program is a priority for community members and will strive to provide adequate support so that this program is successful at the PHSS.

Environmental Workforce Development and Job Training

Environmental Workforce Development and Job Training (EWDJT) is an EPA program that provides direct funding for support on such projects as environmental job training. This program provides grants that allow eligible entities, including nonprofit organizations, to recruit, train, and find jobs for people living in areas affected by solid and hazardous waste. The program especially supports people who are low-income, unemployed, under-employed, and/or people of color. Residents learn the skills needed to secure full-time, sustainable employment in the environmental field, including assessment and cleanup work taking place in their communities. Each EWDJT grant may be funded up to $200,000 over a three-year period. Oregon Tradeswomen, one of EPA's PHSS community partners, currently manages this grant.

Some community interviewees discussed developing Community Benefits Agreements (CBAs) to create more holistic workforce opportunities. EPA would not have a role in creating or developing a CBA; however, EPA could potentially provide performing parties with a model CBA for their independent consideration. A CBA is a legally enforceable contract signed by community groups and a developer that requires the developer to provide specific amenities and/or mitigations to the local community or neighborhood. CBAs can include long-term workforce job training, fair living wages, and developer partnerships with overburdened community-owned and/or small businesses. This approach is desirable because it encourages supplier diversity, works with labor unions, develops inclusive career pathways for disadvantaged communities by using existing pre-apprenticeship programs, trains organizations, supports sustainable procurement, and creates pathways to union wage jobs. With these practices, expertise will be gained by the community and the industry that would have otherwise been missed. Communities stated that with this local focus, it will be essential for local union leaders and historically disadvantaged contractors to be included. The messaging needs to be communicated through trades programs with much advance notice.

Superfund Redevelopment Initiative

The Superfund Redevelopment Initiative (Superfund Redevelopment) has helped communities reclaim and reuse thousands of acres of formerly contaminated land (54). Through an array of tools, partnerships, and activities, Superfund Redevelopment provides local communities with new opportunities to grow and prosper. Thinking about reuse during cleanup makes sure future uses will be safe and compatible with site remedies. It also helps remove barriers that have kept areas vacant or underused for decades. Reusing sites makes a visible difference in communities. It enables job opportunities, strengthens local economies, and provides priority services.

6 Maintain Accurate, Thorough, and Up-to-Date Information

Community Involvement Plan (CIP)

As additions, changes, and improvements to the CIP are identified, EPA will strive to update the CIP as necessary, notify the public of changes via the e-mail distribution list and other communication channels, and post the revised version of the document on EPA's PHSS Web site. Updates may include tools and plans that are developed for the remedial action phase of the cleanup.

Information Repositories

In addition to the main online information repository on EPA's Web site, EPA maintains a hard copy location for information called an information repository. The repository contains hard copies of major site documents, fact sheets, and other relevant items. As needed and as space allows, EPA may also provide hard copy information at other physical locations, such as Multnomah County neighborhood libraries.

In addition to the PHSS Web site, EPA has established two information repositories located at:

- **EPA Region 10 Oregon Operations Office**
  805 SW Broadway St., Suite 500
  Portland, Oregon 97205
  503-326-3250 (please call for an appointment)

- **EPA Region 10 Superfund Record Center**
  1200 6th Avenue, Suite 155
  Mail Stop CRC 16-C09
  Seattle, WA 98101
  Phone: 206-553-4494
  Toll-free: 800-424-4372 x 4494
  (please call for assistance)
  E-mail: R10_SF_Records_Center@epa.gov

Freedom of Information Act (FOIA)

Some documents, while publicly available, may not be intended for public posting and take significant resources for EPA to release. In these cases, a FOIA request may be necessary. Overall information about how to submit a FOIA request to EPA is available at: www.epa.gov/foia/foia-request-process. Please note that you may also submit a FOIA request online at https://foiaonline.gov/foiaonline/action/public/request.

Online Resources

As described earlier in this CIP, EPA heard feedback during multiple interviews that its main PHSS Web site is not easy to navigate or use. EPA will work to do the following:

- Update the main EPA PHSS Web site with current documents;
- Work to improve EPA's existing PHSS Web site in consultation with tribal members, tribal representatives, and community members as well as other partners via transparent and timely postings of relevant documents;
- Update all online PHSS platforms with community feedback and input;
- Continue working with the City of Portland and the State of Oregon to develop the Institutional Controls Implementation and Assurance Plan (ICIAP) and the Information Management Plan (IMP);
- Explore creating another platform to house information from CLG meetings, public forums, and potential Collaborative Group meetings;
- Maintain up-to-date links to other partner agency Web sites and resources (refer to Appendix B for a Preliminary List of Community and Tribal Events and Specific Outreach Channels); and,
- Provide up-to-date information on signed agreements and integrate this into a visual. For example, utilize a story map of the Site. This might include a user approach such as clicking on a site-specific area to display the agreement signed, performing parties involved, upcoming opportunities for input, meetings, events, and a deeper level of data that is accessible and easy to find online.

7 Apply Specific Environmental Justice (EJ) Actions for the Site

Based on the concerns and issues raised in Sections 3 and 4 relating to environmental injustice and the EJ Review in Section 6, EPA recommends undertaking the actions below at the PHSS.

Conduct Coordinated Outreach with Multnomah County and the Oregon Health Authority to Tribal Members, Tribal Representatives, and Community Members Who Are Catching, Selling and/or Consuming Resident Fish and Shellfish

Based on the information collected in this CIP and from the work that Multnomah County continues to conduct on understanding how different tribal members, tribal representatives, and community members are catching, selling and/or consuming resident fish and shellfish, EPA will continue to use appropriate channels to support the dissemination of information to these people (see *Appendix B* for culturally specific events and outreach activities). EPA will also continue to support Multnomah County, the Oregon Health Authority, and other partners in providing education and information about fish and shellfish consumption throughout the PHSS cleanup.

Evaluate Air Quality During Remedial Design

In the Superfund program, green remediation[51] is the practice of considering all environmental effects of remedy implementation and of incorporating options to minimize the environmental footprints of cleanup actions. EPA

51 Link, Green remediation: https://clu-in.org/greenremediation/

plans to evaluate air quality during design with green remediation considerations (e.g., haul routes, emissions controls, alternative fuels). Green remediation is specifically cited in the ROD (Section 14.2.12).

