

Working Together for a Resilient Columbia Slough

Identifying Shared Environmental Goals and Opportunities for Joint Action



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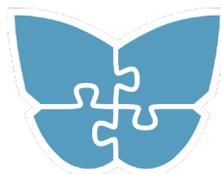
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*Cover photo from annual festival,
Regatta, on August 11, 2019
/ Columbia Slough Watershed Council*



Photo provided by MCDD

I. EXECUTIVE SUMMARY

In 2020, the Multnomah County Drainage District (MCDD), Columbia Slough Watershed Council, and City of Portland's Bureau of Environmental Services (BES) asked Willamette Partnership to help collect information, priorities, and perspectives from a broad diversity of partners in the Columbia Slough watershed. The goal of these three organizations was to learn more about the priorities of partner organizations and identify opportunities to collaborate around environmental improvement goals in the Slough watershed.

Willamette Partnership interviewed stakeholders, community members, and agency partners across 22 different organizations to identify shared goals and priorities across the Slough. Those goals fell within three broad categories:

- 1. Restore water quality to levels healthy for humans and wildlife.** Many communities and a myriad of plant and animal species rely on the Slough and its ecosystem for sustenance. Partners highlighted a need for healthy water that supports and sustains these communities.
- 2. Create a thriving, inviting environment for people that actively promotes equitable, just, and resilient communities.** The Slough carries a history of harm that has had particularly traumatic and harmful effects on indigenous communities, Black communities, and communities of color. Stakeholders see sharing the history of the Slough and intentionally centering environmental justice in future decision making is necessary to create a more equitable future.
- 3. Restore critical habitat to create a protective and thriving habitat for fish and wildlife.** Several partners and stakeholders are already working on collaborative projects to restore habitat and connect habitat across the Slough. These groups asked for additional coordination and support for their efforts to make the biggest impact at a watershed level.

Out of these three goal areas, we identified four recommendations for next steps partners and stakeholders can take in the near-term. These recommendations align with stakeholder priorities and can help achieve shared environmental goals:

Recommendation 1:

Grow collaboration to address the houselessness crisis across the Slough. Unregulated camping is a humanitarian issue that directly impacts a healthy environment in the Slough. Stakeholders expressed a need for the environmental sector to meaningfully engage in this issue and coordinate both as a sector *and* across sectors to mitigate the environmental impacts of this crisis while also contributing to humane, just, and equitable outcomes for houseless communities and individuals in the Slough.

Recommendation 2:

Engage partners and stakeholders to create an integrated water quality & watershed restoration plan for the Slough. Partners identified a need for a Slough-wide plan to better understand where restoration and water quality interventions can have the greatest impact on outcomes. Collaboration and engagement among these stakeholders and others will be needed to create a plan that helps coordinate efforts across jurisdictions and between public and private partners.

Recommendation 3:

Build capacity for coordinated funding and implementation efforts. A multitude of community-led organizations and agencies are already providing services in the Slough related to education, water quality improvements, and habitat restoration, but a lack of steady funding can be a barrier to consistent implementation. Stakeholders suggested that funders across the Slough coordinate to ensure consistent funding is available for these services.

Recommendation 4:

Support and create more opportunities for communities to joyfully connect with the Slough. Stakeholders expressed that there remains a lot of opportunity to increase the number of people who know and care about the Slough. Increased funding and capacity for recreational and educational programming will be key to making this happen. These joyful connections can directly impact the communities who live in and around the Slough and lead to more equitable health outcomes for these people.



Photo from annual Stewardship Saturday event at Heron Lakes Golf Course in partnership with The Blueprint Foundation, February 22, 2020 / Columbia Slough Watershed Council

So many partners and communities are working together on these goals and opportunities today. As we continue to deepen and invest in this collaborative work, we can help make the Slough a healthier, safer, and more resilient place to call home.

II. INTRODUCTION

The Columbia Slough is a jewel of the Portland metro region. This area is critical to the vitality of our region, with [19 miles of navigable waterways](#), [170,000 residents](#), [4,200 businesses](#), and hundreds of plant and animal species. It's a center for thriving neighborhoods, for industry, for fish and wildlife, for recreation, and for travel. The health and well-being of the Slough affects a lot of people. This crossroads between the Columbia and Willamette Rivers has a history of supporting thriving communities [across tens of thousands of years](#).

