Port of Portland

Environmental Annual Report (FY23-24)

Photo by Sarah Wilson Port of Portland Environmental Conservation Ecologist

This page was left intentionally blank.

Table of Contents

Appendix

Introduction

The Port of Portland works to achieve its mission through responsible environmental leadership, creating benefits for the environment and our community. This annual report summarizes key highlights from the great work that our environmental programs accomplished over the 2023-2024 fiscal year.

Our work around Diversity, Equity and Inclusion and Shared Prosperity has highlighted the importance of environmental justice in selecting our highest priority initiatives. Our biggest short-term focus is responding to the urgent call for action to address local public health inequities (e.g., diesel emissions, leaded aviation fuel, and historic contamination) and to mitigate the effects of climate change. By narrowing our focus, we will be able to deliver meaningful results more quickly. Over time, we will continually expand our focus to tackle other very important initiatives at the cross section of environmental leadership and environmental justice.

Bond Reporting

The sustainable project elements, projected outcomes, and current status for Port bond-funded capital projects are listed below.

Series 28 Use of proceeds: funds are completely expended		
Bond Projects	Projected Outcomes	Current Status
Rental Car Center (RCC) Project • CarbonCure sequesters CO2 and reduces carbon footprint of concrete. • Energy efficiency.	Constructed by 2021	Completed
	LEED gold certification	Certified LEED Gold May 2023
PDX TCore Redevelopment Project & Baggage Handling System – Checked Baggage Resolution Area Expansion and Control System Upgrade (BHS – CBRA CSU) Project • Regionally sourced sustainably harvested mass timber roof. • Open loop ground source heat/cooling system. • Lower flow toilets and lavatory faucets. • Deep energy efficiency. • Reductions in operational and embodied carbon emissions.	Constructed by 2027	Under construction
	Targeting LEED Gold certification within 6 months of construction	On track
	20% Small Business Enterprise participation goal	On track

Series 29 Use of proceeds: funds are completely expended		
Green Bond[1] Projects	Projected Outcomes	Current Status
Kennedy Feeder • Future electrification of fossil fuel-related energy use at PDX. • Examples: TCore ground source heat/cooling system and airline ground support equipment.	Constructed by May 2024	Completed December 2023
	10% Small Business Enterprise participation goal	Achieved 13.8% participation
PDX TCore Redevelopment Project & BHS – CBRA CSU Project • Regionally sourced sustainably harvested mass timber roof. • Open loop ground source heat/cooling system. • Lower flow toilets and lavatory faucets. • Deep energy efficiency. • Reductions in operational and embodied carbon emissions.	Constructed by 2027	Under construction
	Targeting LEED Gold Certification within 6 months of construction	On track
	20% SBE participation goal	On track

Annual Environmental Program Performance

AIR QUALITY & CLIMATE

Objective 1: Generate revenue leveraging Oregon's Clean Fuel Program to support operations and potential investments in diesel and carbon emission reduction strategies.

Target 1.1: Maximize opportunities to leverage these credits for Port and non-Port owned operations. Clean fuels revenue is comprised of EV chargers and renewable natural gas (RNG).

Fiscal Year	Total Clean Fuels Revenue
2017-2018	$16,125.12
2018-2019	$23,749.00
2019-2020	$94,490.00
2020-2021	$35,942.00
2021-2022	$127,174.85
2022-2023	$156,947.98
2023-2024[1]	$254,176.11
Total to Date	**$708,605.06**

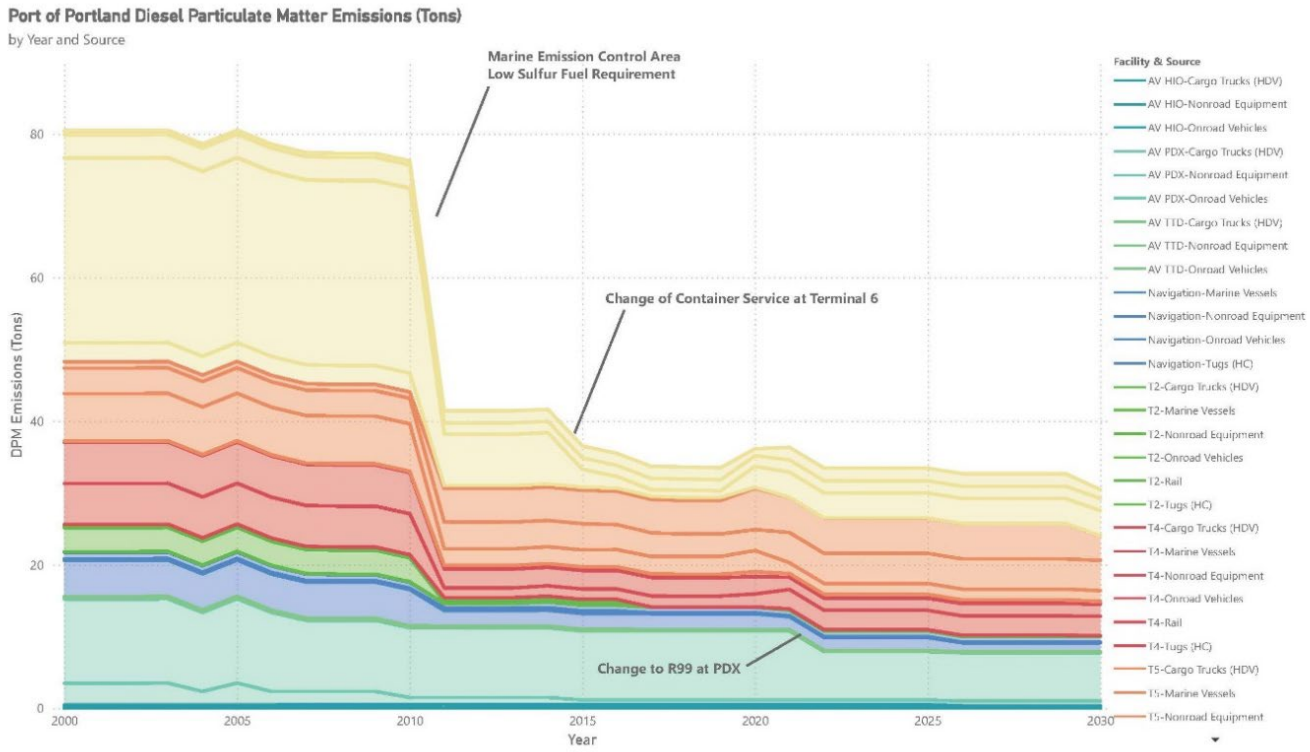
[1] Increased RNG revenue this past year by ~24% through the additional sale of federal renewable identification numbers associated with this renewable fuel.

[1] A Second Party Opinion can be found in the issuance Official Statement starting on page 22.