Provide Ongoing EJSCREEN Training for Tribal Members, Tribal Representatives, and Community Members

One of the most powerful aspects of EPA's EJSCREEN tool is that anyone may use the tool and run an analysis. The tool is built so that tribal members, tribal representatives, and community members may apply the tool to their own work. While EPA has provided EJSCREEN training in the past, additional training is necessary. Furthermore, specific concerns and issues may be covered in this training, such as the pros and cons of utilizing a larger radius for an EJSCREEN review.

Provide Ongoing Targeted Outreach to Schools, Senior Service Sites, WIC Locations, Community Centers, Public and Subsidized Housing, and Churches Within a 3-Mile Radius of the PHSS

The EJSCREEN review highlighted many different facilities within a 3-mile radius of the PHSS where EPA could provide targeted outreach. EPA will work with its partners to make connections and build relationships with these locations and appropriately apply this CIP's goals, objectives, and actions, such as providing tools and materials in appropriate languages.

Support Tribal Members, Tribal Representatives, and Community Members in Another EJSCREEN Review When the Tool Incorporates Updated Information

Due to limitations when using EJSCREEN for a large area (such as the full PHSS), EPA recommends focusing future EJSCREEN reviews on a project-specific basis (please see "Support Tribal Members, Tribal Representatives, and Community Members in Project-Specific EJSCREEN Reviews During Remedial Design and Remedial Action" below). However, EPA also recognizes that value exists in seeing a holistic EJSCREEN review for the entire PHSS area. New information from census data and other sources will cause periodic updates to EJSCREEN over the years. For example, the City of Portland is actively working to increase the amount of public and subsidized housing in Portland, which may affect EPA's outreach efforts for the PHSS cleanup (55). When these updates occur, it is important that EPA supports tribal members, tribal representatives, and community members in conducting updated Site-wide analyses.

Inform Tribal Members, Tribal Representatives, and Community Members of Environmental Justice Grant Opportunities

Several grant opportunities exist for communities with environmental injustice concerns, and EPA will work to inform the tribal members, tribal representatives, and community members of these opportunities and clarify grant announcement materials as needed. This includes the Urban Waters Small Grants,[52] Environmental Justice Small Grants Program,[53] Environmental Workforce Development and Job Training, and the Environmental Justice Collaborative Program-Solving Grant Program.

Provide Translation and Interpretation Services as Appropriate

EPA will continue to provide translation, interpretation, and services when requested by tribal members, tribal representatives, and community members through the Limited English Proficiency program within EPA's Office of Civil Rights. However, EPA will also strive to use community-based translation and interpretation services whenever possible. As previously stated in this CIP, based on community interviews, it is recommended that EPA consider having materials available in Spanish, Chinese (traditional script for older community members and simplified for younger community members), Vietnamese, Somali, Russian, and Arabic (56). Depending on outreach work, Burmese and Bhutanese may be beneficial to translate because these immigrant populations are growing in Portland. Other languages for interpretation and translation will be considered in consultation with the tribal members, tribal representatives, and community members.

52 Link, Urban Waters Small Grants: https://www.epa.gov/urbanwaters/urban-waters-small-grants

53 Link, Environmental Justice Small Grants Program: https://www.epa.gov/environmentaljustice/environmental-justice-small-grants-program

Support Tribal Members, Tribal Representatives, and Community Members in Project-Specific EJSCREEN Reviews During Remedial Design and Remedial Action

During remedial design and remedial action, EPA plans to support project specific EJSCREEN reports with the goal of helping to inform the use of the tools and activities identified in Section 7 of this CIP. At the time of this CIP, multiple project areas are already undergoing remedial design, and EPA plans to work with community leaders and PRPs who are performing parties (as appropriate) to prepare EJSCREEN reports for those areas using the approach outlined below in Table 9. As additional agreements are signed for remedial design, EPA hopes to support the community in continuing this approach.

Table 9. Proposed Approach for EJSCREEN Reviews of Specific Project Areas

Five Steps
1. Designate a 1-mile and 3-mile radius around the specific action area and run an EJSCREEN report.
2. What do traffic data show (environmental indicators) regardless of the percentile?
3. What languages are spoken by those who self-identify as "speak English less than very well"?
4. How many schools and educational facilities, senior service sites, WIC locations, community centers, public housing and subsidized housing projects, and churches are within a one-mile and 3-mile radius of the area?
5. For each school and educational facility within a 3-mile radius, consider conducting a separate 1-mile and 3-mile EJSCREEN buffer around that facility. Also, consider the additional questions below for the new areas: a. Which locations have environmental factors at or above the 80th percentile? b. What is the educational attainment for each area? c. What are the language issues (Limited English Proficiency or LEP) related to the area? d. What languages are spoken by those who self-identify "speak English less than very well"?

Conclusion of Community Involvement Plan

The Community Involvement Plan (CIP) Action Plan (Table 7) addresses the tribal and community concerns in Sections 3 and 4 with the community involvement objectives and actions identified in Section 7. EPA recognizes the public's need for two-way communication about decisions being made regarding the Portland Harbor Superfund Site and the Tribes and communities' opportunities to be involved in that process. EPA is currently working to implement the CIP Action Plan and will continue to do so throughout the project.

As additions, changes, and improvements to the CIP are identified, EPA will update it, notify the public of changes via the listserv and other communication tools, and post the revised version of the document on EPA's PHSS Web site. Before revising the CIP, EPA will determine whether additional community interviews are necessary.

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APPENDIX LIST

- **APPENDIX A:** Details of Neighborhoods Directly Bordering or Near the Site
- **APPENDIX B:** Preliminary List of Community and Tribal Events and Specific Outreach Channels
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APPENDIX A:
Details of Neighborhoods Directly Bordering or Near the Site

Please Note: This appendix does not include all Portland neighborhoods. The neighborhoods included in this appendix are the ones discussed during community interviews or during the review of the Community Involvement Plan (CIP). These neighborhoods will give the reader a better idea of the Portland community. EPA recognizes that other neighborhoods, including those outside the Portland area, may be affected by the Portland Harbor Superfund Site (the PHSS or the Site).