This area also carries a history of harm. This includes the [forced removal of indigenous people](#) who have lived here since time immemorial, the [forced detention of Japanese Americans at the Expo Center](#) during World War II, the Vanport Flood that displaced [more than 6,000 Black Portlanders](#) in 1948, and [environmental harm from industrial water contamination](#).



Photo of Peninsula Drainage Canal / Photo provided by MCDD

Today, a wide diversity of governmental, non-profit, private, and community-based organizations serve the people and environment of the Slough watershed. Public, private, and nonprofit partners play interrelated and complementary roles, each helping to improve conditions in the Slough. Some focus on reducing flood risk, some on managing wastewater and stormwater infrastructure, and some on protecting and enhancing the Slough watershed for humans, plants, and animals. [Improvements in the Slough's water quality in the past decades](#) are a testament to the hard and ongoing work of these partners.

In late 2020, the Multnomah County Drainage District (MCDD), Columbia Slough Watershed Council (the Watershed Council), and City of Portland's Bureau of Environmental Services (BES) asked Willamette Partnership to help collect information, priorities, and perspectives from a broad diversity of partners in the Columbia Slough watershed. The goal of these three partners was to learn more about the priorities of partner organizations and identify opportunities to collaborate around environmental improvement goals in the Slough watershed.

The intent of this document is to identify shared goals and opportunities for organizations working in the Slough watershed, in order to better coordinate efforts to improve the natural environment in the Slough watershed.

Our hope is that through engaging a wide variety of partners in government agencies, community-based organizations, and conservation organizations, we can identify key opportunities for joint action that will positively impact the region's environment and communities for generations to come.

Willamette Partnership and MCDD staff asked each of the partner organizations, identified in the box on page 6, a series of questions around the following themes:

- What are you currently working on in the Slough?
- What are your environmental goals and priorities in the Slough?
- What are the significant challenges you see in the way of meeting those goals?
- Where do you see some opportunities to find and work toward shared goals together?

This document outlines the results and begins to identify a path forward for shared and coordinated effort. Amidst the threats of climate change, from massive droughts and wildfires to warming water temperatures and decreased snowpack, we recognize that time is of the essence and partnership is essential.



Photo by Joe Parks

Methodology

Our team carried out 22 key partner interviews with stakeholders from a wide variety of organizations in and around the Slough. These were split evenly between representatives from community-based organizations (CBOs) and governmental/public agencies.

Willamette Partnership, in coordination with an Advisory Council of staff from these three organizations, synthesized information from the partner interviews into four basic areas: flood safety, habitat restoration and species protection, humans and equity, and water quality.

INTERVIEWEES

Tom Hickey, Bridgeton Neighborhood Association (BNA)
 Erik Molander, BNA
 Cathy Kellon, Columbia Slough Watershed Council
 Max Samuelson, Columbia Slough Watershed Council
 Gary Kunz, East Columbia Neighborhood Association (ECNA)
 Carrie Sanneman, Multnomah County Drainage District (MCDD)
 Eryn Mitchell, MCDD
 Roy Iwai, Multnomah County
 Darla Hilmoe, Native American Youth And Family Center (NAYA)
 Keith Ferrante, NAYA
 Kristy Cordero, NAYA
 Jessica Rojas, North East Coalition of Neighborhoods (NECN)
 Mary Jaron Kelley, North Portland Neighborhood Services (NPNS)
 Kurt License, Oregon Dept. of Fish and Wildlife (ODFW)
 Andrea Matzke, Oregon Dept. of Environmental Quality (DEQ)
 Sara Miller, DEQ
 Melinda Butterfield, Oregon Dept. of State Lands (DSL)
 Pamela Slaughter, People of Color Outdoors (POCO)
 Jennifer Bies, Port of Portland
 Nick Atwell, Port of Portland
 Bob Salinger, Portland Audubon
 Jennifer Devlin, Portland Bureau of Environmental Services (BES)
 Nancy Hendrickson, BES
 Kate Carone, BES
 Mindy Brooks, Portland Bureau of Planning and Sustainability (BPS)
 Laura Beth Guderyahn, Portland Parks & Recreation (PPR)
 Doug Wise, Portland Water Bureau (PWB)
 Ted Labbe, Urban Greenspaces Institute (UGI)
 Theresa Huang, UGI
 Maryhelen Kincaid, Vanport Placemaking Project (VPP)
 Nestor Campos, Verde



Photo from annual Stewardship Saturday event at Heron Lakes Golf Course in partnership with The Blueprint Foundation, February 22, 2020 / Columbia Slough Watershed Council

Business and industrial sectors were not included in these interviews, but the need to increase engagement with those sectors emerged as a common theme throughout our interviews.