Objective 2: Take action to mitigate the region's air toxic health risk, diesel particulate matter, by prioritizing emission reductions that have the greatest benefit to addressing environmental justice inequalities and supporting the transition to renewable and zero emission fuels.

Target 2.1: Reduce diesel particulate matter 70% below 2000 baseline levels by 2030 from all Port, non-Port marine, and aviation operations.

- To date, the Port has reduced diesel particulate matter by 59%.
- The strategies below are expected to reduce the remaining 11%.
- See graph below for Port diesel emission profiles.

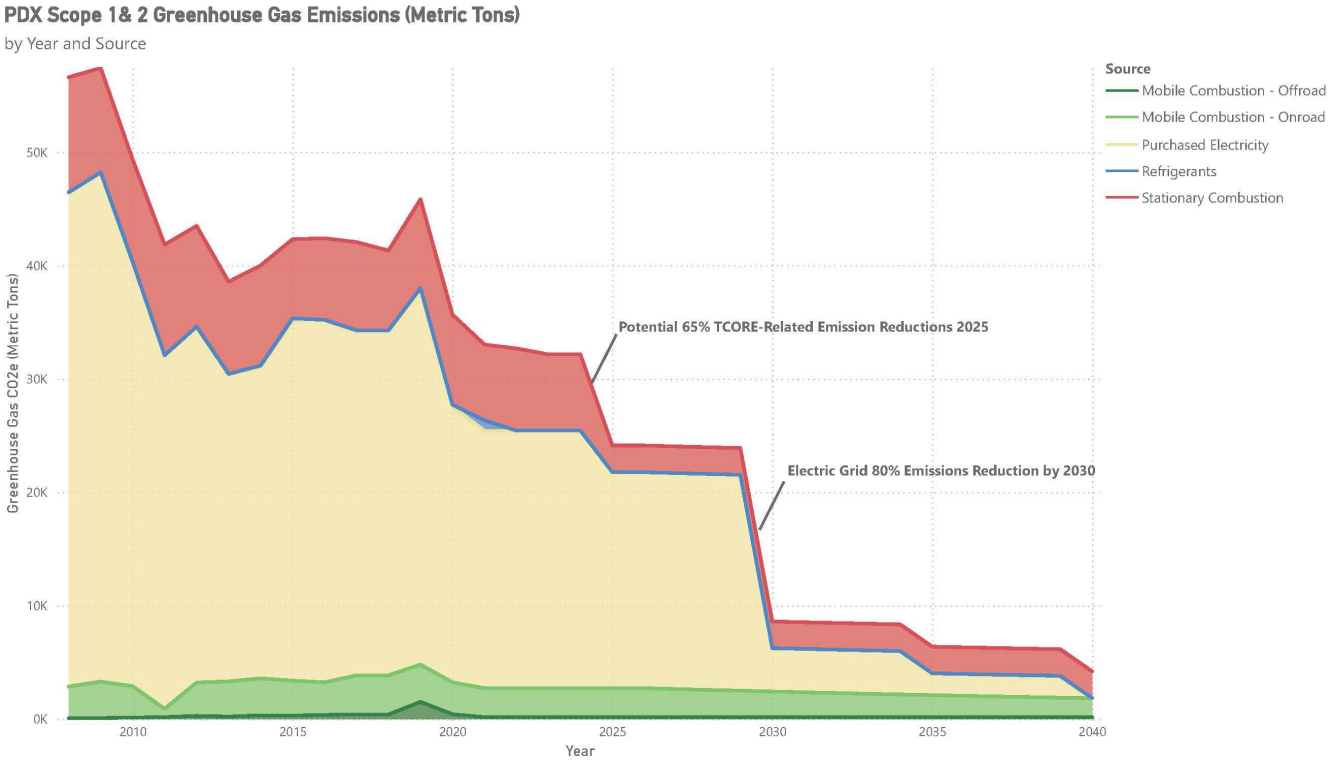


Port-wide Diesel Reduction Priorities		Strategies
PDX Ground Support Equipment (eGSE)	Electrification of the largest airlines' (Alaska, Southwest, Delta, American, United) baggage tugs, belt loaders, and narrow-body pushbacks by 2026	We received $16M from an FAA AIP grant for installation of electrical charging infrastructure at PDX: • Complete: Alaska Gate C7. • In process: all PDX gates. • We are working with airlines to confirm plans for converting their equipment.
	Shift to R-99 for all other airlines and equipment by 2025	The Port is encouraging airlines to switch to R-99.
Renewable Diesel (R-99)	Evaluate all possible applications Port-wide by 2026	• R-99 is currently in use at PDX Maintenance and T-6 and is a compliance alternative for the Clean Air Construction program, removing a barrier for small and disadvantaged businesses. • The Dredge Oregon uses the most diesel fuel Port-wide. All parties are ready to begin delivery of R-99 to the Dredge, but supply is delayed. The City's Renewable Fuel Standard, which aims to phase out petroleum diesel sales in the city of Portland by 2030, has quickly increased demand for R-99 in our region.
Dredge Replacement	Replace dredge with clean dual fuel dredge	The Dredge Oregon is currently the single largest source of diesel emissions from Port-owned equipment. We are exploring options for replacing the dredge with improved emissions control technology.
Zero Emission Marine Terminal and Equipment	T-6 reach stackers and yard hustlers, T-4 or T-6 vessel shore power	• An analysis was conducted re: zero emissions T-6 reach stackers and yard hustlers. Asset replacement is targeting Tier 4 diesel yard tractors in lieu of zero emissions technologies until decarbonization plans are adopted. • The Inflation Reduction Act of 2022 provided $3 billion to fund zero-emission port technology and infrastructure and develop climate plans. A proposal for Clean Ports grant funding was submitted in May 2024, with responses expected fall 2024. The proposed planning focuses on zero emissions solutions and analysis of multiple renewable power and fuel options for vessels that call to our terminals.

Objective 3: Respond to the urgent call for action to mitigate the effects of climate change by prioritizing operations with the highest emissions and investing in strategies that reduce our carbon footprint.

Target 3.1:

- In alignment with International Panel on Climate Change (IPCC), strive to achieve net zero carbon for Scope 1 and 2 emission sources by 2050. Prioritize and strive to achieve the emission reduction targets listed below for the Port's PDX operations using offsets as necessary for the remaining emissions to maintain carbon neutrality.
- Specific reduction targets and strategies are in the below table. To date, PDX scope 1 and 2 GHG emissions have been reduced by 11% below 1990 levels at the same time our energy usage has grown. As TCore becomes fully operational in 2025, GHG emissions are expected to be further reduced to 33% below 1990 levels, surpassing our goal of 20% by the end of 2025. See graph below for Port GHG emission profiles.