Neighborhood	History/Background
Boise, Humboldt, Eliot	**Location:** The Eliot, Boise, and Humboldt neighborhoods are in Northeast Portland. Eliot is on the eastern bank of the Willamette River. **Early History:** The Eliot, Boise, and Humboldt neighborhoods were part of the historic Albina District. The City of Albina was founded in 1873 and in July 1891 the city was annexed by the City of Portland. The African American and Black American community grew slowly in Albina until World War II, when a large influx of African American and Black American workers moved to Portland to fill jobs for the local war effort (1). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Boise, Humboldt, Eliot neighborhoods characteristics include: • **Population:** 13,612. • **Adjusted Density** (excluding parks and industrial tracts): 9,758 people per square mile. • **Racial/Ethnic Diversity:** 31% people of color. • **Income:** Median household income of $67,173; 17% below federal poverty level. • **Housing:** 40% owner-occupied; 60% renter-occupied. **Community Details to Note:** • The construction of the Memorial Coliseum and Interstate-5 in the 1950s and 1960s displaced much of the African American and Black American population (2). In the mid-20th century, White developers began buying up cheap land, leveraging urban renewal dollars to build condominiums, restaurants, and boutiques. This further displaced the African American and Black American community to Portland's outskirts (1). • North Mississippi Avenue in the Boise Neighborhood is a popular retail street with eclectic stores. Historically, this street was home to many African American and Black American-owned businesses before government megaprojects, urban renewal policies, and white developers displaced many African American and Black American residents (3). • The Humboldt neighborhood is home to Portland Community College Cascade Campus. • The Legacy Emanuel Medical Center occupies eight square blocks in the Eliot neighborhood.

Neighborhood	History/Background
Cathedral Park	**Location:** Cathedral Park is a narrow neighborhood that runs along the east banks of the Willamette River in northern Portland. **Early History:** Cathedral Park was originally a fishing and camping site for local tribes. In 1806, William Clark and eight men camped in the current Cathedral Park neighborhood. In 1847 the founder of St. Johns, James John, trapped and hunted on the site and operated a ferry to the fishing town of Linnton across the Willamette River (4). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Cathedral Park neighborhood characteristics include: • **Population:** 3,825. • **Adjusted Density** (excluding parks and industrial tracts): 10,655 people per square mile. • **Racial/Ethnic Diversity:** 30% people of color. • **Income:** Median household income of $52,150; 17% below federal poverty level. • **Housing:** 45% owner-occupied; 55% renter-occupied . **Community Details to Note:** • Baltimore Woods is a 30-acre area of woods. • The well-known Cathedral Park is a 23-acre waterfront park on the Willamette River below the St. Johns Bridge with one of Portland's two boat launches on the river (5). • Willamette Cove is a 27-acre former industrial site and current urban natural area.
Kenton	**Location:** Kenton is in North Portland on the west bank of the Columbia River. Hayden Island is directly east of Kenton. **Early History:** The town of Kenton was built near the confluence of several rail lines and near the Columbia River, so shipping via rail or water was very convenient for the businesses that settled here. In the early 20th century, Kenton became a company town for the meat packing industry. In 1915, Portland annexed Kenton and it continued to be an industrial area (6). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Kenton neighborhood characteristics include: • **Population:** 8,150. • **Adjusted Density** (excluding parks and industrial tracts)**:** 7,736 people per square mile. • **Racial/Ethnic Diversity:** 29% people of color. • **Income:** Median household income of $63,050; 13% below federal poverty level. • **Housing:** 68% owner-occupied; 32% renter-occupied. **Community Details to Note:** • This neighborhood contains the Portland Expo Center. • In 1942, the Expo Center detained Japanese Americans who the U.S. government forced into internment camps across the West.

Neighborhood	History/Background
Linnton (including part of Forest Park's hills)	**Location:** Linnton runs north to the edge of the City of Portland border (almost to Sauvie Island), west through Forest Park's hills, south past the St. Johns Bridge, and east to the Willamette River. **Early History:** The Linnton neighborhood was established as a city in 1843. Linnton was then annexed into the City of Portland in 1915. This neighborhood was historically a diverse immigrant community and home to logging, shipbuilding, and lumber mills. **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Linnton neighborhood characteristics include: • **Population:** Approximately 1,080. • **Adjusted Density** (excluding parks and industrial tracts): 366 people per square mile. • **Racial/Ethnic** Diversity: 13% people of color. • **Income:** Median household income of $97,321; 7% below the federal poverty rate. • **Housing:** 87.5% owner-occupied; 12.5% renter-occupied. **Community Details to Note:** • Located close by the white cylindrical "tank farms," which is where 90% of the entire Pacific Northwest region's fuel source is stored. The tanks are stored on liquefiable soils and in an earthquake zone. • The widening of St. Helens Road (Highway 30) to include four lanes displaced many local businesses and residents, as well as agricultural farms in the area. • The Linnton Community Center hosts a Hungry Families Program through their food pantry and provides ABC University Preschool-Spanish Exposure for low-income residents.
Northwest	**Location:** The Northwest neighborhood is in Northern Portland on the western banks of the Willamette River. It borders the northern edge of Downtown Portland. **Early History:** In the 1850s Captain John Couch laid out his land claim in the 200 x 200-foot block that became the southern and eastern part of the Northwest Portland neighborhood. 1883 brought the first streetcar line in the neighborhood on Norwest 23rd and Burnside (7). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Northwest neighborhood characteristics include: • **Population:** 15,647. • **Racial/Ethnic Diversity:** 18% people of color. • **Adjusted Density** (excluding parks and industrial tracts): 15,597 people per square mile. • **Income:** Median income of $77,192; 10% below federal poverty level. • **Housing:** 36% owner-occupied; 64% renter-occupied. **Community Details to Note:** • This neighborhood is adjacent to Portland's famous Forest Park. • In October 2000, the Alphabet Historic District was placed on the National Register of Historic Places. • Northwest 23rd and Northwest 21st streets are lined with boutiques and restaurants.