III. RESULTS

Based on the results of our interviews, our assessment identified three high-level **environmental goals** that address shared priorities for many partners working in the Slough watershed:

1. Restore water quality to levels healthy for humans and wildlife;
2. Create a thriving, inviting environment for people that actively promotes equitable, just, and resilient communities; and
3. Restore critical habitat to create a protective and thriving habitat for fish and wildlife.

For each of these high-level goals, we provide some more detailed information on **potential strategies and opportunities for joint action** identified through partner interviews. An overview of key **challenges** identifies some of the most important hurdles facing organizations working toward these goals in the slough. A final section on **recommendations and next steps** outlines some immediate and medium-term actions that contribute to multiple goals and would require coordinated effort from many different organizations working in the Slough watershed.

A. Shared Environmental Goals

Goal 1: Restore water quality to levels healthy for humans and wildlife.

"The Columbia Slough is like the liver and kidneys of the river."
- CBO partner

The Columbia Slough acts as a large collection and filtering center at the confluence of the Willamette and Columbia Rivers, meaning that water quality is directly affected by what happens both upstream in these two rivers, and within the Slough itself.

Water quality in the Slough today is [better than it was five years ago](#) and has greatly improved from conditions [100 years ago](#). Through the first half of the 1900s, the Slough was used by many [as a dumping ground](#), with everything from industrial waste to raw sewage [pumped directly into the water](#).

[Investments in wastewater treatment](#), implementation of [pollution control measures](#), and [watershed restoration](#) have made a meaningful difference, improving water quality in the Slough from [very poor](#) conditions to [generally meeting bacterial health standards](#) in just the past few decades. Local governments and business partners have worked to address key challenges: preventing combined sewer overflows, decommissioning septic tanks and cesspools, and better managing industrial use of potential pollutants such as de-icing chemicals from airport runways. DEQ actively works with local jurisdictions to help them meet modern water quality standards.

Even with all that effort, the Slough ecosystem and community still face water quality challenges that result from the [legacy contaminants](#) and an [increasingly developed landscape](#). In a less developed environment, natural vegetation and soils would help cool streams and buffer them from stormwater runoff and the contaminants it carries, but these are largely absent in the more developed portions of the Slough watershed. Water temperatures and pollutants associated with stormwater and sediment do not currently meet [state water quality standards](#). Continued improvements in water quality have the potential to create a safe, healthy place where families can recreate, wildlife can thrive, and fish can be eaten.

OPPORTUNITIES FOR JOINT ACTION

Develop and fund a Slough-wide water quality plan to ensure watershed-level protections for surface and groundwater

The water in the Slough doesn't pay attention to jurisdictional boundaries. Water quality in each jurisdiction affects the others, but smaller communities generally do not have as many resources to dedicate to water quality improvement. A more coordinated approach to both planning and implementation can help. Several partners also mentioned the importance of an equitable funding strategy for water quality improvement. Funding projects across jurisdictional boundaries is important to achieving watershed-level success.



Photo by Taryn Manning, Unsplash

Partners also shared significant concerns about water quality as it relates to making fish in the Slough safer for consumption. One CBO partner identified the west side of the Slough as especially important to addressing water quality concerns related to fish consumption, since it's where communities are most concentrated along the water. Another partner shared that the lower Slough is where most fishing occurs, especially near Kelley Point Park. These sites could be prioritized for educational and cleanup efforts since they are likely to have the greatest impact on human health as it relates to fish consumption.

Build out and fund neighborhood-level strategies to manage runoff

There are several examples of CBOs and agencies working to manage runoff at a neighborhood-level. For example, Verde works with the Watershed Council to install rain gardens throughout the Cully neighborhood in Northeast Portland. These projects include educational components, and NAYA works with PPR on indigenous plant restoration and education at Whitaker Ponds. These community-based initiatives provide excellent opportunities for engaging the broader community in watershed management while also developing more healing green spaces throughout the Slough.