PDX Climate Reduction Targets	Strategies
By 2020: 15% below 1990 levels	We did not achieve this goal. • These goals were adopted in 2019, and there was not sufficient time to implement targeted measures to achieve direct emissions reductions by 2020. • We could have met the goal by purchasing renewable energy credits (RECs) but beginning in 2020, prices increased exponentially for RECs and carbon offsets. We decided to redirect these funds toward direct emissions reduction investments as a path towards our goal of net zero carbon by 2050.
By 2025: 20% below 1990 levels	We are on track to meet this goal: • 126 EV charging stations at PDX. • Using Renewal Natural Gas to power PDX shuttle busses since July 2021. • Replacement of older natural gas boilers at CUP with TCore ground source heating and cooling system and supporting newer natural gas boilers completed by the end of 2024. • R-99 use for on and off-road equipment and the Dredge by 2025.
By 2030: 45% below 1990 levels[1]	We believe that this goal may be attainable: • Transition parking shuttle bus fleet to zero-emission vehicles. • PacificPower continues to rely heavily on coal, therefore which increasing electrification as a decarbonization strategy for our operations could create risk of increasing our emissions. PacificPower's contributions to attainment of Oregon Clean Energy Targets are crucial to our success.

[1]Net Zero Carbon Roadmap to be completed by 2024 & will identify Port priorities for 2030 to 2050.

Target 3.2: Support the aviation industry in meeting its goal to reduce lifecycle greenhouse gas emissions 50% below 2005 levels and achieve net zero carbon by 2050.

The Port will support industry goals with a focus on sustainable aviation fuel (SAF) and renewable diesel. We aim to deploy any amount of SAF to PDX via the existing jet fuel delivery system by 2027, and support 10% SAF use by 2030.

We are participating in the SAF Grand Challenge Roadmap, a national interagency and multi-stakeholder effort to develop a roadmap for SAF adoption. We will continue to engage airlines to increase end-use and explore ways to reduce the cost, while also working to bring SAF to PDX. A few key insights gained this year include:

- As of June 2023, Montana Renewables will be regularly shipping unblended SAF to Zenith's northwest Portland facility, but SAF must be blended with conventional jet fuel for use in commercial airplanes.
- Local infrastructure investments are needed to deliver SAF to PDX.

    - PDX Fuels tank farm will add two truck rack positions to enable truck deliveries of pre-blended Jet A/ SAF. This would achieve the goal of 10% SAF use.
    - Zenith is also exploring options for connecting to the main pipeline that supplies Jet A to PDX.
- The Port is a member of the Joint Cascadia Airports collaboration (PDX, SEA, and YVR) which meets monthly to strategize on regional implementation, funding, and incentives.
    - Cherry Point is our common node in the existing jet fuel pipeline, but there are numerous challenges facing us including alignment in international policies, incentives, and infrastructure investments.
    - We have been holding a series of workshops to share lessons learned via various decarbonization efforts.
- In 2024, we became a member of the SAF Coalition and a founding member of the Sustainable Aviation Fuels Northwest to accelerate supply chain development.
- Individual states, like Washington, have created SAF tax incentives that will drive the development and use of SAF within their jurisdiction. A coalition has been formed to work on developing legislation to provide an Oregon state SAF tax incentive.

Target 3.3: Support the marine industry in meeting its goal to reduce greenhouse gas emissions 70% below 2008 levels by 2050.

Roughly 3% of global CO2 emissions are associated with international shipping. To address the urgent need to reduce global CO2 emissions, the International Maritime Organization (IMO) is working on regulating emissions from international shipping with targets to reduce emissions below 2008 baseline levels:

- 40% emissions reduced by 2030
- 70% emissions reduced by 2050

To meet these targets, IMO 2023 mandates that from 1 January 2023 all ships are required to calculate their energy efficiency and their annual GHG emissions. The use of non-petroleum fuels and shore power have been identified as key strategies to reduce ship emissions, where possible. We are actively working to assess the feasibility of shore power at our terminals. The Port submitted a Clean Ports Grant application in May 2024 to conduct a planning study to transition to zero-emissions operation. The Port's grant application includes a study of shore power to reduce vessel emissions at berth as well as study how the Port's facilities and operations can support the development of alternative fuels to support marine industry decarbonization.

AVIATION NOISE MANAGEMENT

Objective 1: Maintain a program that strives to minimize community noise exposure from aircraft operations.

Target 1.1: Encourage utilization of the voluntary Fly Quiet Program noise abatement procedures with emphasis on NextGen Performance Based Navigation.

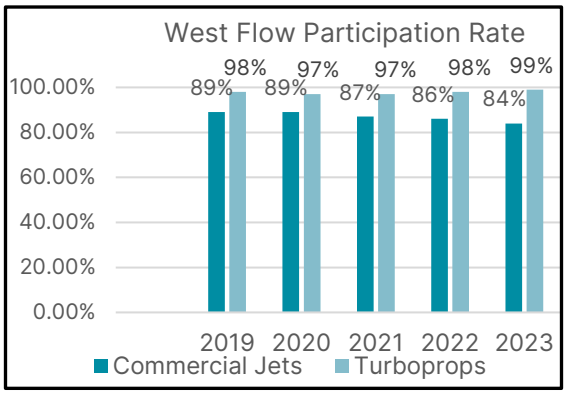
This program is centered on agreements between the Port, the FAA and pilots. FAA is accountable for managing air traffic in alignment with these agreements which is difficult to maintain given myriad other priorities that air traffic control staff manages.

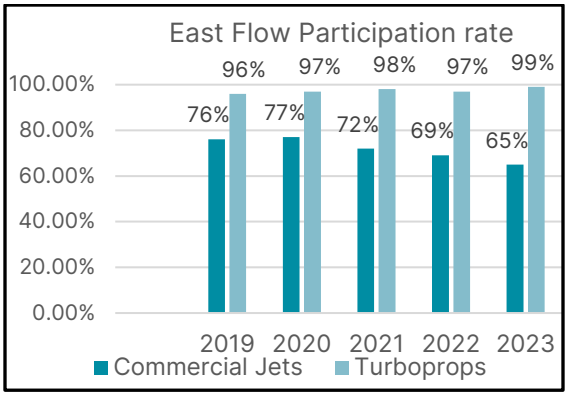
Therefore, consistent outreach and engagement is essential to maintain broad awareness and to encourage more active accountability.

Given that we have not had the bandwidth to conduct consistent outreach, the program is working reasonably well but there is still room for improvement. In FY25, enhancing the use of the voluntary Fly Quiet Program noise abatement procedures through targeted and consistent outreach efforts will be a key focus.

Legacy noise abatement departure procedures minimize noise exposure by concentrating air traffic over the Columbia River corridor.