Neighborhood	History/Background
Old Town/Chinatown	**Location:** Old Town/Chinatown is in the northwest quadrant of Portland, adjacent to Downtown Portland. It is on the western bank of the Willamette River. **Early History:** In the 1800s, three identifiable Cantonese-Chinese ethnic communities developed in downtown Portland. Captain John Couch established Old Town/Chinatown in the 1840s. These communities worked Cantonese urban vegetable farms until about 1910. These communities became the nucleus for modern-day Chinatown (8). The area has undergone gentrification and changes in the past decades (9). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Old Town/Chinatown neighborhood characteristics include: • **Population**: 3,558. • **Racial/Ethnic Diversity:** 22% people of color. • **Adjusted Density** (excluding parks and industrial tracts):19,077 people per square mile. • **Income:** Median household income of $40,070; 27% below federal poverty level. • **Housing:** 25% owner-occupied; 75% renter-occupied. **Community Details to Note:** • The Chinatown Museum celebrates Chinese American history, art and culture, and tells the stories of Portland's historic Old Town Chinatown. • The Lan Su Chinese Garden is an authentically built Ming dynasty-style garden with covered walkways, bridges, and pavilions. • This neighborhood is home to Portland's famous Saturday Market, the largest continuously operating open-air arts and crafts market in the country (10).
Overlook	**Location:** Overlook is in North Portland on the eastern banks of the Willamette River. The neighborhood includes Swan Island, which juts out into the Willamette River. **Early History:** The Overlook neighborhood once belonged to the city of Albina which was consolidated into Portland in the early 1890s. Once a rural farming community, the Overlook neighborhood grew into a more urban locale with the expansion of streetcar lines (11). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Overlook neighborhood characteristics include: • **Population:** 3,644. • **Adjusted Density** (excluding parks and industrial tracts): 6,983 people per square mile. • **Racial/Ethnic Diversity:** 30% people of color. • **Income:** Median household income $60,089; 12.3% below the federal poverty level. • **Housing:** 47% owner-occupied; 53% renter-occupied. **Community Details to Note:** • Thomas Jefferson (Jefferson) High School is the closest public high school and 74% of the student body are students of color, the majority of which are African American and Black American.

Neighborhood	History/Background
Pearl District	**Location:** The Pearl District is on the northern edge of Downtown Portland on the western bank of the Willamette River. **Early History:** The Pearl District was established in 1869 as a residential neighborhood. Around the turn of the century, the Pearl District became a center of industry and a bustling transportation hub (12). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the Pearl District characteristics include: • **Population:** 7,948. • **Racial/Ethnic Diversity:** 17% people of color. • **Adjusted Density** (excluding parks and industrial tracts)**:** 7,861 people per square mile. • **Income:** Median household income of $47,895; 20% below federal poverty level. • **Housing:** 29% owner-occupied; 71% renter-occupied. **Community Details to Note:** • The Pearl District is known for its art galleries, restaurants, and shopping.
Sauvie Island	**Location:** Sauvie Island is in unincorporated Multnomah County and is outside the Portland Neighborhood Association boundary. However, the southern tip of Sauvie Island borders the PHSS. Sauvie Island is on the northwest side of the river, where the Willamette River feeds into the Columbia River. **Early History:** Sauvie Island was originally inhabited by the Multnomah Tribe of the Chinook Indians. Lewis and Clark explored the island in 1805 and 1806 and named it Wappatoe Island. Most of the Multnomah Tribe were killed by the ague epidemic spread by white settlers. In the 1830s, Laurent Sauvé arrived on the island to establish a dairy, hence the name Sauvie Island (13). **Statistics:** According to the 2013-2017 American Community Survey (ACS), except where noted that 2010 Census data is used, Sauvie Island characteristics include: • **Population:** 888 (according to the 2010 Census; note that no ACS data was available) (14). • **Adjusted Density** (excluding parks and industrial tracts)**:** 81 people per square mile. • **Racial/Ethnic Diversity:** 6% people of color. • **Income:** Median household income of $77,614; 8.5% below federal poverty level. • **Housing:** 81% owner-occupied; 19% renter occupied. **Community Details to Note:** • Sauvie Island receives up to 20,000 summer visitors in a day.

Neighborhood	History/Background
St. Johns	**Location:** The St. Johns neighborhood is located on the northern end of Portland, positioned between the Columbia and Willamette Rivers. St. Johns includes large wetlands and natural areas. **Early History:** St. Johns originated as a separate settlement from Portland. The city of St. Johns was named for James John, who came to the area in 1846 and opened a store soon after he arrived. St. Johns became a city officially in 1865. In 1915, both St. Johns and its neighbor across the river, Linnton, approved annexation to Portland (15). **Statistics:** According to the 2013-2017 American Community Survey (ACS), the St. Johns neighborhood characteristics include: • **Population:** 7,512. • **Adjusted Density** (excluding parks and industrial tracts)**:** 10,263 people per square mile. • **Racial/Ethnic Diversity:** 39.7% people of color. • **Income:** Median household income of $61,452; 16.3% below the federal poverty level. • **Housing:** 55.4% owner-occupied; 44.6% renter-occupied. **Community Details to Note:** • The St. Johns neighborhood has been affected by the displacement, relocation, and diaspora that has occurred throughout Portland (information provided by a community member). • Although many low-income housing projects have been built, they are not located on the main throughway where public transportation is available (information provided by a community member). • St. Johns Bizarre and Parade is one of Portland's longest-running parades with a variety of craft vendors (16).
University Park	**Location:** University Park is in Northern Portland along the eastern bluff of the Willamette River. **Early History:** University Park's original farmland was mapped out for development in 1891. Portland Archbishop Alexander Christie took over the site and originally created Columbia University (later renamed University of Portland) (17). **Statistics:** According to data from the 2013-2017 American Community Survey, the University Park neighborhood characteristics include: • **Population:** 6,354. • **Racial/Ethnic Diversity:** 24% people of color. • **Adjusted Density** (excluding parks and industrial tracts): 9,159 people per square mile. • **Income:** Median household income of $66,296; 21% below federal poverty level. • **Housing:** 64% owner-occupied; 36% renter-occupied. **Community Details to Note:** • This neighborhood is home to the University of Portland, which includes 4,200 students and 300 faculty.

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APPENDIX B:
Preliminary List of Community and Tribal Events and Specific Outreach Channels

From the collective knowledge and brainstorming of all the interviewees for this Community Involvement Plan (CIP), the U.S. Environmental Protection Agency (EPA) compiled a list of tribal and community events in the Portland area in this appendix. As part of EPA's action plan in this CIP, EPA will strive to review this list before the start of every year with tribal members, tribal representatives, and community members and will do its best to attend up to four events every year (in-person and/or virtually). It is EPA's hope that this list will continue to expand and grow over time and that other groups may utilize this list to help with their own outreach efforts. It is important to note that this Appendix will need to be updated on a regular basis to ensure that the organizations and associated Web sites are current.