As effective as these local initiatives can be, there's not always a clear funding source for these types of programs. Agency partners shared that few grant opportunities exist for stormwater retrofits and other runoff treatments and that a watershed-level funding program to bring this kind of neighborhood-level enhancements to scale. This could include direct contract agreements with local community-based organizations, grant opportunities, and other strategies.

PROJECT EXAMPLE: BUREAU OF ENVIRONMENTAL SERVICES COMMUNITY PROGRAMS AND TECHNICAL ASSISTANCE

Project info: Portland's BES offers [Community Watershed Stewardship Grants](#) of up to \$12,000 to fund small-scale, neighborhood-level watershed enhancement projects throughout the city. They also offer [technical assistance](#) that can help communities and businesses understand issues related to stormwater quantity and quality that can help support local-level efforts.

Project Example: Port of Portland's Slough Enhancement Projects

Since 2011, the Port has [funded seven enhancement projects](#) in the Slough focused on improving water quality and habitat restoration. They also partner with local businesses to reduce their stormwater runoff.

Support and incentivize business community contributions

Several partners mentioned a need for better outreach to the business community regarding technical assistance and funding opportunities to implement conservation practices, instead of relying solely on regulatory approaches. For example, landowners could partner with the environmental sector to change lease terms so that leasees are required to implement certain practices to reduce runoff. These types of solutions could be nested within collaboratives already doing work across these sectors. (See the "Levee Ready Columbia" highlight on page 13)

Columbia Slough Watershed Council annually hosts the [Henrietta Awards](#), which honor local partners who are making a difference in the Slough. One partner mentioned that efforts like these are a great way to connect with businesses by honoring those who work toward water quality improvements. Not only can this instill a sense of pride in the business community, it can also raise awareness of issues and help spur new partnerships within the sector.

Share monitoring data across agencies

Some agency partners shared that DEQ doesn't always receive monitoring data from local governments or other groups that are measuring pollutants in the water, making it difficult to identify new sources of pollution or where water quality improvements have been made throughout the Slough. Some recommended development of a more accessible system for partners to share all their monitoring data to build a broader understanding of water quality across the region.

DEQ does put out regular calls for and collect [water quality data](#) from other organizations and jurisdictions, and there are already [other systems that exist](#) in the Pacific Northwest to collect and share water quality data. However, there aren't standards across jurisdictions for data collection and sharing. This effort would also require increased engagement with other institutions to actually report data to the existing systems so there can be a shared understanding of quality across the region.

Goal 2: Create a thriving, inviting environment for people that actively promotes equitable, just, and resilient communities.

Many stakeholders emphasized that solutions to the ecological problems in the Slough need to keep human communities, equity, and justice at the forefront of decision making.

The Slough is home to several distinct communities. From floating homes along the river to the neighborhoods of Bridgeton, and from indigenous communities who have been here since time immemorial to transient communities of campers along riparian areas, the Slough watershed is currently [home to more than 150,000 people](#).

Many people who live and work near the Slough are actively engaged in restorative and cultural work. NAYA leads projects around Whitaker Ponds, actively working with local partners like Portland Parks & Recreation to re-indigenize the landscape by reintroducing native and medicinal plant species to the Slough. People of Color Outdoors regularly hosts kayak and canoe paddles throughout the Slough, getting communities of color exploring and helping them access the healing benefits of nature.

Many people have also experienced injustice connected to the floodplain. Thousands of Indigenous people who used the floodplain to hunt, fish, trade, and gather for millenia were displaced by disease and colonization. Indigenous people that live and thrive in the floodplain today have done so despite these and other inequities. Portland's Black community had a thriving community in Vanport until the devastating flood in 1948 displaced more than 18,000 residents and killed 15. And a housing crisis across the Portland metro area and West Coast has contributed to many encampments in the Slough, in which many individuals lack access to basic resources and safe places to sleep.

WHAT DOES "RE-INDIGENIZING" A LANDSCAPE MEAN?

["Re-indigenization" refers to returning a system or process to indigenous influence or control, with Indigenous knowledge, worldviews, and voices as a starting point.](#) It's often paired with the term "decolonizing", in the sense that the transformation requires a [movement away from attitudes of superiority of Western culture](#).