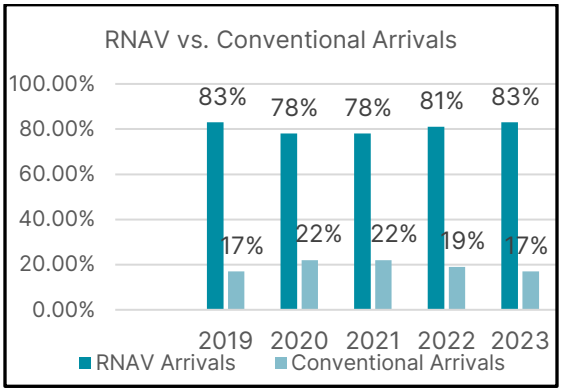
- Turboprop aircraft utilization has held steady ranging from 96%-99% in both east and west flow.
- Jet aircraft utilization has trended down in East flow from 76%-65% and 89%-84% in West flow over the past five years.

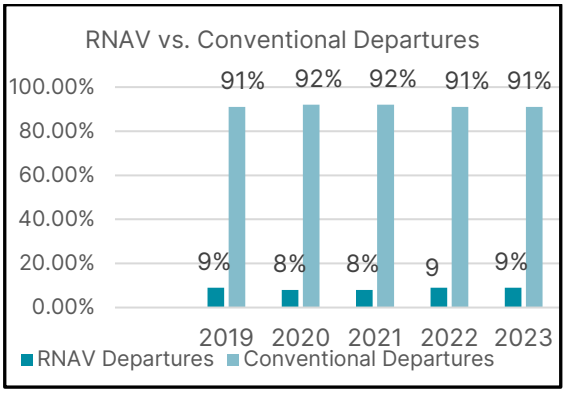




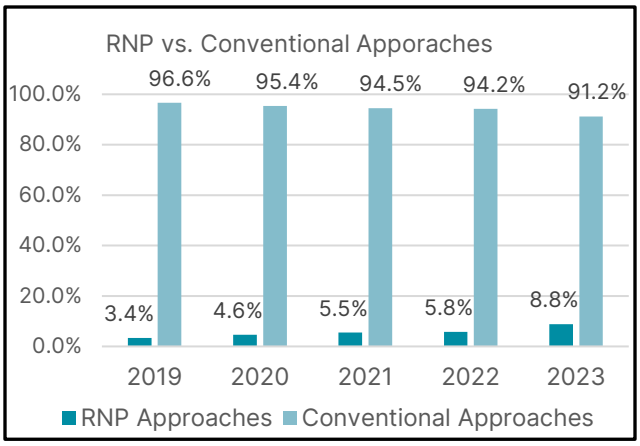
RNAV, a form of GPS, reduces noise by concentrating flight traffic over a much smaller geographic area. Due to data limitations, we are unable to differentiate between aircraft type or flow direction.

- Arrivals: turboprop and jet aircraft combined use rate ranged from 78%-83% over the last five years.
- Departures: turboprops are not authorized to use RNAV for departures and there are currently no procedures for jets heading north or west. Given these constraints, use of RNAV departure procedures range from 8-9% over the last five years.





RNP, an advanced form of GPS, is a preferred navigational option for the last phase of arrivals.



Aircraft equipage, flight crew training, and air traffic control capacity limit its use; however, the trend has been consistently increasing from 3.4%-8.8% over the last five years.

Target 1.2: Establish consistent outreach as a key element of the health of the Fly Quiet Program.

In the next FY, the Noise team will develop a broader outreach strategy to increase participation with noise abatement elements including:

- Quarterly outreach to Air Traffic Control staff of the PDX Tower and TRACON.
- As needed correspondence with air carrier station managers and chief pilots.

Objective 2: Maintain a positive, respectful, and service oriented commitment to community members while investing in efficiencies to reduce overall time spent on complaint management.

Target 2.1: Resolution time for complaints where return contact has been requested is three business days.

In the calendar year 2023, 17,464 complaints were recorded related to aircraft noise. Notably, 95% of these complaints came from a single household. The Port and the FAA coordinated on this matter to provide consistent written responses detailing the nature of the reported operations and the regulatory framework governing them and stating that we would no longer respond to similar complaints moving forward. We continue to evaluate ways to reduce the drain on resources resulting from the high volume of complaints from one household.

As a result of the high volume of complaints received in 2023, this target was met approximately 64% of the time. The three-day closure target was established at a time when typical complaint volume was 1,100–1,200 per year. To create capacity to evolve the program in alignment with the Port's shared prosperity mission, the following efficiencies will be implemented in FY25:

- Efficiency 1 – closure time for complaints where return contact has not been requested is five business days.
- Efficiency 2 – voice to text translation capability of voice mail complaints to eliminate manual transcription.

- Efficiency 3 – adapt complaint research and documentation processes to use the existing capabilities within the Port's noise monitoring system more effectively.

Objective 3: Evolve noise program vision and strategies in alignment with the Port's shared prosperity mission with a focus on environmental justice.

Target 3.1: Evaluate opportunities for partnerships, external funding, and broader proactive community engagement.

While this target will be a core focus of the noise program in FY25, core engagement and outreach in FY24 included:

- Five meetings with the Citizen Noise Advisory Committee (CNAC).
- Presentations each term to Portland Community College's *Intro to Aviation* course.
- Community outreach at the Hillsboro Air Fair.

Partnership with the Portland-based 142nd Fighter Wing of the ORANG by providing support for the local STARBASE program. STARBASE provides science, technology, engineering, and math (STEM) educational opportunities to students in communities surrounding PDX. We are proud to have supported this program since 2014.

CONSERVATION

Objective 1: Provide proactive management and meaningful stewardship of natural resources on Port vacant lands and mitigation sites.

Target 1.1: Seek opportunities to protect and enhance natural resources with a focus on sensitive species (i.e., Oregon Conservation Strategy Species, state protected wildlife and federally listed species).

Sandy Island Conservation Site	Streaked horned larks (SHLA) – *Threatened* under ESA: Two males and one female were observed during breeding season surveys. We estimate 0-1 nesting pair this season which is consistent with the last three years of surveys. SHLA were consistently observed in the scraped area which was seeded with low-stature native grasses and forbs. More vegetation management may be required to attract birds to the site.
West Sundial Wetlands Mitigation Site	Northern red-legged frog – *Sensitive* under Oregon Species of Concern: 17 egg masses were observed on site. Loss of egg-laying habitat is a key limiting factor for this species and continued use of this site is indicative of a healthy system.

SHLA at the Sandy Island Conservation Site

Northern Red-Legged Frog Egg Mass at WSW During Spring 2024 Surveys

Target 1.2: Maintain compliance requirements, preserve long-term protection, and seek opportunities to reduce liability and expenses of the Port's mitigation sites.