Tribal Events *(annual, year-round or most of the year)*

- Pow Wows *(six-to-twelve annually)*
- Pow Wows in Oregon[1]
- Monthly North American Youth Association (NAYA) Portland Youth & Elders Council[2] Meetings *(2nd Tuesday of the month; EPA could speak, must coordinate well in advance)*
- Fishers Meetings
- Willamette River Blessing
- Tribal Council Meetings
- General Council Meetings
- Harvest Meetings *(quarterly)*

photo credit: Portland Harbor Community Advisory Group

Tribal Events *(seasonal)*

Winter *(Dec – Feb)*	**Spring** *(March-May)*	**Summer** *(June – Aug)*	**Fall** *(Sept – Nov)*
• Oregon Governor Tribal Summit[3] *(Dec)*	• Yakama Nation Fishers Meeting[4] *(March)* • Salmon Run[5] *(April; EPA could table)*	• World Oceans Day[6] *(June; info by CRITFC)* • Yakama Nation Treaty Day Celebration and Cultural Heritage Center Parade[7] *(June; EPA could apply to Cultural Center)* • Rose City Pow Wow *(summer)* • PSU Pow Wow *(summer)* • Salem Pow Wow *(summer)* • Portland Canoe Family Pow Wow *(summer)* • Grand Ronde Pow Wow *(August)* • Grand Ronde Family Fun Night *(July; EPA could table)*	• Neerchokikoo NAYA Powwow[8] *(Sept)* • Indigenous Peoples Day[9] *(Oct; info provided by CRITFC)*

1 Link, Pow Wows in Oregon: https://calendar.powwows.com/events/categories/pow-wows/pow-wows-in-oregon/
2 Link, NAYA Portland Youth & Elders Council: https://nayapdx.org/portland-youth-elders-council/
3 Link, Oregon Governor Tribal Summit: https://www.myoregon.gov/2019/12/03/tribal-state-government-to-government-summit-kicks-off/
4 Link, Yakama Nation Fishers Meeting: https://www.facebook.com/pg/YakamaNationFisheries/events/
5 Link, Salmon Run: https://www.facebook.com/events/museum-of-culture-and-environment-at-cwu/salmon-run-5k10k/2436021509751126/
6 Link, World Oceans Day: https://www.critfc.org/blog/2019/06/08/honoring-oceans-on-world-oceans-day/
7 Link, Yakama Nation Treaty Day Celebration and Cultural Heritage Center Parade: https://www.visityakima.com/yakima-valley-events.asp
8 Link, Neerchokikoo, NAYA Powwow: https://nayapdx.org/powwow/main/
9 Link, Indigenous Peoples Day: https://www.critfc.org/

Other Tribal Outreach/Informational Channels

- Confederated Tribes and Bands of Yakama Nation Tribe News & Events[10]
- Confederated Tribes of Grand Ronde Community of Oregon Events[11]
- Confederated Tribes of Siletz Indians[12]
- Confederated Tribes of the Warm Springs Reservation of Oregon[13]
- Nez Perce Tribe Events[14]
- Confederated Tribes of the Umatilla Indian Reservation[15]
- CRITFC Blog/Events[16]
- Wisdom of the Elders[17]
- Portland All Nations Canoe Family Events[18]

Community Events *(annual, year-round or most of the year)*

- Monthly Cathedral Park Neighborhood Association[19] Meetings *(2nd Tuesday of the month)*
- Monthly Overlook Neighborhood Association[20] Meetings *(3rd Tuesday of the month; attend any but annual Sept meeting)*
- Monthly Oregon Bass and Panfish Club[21] Meetings *(4th Thursdays of most months; summer attendance is 50-60, fall is 80-100 folks)*
- Monthly Sauvie Island Community Association[22] Meetings *(3rd Thursdays of most months)*
- Monthly All Chair North Portland *Meetings (1st Mondays of every month)*
- Weekly Vietnamese Community Meetings *(EPA to provide materials, not attend)*
- Old Town Neighborhood Association[23] at Saturday Market[24] *(March – December)*
- Portland Neighborhood Farmer's Markets[25] at Portland State University *(year-round),* Lents International *(June – Nov),* King *(May – Nov),* Shemanski Park *(May – October),* Kenton *(June – Sept)*
- St. Johns Farmer's Market[26] *(May – October)*
- Vancouver Farmer's Market[27] *(March – November)*

Dragon boat races
photo credit: Portland Harbor Community Advisory Group

10 Link, Confederated Tribes and Bands of Yakama Nation Tribe News & Events: http://www.yakamanation-nsn.gov/tribal%20news%20and%20events.php
11 Link, Confederated Tribes of Grand Ronde Community of Oregon Events: https://www.grandronde.org/events/
12 Link, Confederated Tribes of Siletz Indians: http://www.ctsi.nsn.us/multnomah-falls-siletz-news-events/current-events
13 Link, Confederated Tribes of the Warm Springs Reservation of Oregon: https://warmsprings-nsn.gov/events/
14 Link, Nez Perce Tribes Events: https://nezperce.org/calendar/list/
15 Link, Confederated Tribes of the Umatilla Indian Reservation: https://ctuir.org/
16 Link, CRITFC Blogs/Events: https://www.critfc.org/blog/2019/06/08/honoring-oceans-on-world-oceans-day/
17 Link, Wisdom of the Elders: http://www.wisdomoftheelders.org/
18 Link, Portland All Nations Canoe Family Events: https://www.facebook.com/groups/253670564782911/576241742525790/
19 Link, Cathedral Park Neighborhood Association: https://www.portlandoregon.gov/civic/47225
20 Link, Oregon Bass and Panfish Club: https://overlookneighborhood.org/
21 Link, Oregon Bass and Panfish Club: https://www.oregonbassandpanfishclub.com/
22 Link, Sauvie Island Community Association: https://sauvieisland.org/the-island-community/organizations/si-community-association/
23 Link, Old Town Neighborhood Association: https://www.portlandoregon.gov/civic/48505
24 Link, Saturday Market: https://www.portlandsaturdaymarket.com/visit-the-market/hours-directions/
25 Link, Portland Neighborhood Farmer's Market: https://www.portlandfarmersmarket.org/
26 Link, St. John's Farmers Market: http://www.stjohnsopportunity.org/stjohnsfarmersmarket/
27 Link, Vancouver Farmers Market: https://www.vancouverfarmersmarket.com/