Re-indigenizing a landscape means learning more about how the landscape existed and was used prior to colonization, then taking an active shift toward that original, indigenous usage. An example of colonization's impact on the Slough would be the development of the levee system to better control the floodplain. To re-indigenize the Slough, then, could look like returning some of the natural floodplain behavior to the ecosystem.

There are several examples of partner organizations we interviewed who are actively working to re-indigenize the Slough in a variety of ways. NAYA brings volunteers and community members out to clean harmful dye from mussels before releasing them back into the Slough, working to restore the species to its pre-colonization health. PPR collaborates with NAYA and other community groups to reintroduce native species of plants at Whitaker Ponds, another act of re-indigenizing the landscape.

FLOOD SAFETY IN THE SLOUGH

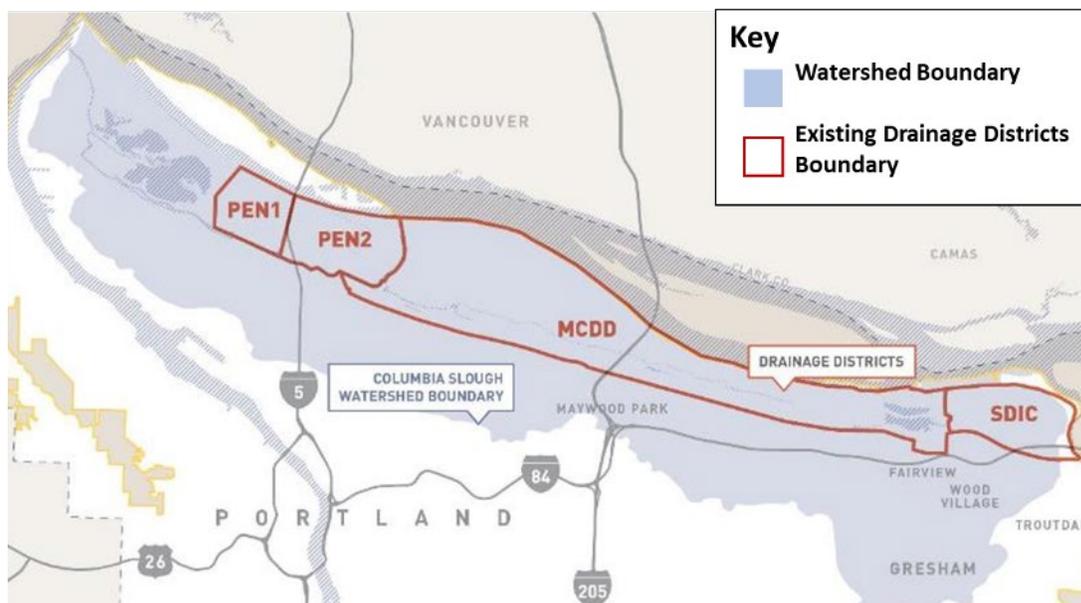
27 miles of levees protect communities surrounding the Slough from flooding through coordinated control of water levels, such as pumping water from one place to another. Decades of engineering have transformed the Slough from its natural floodplains to its current state. The [Vanport Flood of 1948](#), which displaced over 18,000 residents, including more than 6,000 Black Portlanders, and killed 15 people, demonstrates the catastrophic effects that flooding can have on the region.

MCDD's mission and primary function includes protecting life, property, and the environment around the Slough from flood risks through maintaining the levees, managing water levels and flow, and educating the public about flood risk. MCDD also serves three other districts along the south shore of the Columbia River: Peninsula Drainage District #1 (PEN1), Peninsula Drainage District #2 (PEN2), and the Sandy Drainage Improvement Company (SDIC). The four districts collectively extend from the edge of Smith and Bybee Lakes on the west, to the Sandy River on the east.

Flood safety is a paramount concern to both the agencies and community groups we interviewed. Stakeholders raised concerns about how the conveyance and levee systems were not designed for climate change or a large earthquake. They encouraged the new district to consider these threats in modernizing the levee and conveyance systems, and to include watershed restoration and other natural infrastructure solutions that can improve flood safety while also improving wildlife habitat. The challenges and opportunities ahead related to flood management overlap and influence the environmental goals, challenges, and opportunities identified throughout this document.