Mitigation Site Compliance	West Sundial Wetlands a Year 5 report was finalized by Port staff and submitted to the agencies in April. It included a revised delineation, wetland assessment and recalculation of wetland credits.
Long Term Management	Buffalo Street Mitigation Site Long Term Management Plan was completed and is available on the Port's public website.

Target 1.3: Investigate and share natural resources information through collaborative partnerships, community engagement, and outreach.

Partnerships	Provided Oregon Department of Agriculture access to Port property for a regional effort to detect early and monitor the movement of the invasive emerald ash borer beetles. These beetles kill ash trees, resulting in decreased habitat, less stream side tree canopy and shade and water quality impacts to salmon bearing waterways.
	Provided in-kind support for a Portland State University (PSU) Center for Lakes and Reservoir study for early detection/monitoring of invasive zebra and quagga mussels on the Willamette near Port terminal facilities.
Outreach	At the annual meeting of the Ecological Society of America, the Port hosted a field trip at the West Sundial Wetlands mitigation site, sharing the successes, challenges and lessons learned from implementation of the project.
	The Port hosted, attended and provided plants for an event with the Blueprint Foundation at Vanport Wetland mitigation site led by the Columbia Slough Watershed Council. The event provided Black youth with an opportunity to connect with nature and local history.

Objective 2: Contribute to the successful development of capital and tenant projects by providing subject matter expertise on natural and cultural resources that could result in compliance issues or impact project schedules and budgets.

Target 2.1: Support business enablement by proactively addressing natural and cultural resources issues while applying environmental justice principles.

Cultural Resources Compliance	Provided assessments and archeological surveys to inform FAA's consultation for the National Historic Preservation Act which is required for NEPA approval: PDX Fuel Farm, PDX Taxiways A&K West, HIO Taxiway K, HIO Taxiway B, HIO East Evergreen and Troutdale Airport (TTD) Tower.
Permits/Authorizations Received	Terminal Wide Berth Maintenance Program: 2-year reissuance of DEQ 401 water quality certification (WQC) and US Army Corp of Engineers (USACE) 404 permit for 2024-2026 which allows the Port to dredge while we pursue a new 10-year 404 permit.
	HIO Taxiway K: Department of State Lands (DSL) Removal Fill Permit and Clean Water Services Provider Letter.
	Terminal Wide Overwater Work: Section 10 USACE Permit
	In-Water Work Period Variances: HIO Runway Safety Area project, T6 obstruction removal, Navigation pile maintenance, and placement of T5 material in the Columbia River.
Wetland Delineations	Conducted two wetland delineations this year, reducing consultant costs by roughly $20,000.
Permit Compliance	Pile maintenance: Completed turbidity monitoring and submitted monitoring reports to DSL, DEQ, National Marine Fisheries Service (NMFS), and USACE for pile maintenance that occurred at T-4, T-5, T-6, and Navigation.
	HIO Runway Safety Area: Managed the permit conditions through construction which included turbidity monitoring in difficult conditions that resulted in a warning letter from DEQ but was managed successfully and did not result in a violation.

WATER RESOURCES

Objective 1: Protect water quality and reduce water use through actions that eliminate waste, utilize alternative resources and support resiliency goals while reducing costs and generating revenue.

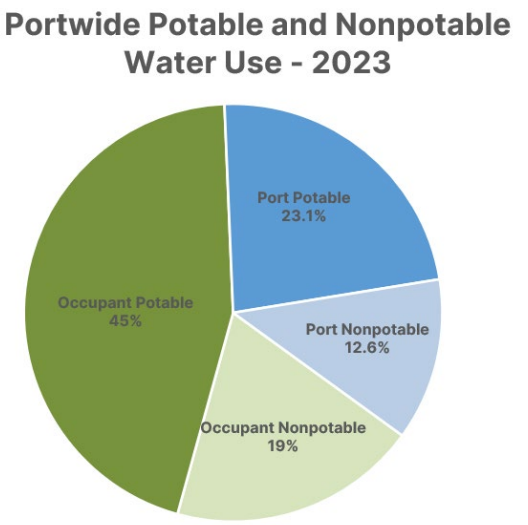
Target 1.1: Review water distribution systems for waste and unaccounted use. A review of this year's monthly water usage indicated no further waste or unaccounted usage after addressing the issues identified last year.

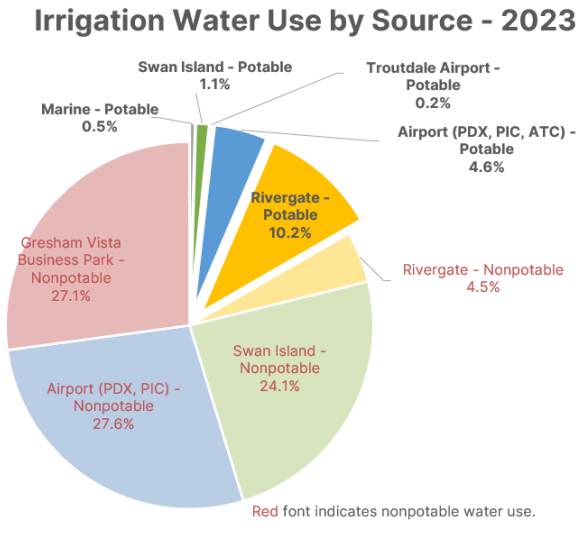
Target 1.2: Promote the replacement of potable water with non-potable water for all non-potable uses where feasible. This includes but is not limited to toilet and urinal flushing, wash water, construction water, and irrigation (ongoing).

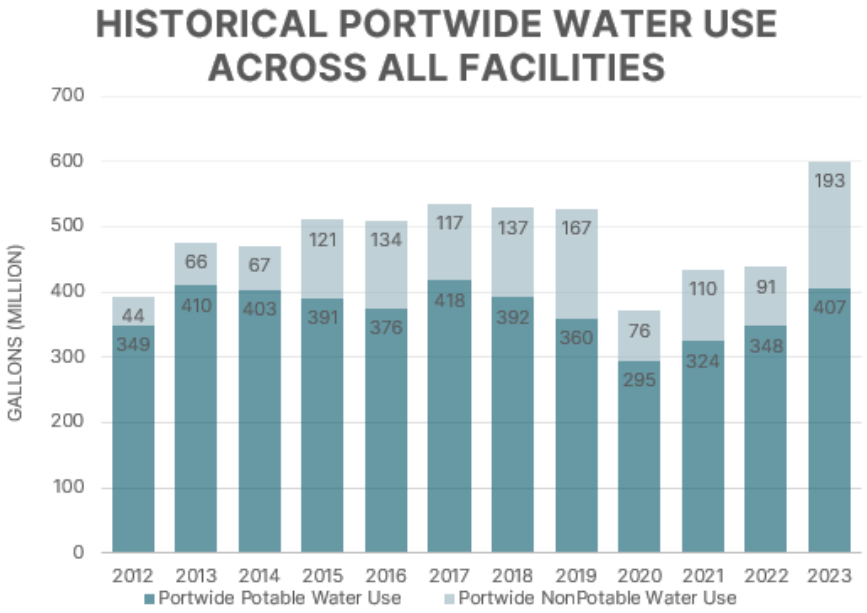
In 2023:

- Non-potable water comprised 13% of Port-wide total water use (see pie chart below left).