Community Events *(seasonal)*			
Winter *(Dec – Feb)*	**Spring** *(March-May)*	**Summer** *(June – Aug)*	**Fall** *(Sept – Nov)*
• Kwanza[28] *(Dec – Jan)* • Vietnamese New Year *(three weeks of events from the end of January - the beginning of February)*	• Russian Speaking Youth Conference[29] by East European Coalition *(April)* • Village Building Convergence[30] *(May – June)* • Korean Cultural Month Appreciation Luncheon *(May)*	• Village Building Convergence[65] (May – June) • Summer Arabic-American Festival *(summer; potential EPA booth)* • Dragon Boat Race[31] *(June)* • Good in the Hood African American Festival[32] *(usually June)* • Juneteenth Celebrations at Schools *(June)* • Somalia Independence Day Celebration *(July 1st; hand out fliers)* • Health Fair for Asian Health and Services Center[33] *(usually August)* • Somali Festival[34] *(August; EPA could table)* • Vietnamese Community of Oregon (VNCO) Picnic[35] *(August; around 100 people; EPA could table)* • Annual Oregon Chinese Consolidated Benevolent Association Summer Picnic[36] *(August; EPA could table)*	• Autumn Festival for Kids *(September)* • Portland Slavic Festival[37] *(September)* • Beaverton International Celebration *(September)* • Kenton Neighborhood Annual Garage Sale[38] *(Sept)* • Korean American Coalition[39] Korean Thanksgiving Day *(Sept/Oct; EPA could pass materials along)* • Get Hooked Foundation Fishing Day *(September)*

28 Link, Kwanza: https://www.theskanner.com/news/northwest/29466-portland-celebrates-kwanzaa-2019
29 Link, Russian Speaking Youth Conference: https://eecnorthamerica.org/rsylc/
30 Link, Village Building Convergence: https://villagebuildingconvergence.com/
31 Link, Dragon Boat Race: http://www.rosefestival.org/event/dragon-boat-race
32 Link, Good in the Hood: https://www.goodnthehood.org/
33 Link, Health Fair for Asian Heath and Services Center: https://www.ahscpdx.org/healthfair.html
34 Link, Somali Festival: https://www.eastportland.org/node/7201
35 Link, VNCO Picnic: https://www.facebook.com/vncousa/
36 Link, Annual Chinese Consolidated Benevolent Association Summer Picnic: https://www.facebook.com/pg/oregonccba/events/?ref=page_internal
37 Link, Portland Slavic festival: https://www.slavicfestivalportland.org/
38 Link, Kenton Neighborhood Annual Garage Sale: https://www.facebook.com/kentongaragesale/
39 Link, Korean American Coalition: http://kacoregon.org/

Other Outreach Channels *(annual, year-round or most of the year)*

- Sunday Parkways *(May-Sept)*
- Monthly River Discovery by Riverkeeper[40] *(monthly paddle)*
- League of Women Voters Events[41] *(year-round)*
- Village Coalition[42] Meetings *(Fridays, year-round)*
- Monthly Under the Bridge Walks by Right 2 Survive *(EPA to attend without a badge and with information and handouts)*
- Portland Spirit[43] *(riverboat tours/cruises)*
- Neighborhood Chairmen Meetings *(North Portland and NE Portland; 25 chairs representing 99 neighborhoods)*
- Career Fairs/Trade Events
- Portland Parks & Recreation[44] *(checklist of Community Centers[45] and Neighborhood Associations[46])*
- Columbia Youth Project, Mesopotamians on the Banks of the Willamette, and Columbia Rivers
- KBOO Community Radio[47]
- Children's Clean Water Festival[48] *(annually, typically in March or April)*

Other Outreach Channels *(seasonal)*

Winter *(Dec – Feb)*	**Spring** *(March-May)*	**Summer** *(June – Aug)*	**Fall** *(Sept – Nov)*
• Fix-It Fairs for City of Portland[49] *(Nov, Jan, and Feb)*	• Rose Festival[50] *(May – June)* • St. Johns Parade[51] (*May*)	• Rose Festival[52] *(May – June)* • Movies in the Park *(June – Aug; sometimes in Spanish; EPA could potentially table)* • Rooster Rock State Park[53] *(large Russian speaker outreach opportunity here on the Columbia River)* • Big Float Event[54] *(July)* • Cathedral Park Jazz Festival *(July)* • Waterfront Blues Festival[55] *(July)* • Illamette: A Hip-Hop River Festival[56] *(August)* • Vanport Jazz Festival[57] *(August)* • Paddle Oregon[58] *(August; 5-day trip; EPA could give a talk)*	• Fix-It Fairs for City of Portland[59] *(Nov, Jan, and Feb)* • The Great Willamette Cleanup[60] *(October)* • Portland Dragon Boat Festival (*September*)

40 Link, Monthly River Discovery by Riverkeeper: http://willamette-riverkeeper.org/river-discovery
41 Link, League of Women Voters: https://lwvpdx.org/
42 Link, Village Coalition: https://cityrepair.org/village-coalition
43 Link, Portland Spirit: https://www.portlandspirit.com/sternwheeler.php
44 Link, Portland Parks & Recreation: https://www.portlandoregon.gov/parks/
45 Link, Community Centers: https://www.portlandoregon.gov/parks/39839
46 Link, Neighborhood Associations: https://www.portlandoregon.gov/civic/28385
47 Link, KBOO Radio: https://kboo.fm/
48 Link, Children's Clean Water Festival: https://www.cleanwaterfestival.org/
49 Link, Fix-It Fairs for City of Portland: https://www.portland.gov/bps/fix-it-fairs
50 Link, Rose Festival: http://www.rosefestival.org/
51 Link, St. Johns Parade: http://stjohnsparade.org/committee/
52 Link, Rose Festival: http://www.rosefestival.org/
53 Link, Rooster Rock State Park: https://stateparks.oregon.gov/index.cfm?do=park.profile&parkId=126
54 Link, Big Float Event: http://www.thebigfloat.com/
55 Link, Waterfront Blues Festival: http://www.waterfrontbluesfest.com/
56 Link, Illamette: a Hip Hop River Festival: http://www.stjohnsopportunity.org/community-calendar/2019/8/24/illamette-a-hip-hop-river-festival
57 Link, Vanport Jazz Festival: https://vanportjazzfestival.com/
58 Link, Paddle Oregon: https://paddleoregon.org/
59 Link, Fix-It Fairs for City of Portland: https://www.portland.gov/bps/fix-it-fairs
60 Link, The Great Willamette Cleanup: http://willamette-riverkeeper.org/great-willamette-cleanup

APPENDIX C:
List of Groups and Tribal Members and Tribal Representatives Involved with the Portland Harbor Superfund Site (including those interviewed for this Community Involvement Plan)

The following is a list of tribal members or tribal representatives and groups that were either interviewed for this Community Involvement Plan (CIP) and/or coordinate with the U.S. Environmental Protection Agency (EPA) on the Portland Harbor Superfund Site.