Changes in the Works

MCDD is working with its partner organizations and community members to shift toward a more integrated model of flood and watershed management. In 2019, the Oregon Legislature passed ORS 550 creating a new special district in Multnomah County called the Urban Flood Safety and Water Quality District ("new district"), which will take over and incorporate several new priorities into the way it manages floods and flood safety infrastructure in the Slough. The new district has an expanded mission that includes contributing to environmental benefits, such as water quality, fish and wildlife habitat, floodplain restoration, and landscape resilience; promoting equity and social justice, preparing for and adapting to climate change; and sharing the cultural history of the area. An initial board of directors is in the process of setting priorities, identifying revenue sources, and generally setting the foundation for the new district. That board can use this report to understand the landscape of partners and opportunities as they do that work. Learn more at mcdd.org.



ORS Chapter 550.170(2)(a) ties the boundaries of the Urban Flood Safety & Water Quality District (UFSWQD) to the Urban Growth District (UGB) of Multnomah County as set by Metro. The service area will be set by the Board but will largely mirror the boundaries of the existing drainage districts (in red above).

OPPORTUNITIES FOR JOINT ACTION

Center equity and environmental justice in future Slough development and restoration efforts

Partners emphasized that it's not enough for future development and restoration work to do no harm. Rather, correcting past injustice and promoting a more equitable future should be a starting point for any discussions about planning, restoration, and development in the Slough. Clean-up and development efforts alike should help ensure that local communities are protected from displacement and actively involve the community in decision making around development plans.

Fund educational positions to raise public awareness of the Slough and its history

To build public awareness, partners emphasized the need to invest resources into educating the public about the Slough, current water quality, the levees, and how they keep our communities safe. This can also be an important way to get community groups involved with restoration efforts. [Whitaker Ponds have been transformed](#) into thriving, healthy ecosystems through efforts by groups like the Council, BES, NAYA and NECN, who understand the history and importance of the Slough.

Both community groups and agency partners mentioned the need for more investment in and capacity for building public awareness. While some agencies have public outreach and education positions already, interviewees reported that funding has been inconsistent. Agencies could consider partnering with community groups, many of whom are already doing this work.

PROJECT EXAMPLES: PUBLIC EDUCATION ABOUT THE SLOUGH

Throughout the Slough, a number of organizations are working to educate their communities about the Slough's importance and ecology. Some examples include:

- **Vanport Mosaic and the Vanport Placemaking Project (VPP)** are CBOs that share the story of the Vanport community and the devastating flood that destroyed it in 1948. VPP leads narrated bus tours through historical Vanport, and they're working to get interpretive signs and a flood pole installed at Portland International Raceway. "If we don't know what happened before, we can't be proud of what we're doing now or how far we've come." - Nonprofit Community Partner
- **Verde** leads neighborhood-level green infrastructure design and education in the Cully area of Northeast Portland. They've designed curriculum for middle school and high school students, but also lead community design workshops and help install rain gardens to manage runoff and improve water quality. Lack of funding is the #1 barrier to expanding this programming.
- **NAYA** works in the Slough on indigenous education opportunities, partnering with groups like the Watershed Council and the City of Portland to host workshops and volunteer opportunities at Whitaker Ponds. They also host the [Many Nations Academy](#), which centers indigenous practices and environmental justice in its year-long educational cycle.
- **The Watershed Council** hosts [Slough School](#), a robust online platform and in-person K-12 education curriculum that includes videos, activity sheets, and other activities for kids and educators to learn more about the Slough and its ecology. They also provide adult education programming such as bird and botany walks.
- **MCDD** has a storytelling series called [Life Along the Columbia](#) that highlights stories from a diversity of people that live, play, and work in the Slough.
- **The City of Portland** offers educational programming throughout the Slough through a variety of agencies and departments, including [Parks & Recreation](#) and the [Bureau of Environmental Services](#).

Provide accessible recreation opportunities

Many people who live in and near the Slough want safe, accessible places to recreate. This could potentially involve working with landowners across sectors to develop a coordinated trail/bike path plan. Several organizations have already explored regional recreation systems, and many mentioned a 40-mile loop greenway trail that's been explored over the past several years. PBOT has also explored a commuter bike path from Smith and Bybee Lakes to the airport, which many local residents enthusiastically support. Careful planning and facilitation will be needed to balance ecological concerns (for example, limiting access to sensitive areas and protecting sensitive species from recreational impacts), safety, and the benefits of improving accessibility to the Slough for the surrounding community.