- Non-potable water comprised 81% of Port-wide total irrigation water use (see pie chart below right).
- Non-potable water use Port-wide was the highest since at least 2012, while potable water use remained similar to pre-pandemic levels (see bar chart below).
- Utilizing non-potable water not only helps the region with meeting demand for potable water, but also resulted in ~$450,000 in annual cost savings.

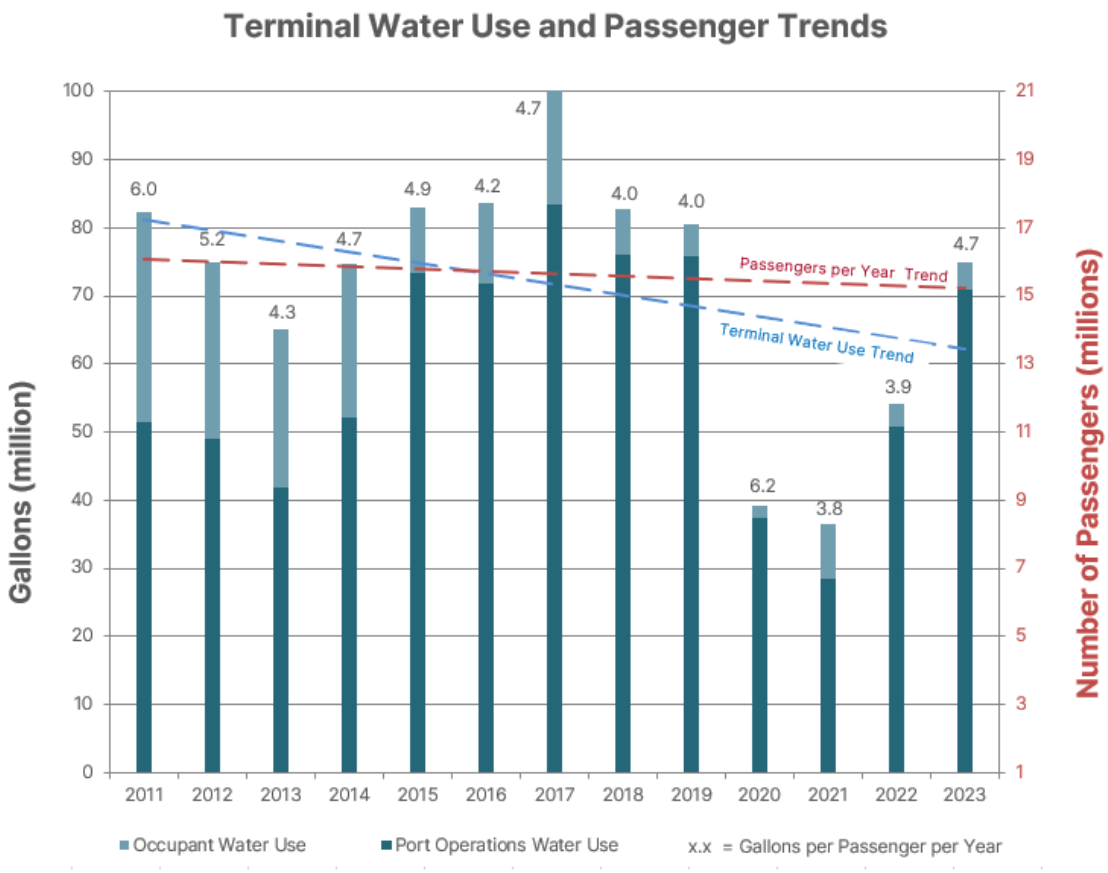






Target 1.3: Reduce PDX passenger water use from the 2015 baseline by 25% by 2030.

Water use per passenger continues to decline due primarily to the installation of low-flow efficient fixtures, as well as rainwater harvesting, reuse, and increased efficiency by the rental car wash facility. Water use per passenger in 2023 was reduced by 3% when compared to the 2015 baseline and a more significant reduction is expected following the completion of the TCore Project (see chart below).



PFAS

Contaminated groundwater from perfluorinated (PFAS) contamination at the PDX Fire Training Facility is entering the stormwater system through leaky pipes and deep ditches and migrating to the Columbia Slough. The Port is proactively assessing ways to keep PFAS contaminated groundwater from entering the stormwater system. The Port also entered into an IGA with Multnomah County to address PFAS contamination in their fish advisory outreach efforts and ensure that the public is aware of risks associated with subsistence fishing in the Columbia Slough. See Appendix for a copy of Multnomah County's FY24 report.