Tribe or Tribal Organization *(in alphabetical order)*
Columbia River Inter-Tribal Fish Commission (CRITFC)
Five Tribes[61] (provided comments as members of the Technical Coordinating Team)
Grand Ronde Health and Wellness Center
Native American Community Advisory Council
Native American Rehabilitation Association (NARA)
Native American Youth Association (NAYA)
Wisdom of the Elders
Yakama Nation

Groups *(in alphabetical order)*
Asian Pacific American Network of Oregon (APANO)
Audubon Society of Portland
BlueGreen Alliance
Cathedral Park Neighborhood Association and Portland Harbor Community Advisory Group
City of Portland, Bureau of Environmental Services
City of St. Helens, Interested City Council Representatives and Community Members
Columbia Corridor Association
Community Members
East European Coalition
Ecumenical Ministries of Oregon
Get Hooked Foundation
Hazelnut Grove
Human Access Project (HAP)
Immigrant and Refugee Community Organization (IRCO)
Iraqi Society
Kenton Neighborhood Association
Korean American Coalition (KAC)
Latino Network
League of Women Voters
Linnton Neighborhood Association
Multnomah County Health Department

61 The five Tribes are the Confederated Tribes of the Grand Ronde Community of Oregon, the Nez Perce Tribe, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Reservation of Oregon.

Groups *(in alphabetical order)*
National Association for the Advancement of Colored People - Portland Chapter
North Willamette Watershed Council
Northeast Coalition of Neighborhoods (NECN)
National Oceanic and Atmospheric Administration (as a member of the Portland Harbor Natural Resource Trustee Council)
Occupy St. Johns
Office of Oregon Governor Kate Brown
Old Town Community Association
Oregon Bass and Panfish Club
Oregon Chinese Consolidated Benevolent Association (CCBA)
Oregon Department of Environmental Quality (DEQ)
Oregon Health Authority
Oregon Tradeswomen
Overlook Neighborhood Association
Portland Harbor Community Advisory Group (CAG)
Portland Harbor Community Coalition (PHCC)
Port of Portland
Right 2 Survive
Russian Oregon Social Service (ROSS)
Sauvie Island Grange
Shafia Monroe Consulting
Sierra Club
Somali American Council of Oregon
St. Johns Neighborhood Association and Portland Harbor CAG
University Park Neighborhood Association
Vietnamese Community of Oregon (VNCO)
Village Coalition
Willamette River Advocacy Group (WRAG)
Willamette Riverkeeper

APPENDIX D:
Questions Asked for the Community Involvement Plan Interviews

During 2017 and 2018, interviews with tribal members, tribal representatives, community leaders, public agencies, and other organizations were conducted for this update to the Portland Harbor Community Involvement Plan. Additional information for this update was also gathered through informal feedback with these groups after the interviews took place. The questions included below were asked during the interviews in 2017 and 2018. Questions for tribal members, tribal representatives, community leaders, public agencies, and other organizations were provided to interviewees in advance of their interview. Questions asked during the 2017 Willamette River Festival were asked during the event to attendees.

Questions for Tribal Members, Tribal Representatives, and Community Leaders

— Category 1 – Portland Harbor Understanding and Connection

Why we are asking these questions: From your perspective, we hope to learn from you about what your community might know about the pollution at the Portland Harbor Superfund site, and what concerns they have about it. Knowing both what is commonly understood in the community about the site, and what is particularly worrisome, will help us provide the community with information that may either keep them safe or clarify something about the site or even EPA's work.

1. Is your community concerned about the Portland Harbor Superfund Site? When do they talk with you about it?

2. Is there anything specific about the site that you hear about often? Are there worries, concerns, fears or questions about the contents of the Site?

3. How does your community use the site (fish/garden/visit parks and paths/something else)?

4. What concerns have you heard your community and tribal members express about the cleanup work (e.g. leaving waste in place, removing material, transportation or disposal issues, etc.)?

— Category 2 – Trust and safety and the best way to communicate

Why we are asking these questions: We'd like to know what sources of information you and your community and tribal members trust and believe. We want to keep you all educated and informed about environmental health questions, and to keep you all safe when there are risks. We believe everyone has the right to know what we're doing as the cleanup work progresses and understanding how your community and tribal members prefer to get information may allow us to provide information in a more sensitive, respectful, and appropriate way.

1. Do you know if your community would be uncomfortable speaking with someone from EPA?

2. Would it be an intrusion if someone from EPA attended one of your events to ask and answer questions?

3. Would receiving information from EPA about our work at the Portland Harbor Superfund Site be helpful to you or members of your community?

a) What kind of information—technical reports or general progress updates? Notices when new work starts or projects end?

b) Something else?

c) What do you think may be the most effective method of getting information to the community?

4. How do community and tribal members share information with each other?

   a) Do they use social media? If so, which kinds of social media?

   b) Do they get information through a computer, smartphone, word of mouth or other?

   c) What newspapers, Web sites, TV, or radio stations are popular with your community?

5. Who, or which organizations, are trusted sources of information with your community?

   a) Do you think they trust EPA, the City / County / State, other government entities?

6. Are there other local civic/service clubs, tribal organizations, churches, or other organizations that are important to your community and could help us get information to everyone?

7. Are there upcoming popular community fairs or events that we could attend?

8. Do you know of other community and tribal members who would also like to get more involved in the Portland Harbor cleanup? Would they be okay with you sharing their contact information with us so that we could talk with them in our broader interview phase?

— Category 3 – What do people want to read?

Why we are asking these questions: If we provide information to the community and tribal members or tribal members in writing we'd like to be sure they'll want to read it.

1. Could you please give us some advice about this?

— Category 4 - Technical Assistance Needs Questions

Why we are asking these questions: We want to ask a few questions to help us get a sense of how technical information is understood at the Portland Harbor Superfund Site and how community and tribal members are receiving technical information at the site.

1. Does your organization have any current, past, or future responsibilities at the Site?

2. How would you describe the community's relationship with EPA and the Oregon Department of Environmental Quality during the Superfund cleanup process?

3. Has the community been receiving sufficient technical information from EPA? Has this information been clear and easy-to-understand? If not, describe the areas where you believe the community may need assistance understanding and responding to information about the Site?

4. From the community's perspective, what could prevent the Superfund cleanup process from moving forward? What could EPA potentially do to address this situation?

5. What are the issues or areas in which the community may require assistance in order to participate meaningfully in the Superfund decision-making process?

    a. What type of assistance do you believe would be most helpful?

6. Are you aware of the types of technical assistance from EPA that may be available to the community? (If so, please tell me what you understand to be available to the community)

— Category 5 – General Summary Questions

1. Do you have any questions for us?

2. May we follow-up with you if we have any clarifying questions as we review the information you have provided to us today?