Goal 3: Restore critical habitat to create a protective and thriving habitat for non-human species.

“The Slough is a great example of the way that cultural values get played out on our rivers. From the dynamic landscape managed by indigenous people to the installation of the levees for agriculture managed by European colonists who saw rivers as something to keep out, to drain and reclaim land from the river. Since the modern environmental movement began, we have been shifting our attention back to ecological, aesthetic, and recreational values. Today, climate change has refocused attention on resilience, and there’s a promising amount of interest in equity and justice. It’s time to figure out what it looks like to put these new values into practice.”

- Public agency partner

The Slough is a truly unique ecosystem. The landscape of the Slough has been actively transformed over the last 100 or more years. Levees and other hard infrastructure have been put in place to protect human life and property, but they have also reduced the ability of the watershed to naturally store and filter water in wetlands and seasonally flooded areas. Native species like salmon have lost critical habitat as channels were cleared and banks were transformed. Infrastructure like roads and levees have also created barriers to fish passage and limited access to the river in some places. Major roadways like Columbia Boulevard and Lombard Street cut through the Slough and make it more difficult to restore connective habitat. Development contributes to an [urban heat island that covers much of the Slough](#) and poses environmental health risks to human and non-human species.

Despite these pressures, the watershed still has a number of large and ecologically valuable natural areas, like the Smith and Bybee wetlands to the west and Sundial wetlands to the east. The Slough is a popular spot for recreation, with boaters in the main channel and bike paths along some of the levees.

Habitat is also critically linked to water quality and community well-being. Though habitat restoration and species protection are listed as a separate goal from water quality and human health, they are all intimately connected to — and interdependent with — one another.

OPPORTUNITIES FOR JOINT ACTION

Invest in “win-win” partnership projects that contribute to multiple partner priorities

Partners emphasized the importance of projects that can balance multiple objectives across flood safety, economic development, species protection, and other priorities.

Economic and environmental objectives are often presented as either/or outcomes. One resident of the Slough said to a project partner, for example, “Why is the Western Painted Turtle more important than my house?” This perception that environmental gains must come at the expense of personal property or economic activity can undermine public support for environmental improvements. However, projects happening in the Slough right now provide a fuller picture of how economic development and ecological restoration can co-exist and be mutually supportive.



[City of Portland's Columbia Blvd Headworks Building](#) / Photo by Kristiana Teige Witherill, Willamette Partnership

PROJECT EXAMPLE: WHITAKER PONDS CLEANUP

Project info: Several partners have worked to [restore the water quality](#) and habitat health at [Whitaker Ponds](#) in Northeast Portland. This partnership — the Watershed Council, NAYA, BES, PP&R, BES, DEQ, and more — have planted native species along the banks, created new habitat for native species of aquatic animals, and helped remove pollution from the ponds. This project benefits partners in a variety of ways, from creating education opportunities and increased green infrastructure to improving environmental outcomes. It now serves as a lovely recreation and educational site for the community.

Project Example: Portland's “Poop to Power” project

Project info: Portland's BES has partnered with NW Natural gas company to harvest methane from sewage treatment plants and convert it into renewable natural gas. Dubbed “[Poop to Power](#)”, this project offers a clear example of a partnership between a private company and government agency with clear positive outcomes to the environment and local economic development.

Set the table for industry and business interests to coordinate and work with the environmental sector

In addition to investing in and uplifting current “win-win” partnerships, partners emphasized the need to create opportunities for the environmental and other sectors to meet, identify shared goals, and talk through compromises for land use decisions in the Slough. Building relationships with these groups, potentially through partners already connected to the work, would open up greater opportunities to work at the landscape scale. Using existing collaborative processes, rather than trying to invent an entirely new collaborative, could help with capacity constraints. Groups like Levee Ready Columbia are already including the business sector in their partnerships.



Photo by Avel Chuklanov, Unsplash

PROJECT EXAMPLE: LEVEE READY COLUMBIA

“[Levee Ready Columbia](#) is a partnership of [over 20 organizations](#) committed to a collaborative approach to preparing our community for future floods...[which] include local, regional, state, and federal government agencies, as well as business, environmental, and community-based organizations.” These partners include the Port of Portland and Columbia Corridor Association, making groups like Levee Ready Columbia a great place to build and foster relationships with the sector that can branch out to new partnerships focused on issues like habitat connectivity.