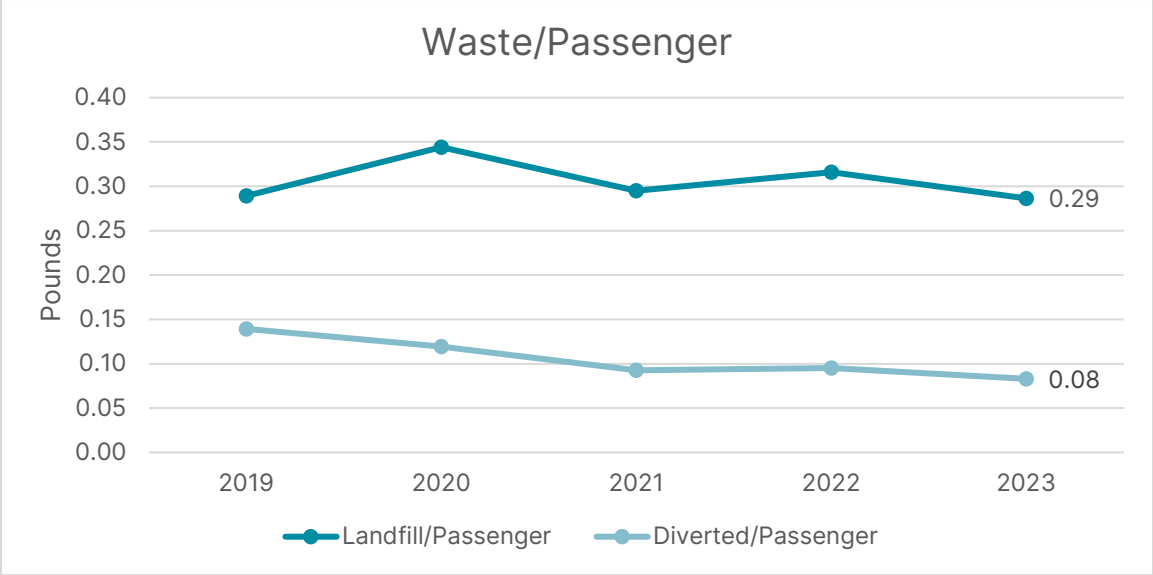
WASTE MANAGEMENT

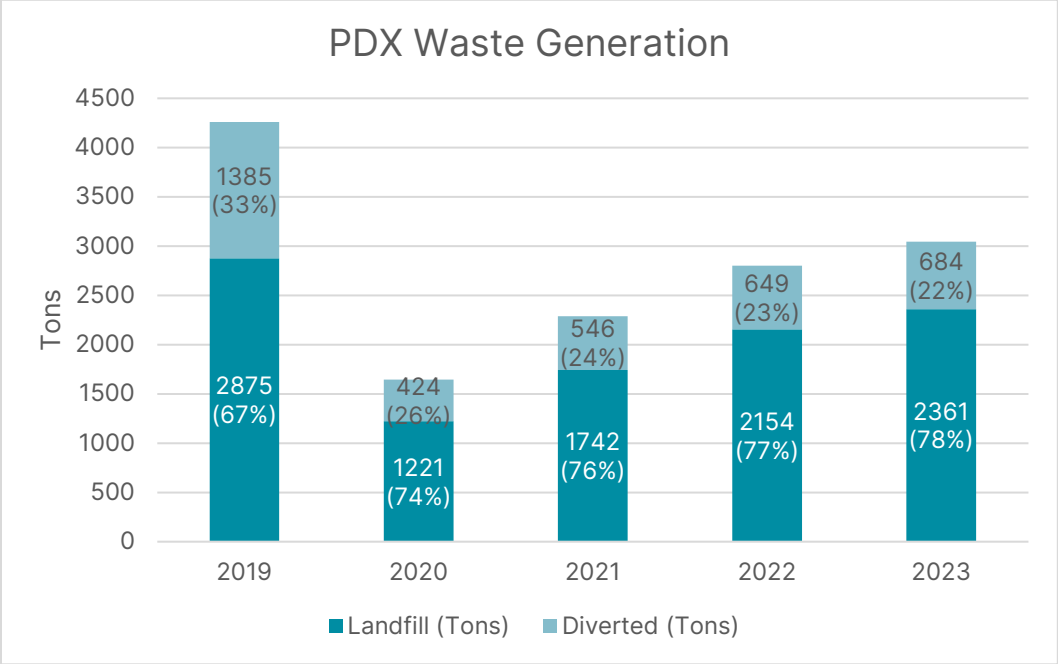
Objective: Manage material consumption and waste generation to reduce disposal volumes, environmental impacts, and greenhouse gas emissions.

Target 1.1: Maintain or reduce the amount of waste generated per passenger at PDX during T-Core construction.

- The amount of landfill waste generated per passenger this calendar year is consistent with pre-pandemic levels but there are still opportunities to increase the amount of diverted waste by recycling and composting. See line graph below.
- Calendar Year 2022 to 2023, waste generated at PDX increased 9% while passenger volumes increased 21% in the same period. See bar chart below.

- Consistent employee turnover at PDX presents a challenge but the shift back to waste areas in a single location in early FY25, as well as planned outreach and trainings for all users, should help.
- A new waste sorting space will allow us to improve the quality of our recycling, reducing disposal penalties and providing a higher commodity price to offset disposal costs.
- Planning for the Green Plate Program is underway with new dishwashing spaces being completed during TCORE Phase II. Return of this program will reduce waste and establish PDX as a leader in providing passengers a more sustainable travel experience.





Target 1.2: Maintain *Very Small Quantity* hazardous waste generator status (lowest level and lowest cost) at all Port facilities.

All Port facilities remained Very Small Quantity Generators for FY24.

WILDLIFE HAZARD MANAGEMENT

Objective 1: Continue to serve as a leader in Aviation Wildlife Hazard Management programs by 1) providing a safe airfield environment by reducing the risks that wildlife poses to aircraft; and 2) investing in research and development and next generation technology to inform development of proactive adaptive management strategies.

Target 1.1: Manage to an acceptable level of risk at PDX by reducing the probability of strikes with the species of greatest concern to safe airport operations.

The PDX Wildlife program continues to be recognized as an effective program that consistently exceeds compliance during the annual FAA Certification Inspection. The FAA refers airports nationwide to PDX for best management practices and recently requested PDX to present these practices at the FAA Annual Airports Conference. The Port remains a leader in aviation wildlife hazard management and is known for innovation and adaptive management.

Appendix. Multnomah County FY23 Columbia Slough Fish Advisory Report

2023- 2024 Annual Report

The Multnomah County Health Department (MCHD) is well-positioned to inform the public about the health risks of consuming fish from the Columbia Slough. Our strategy is to integrate this health information into community trainings, workshops, and events. This report details how we implemented this strategy in fiscal year 2024 (July 2023-June 2024).

Background

The Columbia Slough is a slow moving waterway with 20-plus miles of channels running from its source in Fairview to the Willamette River in Portland. Over 100 years of industrial, agricultural and urban activities contributed to widespread sediment contamination[1].

Boundary Map of the Columbia Slough Waterway

In the Columbia Slough, the contaminants of concern are:

- polychlorinated biphenyls (PCBs)
- per- and polyfluoroalkyl substances (PFAS)

[1] *Columbia Slough Watershed*. Portland.gov. Retrieved June 7, 2023 from https://www.portland.gov/bes/protecting-rivers-streams/portlands-watersheds/columbia-slough.

Multnomah County Health Department

- pesticides[2].

Subsistence fishers are the most at risk. This is an example of a social and environmental injustice facing communities that depend on catching fish for cultural practices or economic necessity[3].

Fish consumption is indicative of PFAS, specifically perfluorooctane sulfonic acid (PFOS), exposure[4],[5]. The U.S. EPA recognizes that eating locally caught freshwater fish is a significant source of exposure to PFOS. Yet there are no current federal policies or regulations providing guidance on fish consumption specific to PFOS or other PFAS.

As the local health department, we are committed to achieving health equity in our community. We understand that language barriers and limited access to information can disproportionately affect our most at-risk populations. To address this challenge, we are actively working to ensure that all community members receive essential public health information in a way that is accessible and meaningful to them.