Questions for Public Agencies & Other Organizations

— Category 1 – Portland Harbor Contamination Issues and Concerns (General)

Why we are asking these questions: I'd like to ask you some questions about what you know about the Superfund site, any concerns you or other public agencies, organizations or community groups you interact with might have, and also your thoughts on how EPA is addressing concerns that you perceive community members have about the Portland Harbor Superfund Site. What we learn from the answers we get to these questions will help us better understand issues that public Agencies and organizations are facing in regard to the Portland Harbor Superfund Site. This will also help us think through how these issues could tie into information that is shared with the community regarding the Portland Harbor Superfund Site as the cleanup moves forward.

1. Do you have worries, concerns, or fears about the Site? Concerns about the cleanup work?

2. Have you heard others in your public Agency or organization say about worries, issues, or fears about the Site?

3. Do you know of other public agencies, organizations, or other community groups who have concerns that are not being addressed? If so, could you please elaborate on these concerns (if possible)? Do you think they'd be willing to talk to us?

4. What are your thoughts on how EPA is addressing concerns that the community might have regarding health and environmental impacts from the Portland Harbor Superfund site?

— Category 2 – Communication with EPA

Why we are asking these questions: In order to provide quality information to the community, EPA recognizes that coordination with other public agencies and organizations is important. We have a few questions next that we hope will help us learn how to better coordinate with other public agencies and organizations in order to provide the community with quality information.

1. What do you feel has worked well in keeping you informed and engaged about the Portland Harbor Superfund Site cleanup?

2. What do you feel has **not** worked well in keeping you informed about the cleanup?

3. What would you like to see happen in the future regarding communication with EPA on the cleanup?

— Category 3 – Sharing Information with the Community

Why we are asking these questions: I'd like to ask you some questions now to help us learn how you typically share information with the community and we would also be happy to share ways that we share information with the community. What we learn from each other and others we talk to will help us do a better job of providing the community with quality information.

1. How do you define "community"? For the purposes of this CIP update, EPA understands that the term "community" is multi-faceted and would appreciate your thoughts on this term.

2. How do you typically get information out to the community about issues that are important to you (i.e. Facebook, listservs, newspapers, newsletters, personal interactions, Web sites, mailings, television, etc.…)?

3. Do you ever translate information that you provide to the community? What language(s) have you provided, or do you typically provide to the community? How did you choose these language(s)?

4. How would you ideally like EPA to work with you to provide quality information to the community regarding the Portland Harbor Superfund Site?

— Category 4 – General Information Questions

1. Is there anything else you'd like to tell us about your public Agency or organization that would help us communicate well with the community?

2. Is there anyone else you think we should talk to? Can we tell that person you referred us to them, or do you prefer we don't?

3. Do you have any questions for us?

4. May we follow-up with you if we have additional questions?

— General Questions Asked of Willamette River Festival Attendees (July 30, 2017)

1. How do you use Portland Harbor?

2. What about the Portland Harbor Site are you primarily concerned about?

3. What would be helpful information and where do you go for trusted information?

4. Would you like more information about the Portland Harbor Superfund Site?

5. Any other questions?

Appendix E: *Informational Web sites and Resources*

This appendix includes informational Web sites, resources, and web links to several public agencies and community groups involved with the Portland Harbor Superfund Site.

Informational Web sites
U.S. EPA Region 10 • EPA's PHSS Web site[62] ✓ For contact information of EPA staff working on the PHSS, please consult this Web site for the most up to date information. • Portland Harbor Superfund Site Acronyms, Glossary, and Contaminant Summary[63]
Oregon Department of Environmental (DEQ) • PHSS Web site[64] DEQ's interactive source control map[65]
Oregon Health Authority (OHA) • PHSS Web site[66] • OHA Environmental Health Assessment Program (EHAP) Public Health Assessment[67]
Multnomah County Health Department • Fish Advisory Outreach[68]
Technical Coordinating Team (TCT) • Memorandum of Understanding[69]
Portland Harbor Natural Resource Trustee Council • PHSS Web site[70]
Portland Harbor Community Advisory Group (PHCAG) • PHCAG Web site[71]
Portland Harbor Community Coalition (PHCC) • PHCC Web site[72]
Port of Portland • PHSS Web site[73]
City of Portland • PHSS Web site[74]
Willamette Riverkeeper • PHSS information[75]
Portland Audubon • PHSS information[76]
Willamette River Advocacy Group • Willamette River Advocacy Group Web site[77]

62 Link, EPA's PHSS Web site: www.epa.gov/superfund/portland-harbor
63 Link, Glossary: https://semspub.epa.gov/src/document/10/100020203
64 Link, DEQ's PHSS Web site: https://www.oregon.gov/deq/Hazards-and-Cleanup/CleanupSites/Pages/Portland-Harbor.aspx
65 Link, DEQ's Interactive Source Control Map: http://www.oregon.gov/deq/FilterDocs/PortlandHarborMap.pdf
66 Link, OHA's PHSS Web site: https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/TRACKINGASSESSMENT/ENVIRONMENTALHEALTHASSESSMENT/Pages/phsite.aspx
67 Link, OHA's EHAP Public Health Assessment: https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/TRACKINGASSESSMENT/ENVIRONMENTALHEALTHASSESSMENT/Documents/Portland%20Harbor%20PHA%20_%2009-07-2011%20Final.pdf
68 Link, Fish Advisory Outreach: https://multco.us/health/staying-healthy/eating-fish-river
69 Link, Memorandum of Understanding: https://www.oregon.gov/deq/FilterDocs/PH-MemoUnderstanding.pdf
70 Link, Portland Harbor Natural Resource Trustee Council's PHSS Web site: https://www.fws.gov/portlandharbor/
71 Link, PHCAG Web site: http://www.willametterivercleanup.com/about-phcag/
72 Link, PHCC Web site: http://ourfutureriver.org/
73 Link, Port of Portland PHSS Web site: https://www.portofportland.com/Superfund
74 Link, City of Portland PHSS Web site: https://www.portlandoregon.gov/bes/56848
75 Link, Willamette River Keeper PHSS information: http://willamette-riverkeeper.org/superfund
76 Link, Portland Audubon PHSS information: https://audubonportland.org/our-work/protect/habitat-and-wildlife/urban/protecting-and-restoring-our-urban-rivers/portland-harbor-superfund-site/
77 Link, Willamette River Advocacy Group Web site: wragpdx.wordpress.com/