Community Health Workers

The *Know Your River, Know Your Food* Continuing Education Training for Community Health Workers (CHWs) is a 6-hour training program that provides 6 CEU credits through Oregon Health Authority's Office of Equity and Inclusion. CHWs are frontline public health workers who are trusted members of and/or have an unusually close understanding of the community served. Two to three CHWs attended 4-6 train-the-trainer sessions to prepare as co-facilitators and to incorporate culturally specific elements into these trainings.

Training numbers

1) **14** MCHD CHWs connected with Multnomah County clinics trained in September 2023
2) **17** Asian Health & Services Center CHWs trained in March 2024 (Note: the training was adapted as an online training per request)

---

[2] *Columbia Slough Fish Advisory.* (2022, April). Portland.gov Retrieved May 5, 2023 from https://www.portland.gov/bes/protecting-rivers-streams/documents/columbia-slough-fish-advisory-english/download

[3] Barbo N, Stoiber T, Naidenko OV, Andrews DQ. Locally caught freshwater fish across the United States are likely a significant source of exposure to PFOS and other perfluorinated compounds. Environ Res. 2023 Mar 1;220:115165. doi: 10.1016/j.envres.2022.115165. Epub 2022 Dec 28. PMID: 36584847.

[4] K. von Stackelberg, *et al.* Results of a national survey of high-frequency fish consumers in the United States Environ. Res., 158 (2017), pp. 126-136

[5] Barbo N, Stoiber T, Naidenko OV, Andrews DQ. Locally caught freshwater fish across the United States are likely a significant source of exposure to PFOS and other perfluorinated compounds. Environ Res. 2023 Mar 1;220:115165. doi: 10.1016/j.envres.2022.115165. Epub 2022 Dec 28. PMID: 36584847.

3) **18** Immigrant Refugee & Community Organization (IRCO) CHWs trained in June 2024 (Note: attendees do outreach in the following languages - Arabic, Burmese, English, Dari, Russian, Ukrainian, Zomi)
4) **21** Latino Network CHWs trained in Spanish in June 2024

Quotes

- Asian Health & Services Training quote from Oregon Health Authority collaborator: "That Know Your River / Know Your Food training really was great! It was refreshing to be part of something that went (far) beyond just talking at folks and asking if there are any questions at the end. I was really impressed with the variety of ways to engage participants and learn from one another! That was a really fun group of people, too. I've been telling my team how great that was and about some of the ways to get people participating. We can learn a lot from that!"
- IRCO participant: "Everything was new to me. I love the information & learning about river and toxic fish."

Community Outreach

Multnomah County's role is to increase community awareness and understanding of the Columbia Slough Fish Advisory when sharing the Lower Willamette River Fish Advisory.

- Attended 26 Community Outreach Events
- Reached 2784 Community Members

Carly Chan represented Healthy Homes & Communities at the *Chinese Festival* in August 2023 at Pioneer Courthouse Square.

Multnomah County Health Department held a Community Health Worker Training in September 2023. The photo shows a lesson on biomagnification.

Multnomah County Health Department

IRCO Community Health Worker Training, June 2024. Participants design their own outreach materials.

Metrics FY24

Strategy 1: Participate in Advisory/Regulatory/Community Groups

Activities/Tasks	**Timeline**	**Metrics**
1.1 Attend Public Agency Coordinating meetings	Quarterly (March, June, Sept, Dec)	Attended all
1.2 Attend Portland Harbor Collaborative	Quarterly (March, June, Sept, Dec)	Attended all except June 2024 due to conflict
1.3 Convene IGA Participants' Meeting	Every 6 months	Annual report (July 2024) with tentative meeting to review

Strategy 2: Conduct culturally specific Community Health Worker (CHW) trainings in partnership with Community Based Organizations

Activities/Tasks	**Timeline**	**Metrics**
2.1 Train Community	September 2023	– 4 trainings

Health Workers	February 2024 June 2024 (x2)	– 70 CHWs trained – Columbia Slough materials distributed to CHWs
2.2 Serve as technical support for CHW materials	Ongoing in collaboration with OHA	Periodic meetings with Dave Farrer and Dana Crosby to coordinate multiple advisory messages
2.3 Develop and translate materials	Ongoing in collaboration with OHA and City of Portland	BES updated materials in 2022 per OHA's guidance; continue to coordinate with Andrew Davidson (BES) on current versions of advisory

Strategy 3: Educate community about the risk of eating contaminated fish from the Columbia Slough

Activities/Tasks	**Timeline**	**Metrics**
3.1 Asian Health & Service Center Vietnamese Class	August 2023	– 41 participants
3.2 Columbia Slough Safe Rivers Training- Slavic and Eastern European communities	September 2023	– 30 participants (Russian, Ukrainian)
3.3 Familias en Accion Healthy Homes & Communities Class	January 2024 May 2024	– 42 participants taught in Spanish
3.4 Asian Health & Service Center Mandarin Class	November 2023	– 31 participants
3.5 African Youth & Community Organization- Somali and Afghan refugees and immigrants	November 2023	– 60 participants

3.6 Asian Health & Services Center Senior Group- Cantonese	January 2024	– 165 participants
3.7 Asian Health & Services Center Senior Group- Korean	April 2024	– 51 participants
3.8 Multnomah County Health Department Early Childhood Intervention Nurses	April 2024	– 8 participants
3.9 Community Pulse Food Boxes	April 2024	– 200 food boxes with materials in Russian/Ukrainian
3.10 Multnomah County Health Department Healthy Birth Initiative Staff - Black and African American Clients	May 2024	– 18 participants
3.11 Fishing Tournament at Kelley Point Park	June 2024	– 60 attended
3.12 Community Events	July 2023 - June 2024	– 26 additional community events attended – 2784 people engaged

Lessons Learned

Outreach efforts this fiscal year included Multnomah County's presence at the Pacific Northwest Sportsmen's Show at the Expo Center. While we received 152 inquiries about local fish advisories, most individuals were already aware of the advisories and did not fish in the Slough. Future efforts will continue to focus on communities aligned with those who eat resident fish from the Slough.

In March 2024, a significant sewage spill occurred in the Columbia Slough underneath the North Columbia Boulevard overpass. In response, the City of Portland collaborated with local community partners to inform people living and recreating in the area. During outreach efforts, the City made contact with a number of Burmese-speaking fishers. Despite acknowledging awareness of the fish advisory, these fishers were found to have

buckets filled with carp. This observation underscores the importance of engaging trusted community members, such as Community Health Workers, to effectively communicate the risks associated with consuming these fish, particularly for vulnerable populations like fetuses, nursing infants, and young children. The Fish Consumption and Outreach program has trained several Burmese speaking CHWs working with the Immigrant & Refugee Community Organization (IRCO). These training sessions were in May 2023 and June 2024. They continue to spread awareness of the Columbia Slough Fish Advisory in their communities.