Develop a watershed-level restoration plan

Several partners from both public agencies and conservation groups stated the need for a comprehensive master plan that looks at the entire Slough and maps out acquisition and restoration opportunities across jurisdictional boundaries. Focused on moving beyond compliance and mitigation, the plan would target Slough-wide ecological uplift and create a big-picture vision of a thriving ecosystem that partners can get behind.

“We’ve missed opportunities to do watershed-level restoration in the past because this plan doesn’t exist and no one entity has had the capacity to take it on.”

- Conservation non-profit partner

Restoration requires a broad set of actions, and so any restoration plan should be reflective of that breadth. It could map out green spaces in the Slough still open to development, highlighting priority properties that partners could purchase for restoration efforts. It could identify breaks in habitat connectivity and propose methods for restoring connectivity. Some partners, like UGI, have already mapped out aquatic connectivity gaps that could be included in the plan.

PROJECT EXAMPLE: REGIONAL HABITAT CONNECTIVITY WORK GROUP

Project info: Several organizations — Urban Greenspaces Institute, Metro, City of Portland, and others — partner together on the [Regional Habitat Connectivity Work Group](#), which focuses on identifying and improving key areas of habitat connectivity around the region.

LAND PROTECTION AND RESTORATION IN EXISTING GREEN SPACES

The eastern Slough has several undeveloped areas that could be protected from further development, and there are several parcels of private property that one partner felt would make ideal restoration projects scattered throughout the Slough. The Watershed Council said they have already identified places in the upper watershed that are important to protect, and that several golf courses are either currently up for sale or interested in establishing more natural areas on their grounds.

At least one public partner expressed the desire to be able to protect more land in the Slough as it becomes available, and the recent Metro open space bond measure may allow for some purchases. A dedicated funding source for the Slough could be used to purchase properties or conservation easements to allow for habitat protection and restoration. The new district could consider setting up a fund for property acquisition, and other organizations and agencies active in the Slough could consider similar measures to have cash on hand to buy or enhance properties through easements.

Partners emphasized that this plan should not be limited to habitat goals but should also include green infrastructure and water management goals. Several governments have these plans for their own jurisdictional boundaries, but a coordinated approach across jurisdictional boundaries could help save money and increase effectiveness. A watershed-level plan is required for Section 319 EPA grant funding, which is currently out of reach of organizations and jurisdictions in the Slough. One partner mentioned this could potentially look like an updated Columbia Corridor Plan.

Develop a funding strategy for Slough-wide mitigation and restoration efforts

Partners suggested creating a funding strategy for coordinated habitat restoration efforts that cross jurisdictional boundaries throughout the Slough. This kind of approach could help offset the negative environmental impacts of development and provide partners with funding to work in coordination. The costs and benefits of this approach would need to be equitably distributed and responsive to community priorities. Development of the new flood safety and water quality district may create new opportunities for coordinated funding.



Photo from annual Stewardship Saturday event at Heron Lakes Golf Course in partnership with The Blueprint Foundation, on February 20, 2021. / Meei Lum

B. Challenges

Our interviews revealed a great deal of agreement among public, CBO, and conservation partners around these three high-level goals for the Slough watershed. However, partners also identified a set of key challenges that often stand in the way of consistent, coordinated, and effective progress toward these goals.

Regional houselessness crisis

This was the most common and significant challenge identified by partners in our interviews. Unpermitted camping causes major environmental degradation from untreated human waste, trash, and damaged vegetation, which can be especially frustrating to communities who have put so much time and money into improving the local landscape. The presence of camps also leads to some recreation areas feeling unsafe and therefore being avoided by other community members.

Legacy and industrial pollution

Legacy sites are associated with pollutants adhered to sediment, which can result in surface water contamination, and sometimes put deeper at risk of contamination. Industrial pollution from sites such as scrap yards and tire production facilities are perceived by partners as sources of active pollution. For example, heavy metals in Whitaker Ponds were recorded 10 to 50 times higher than maximum acceptable levels in 2012, leading to a court-mandated cleanup with [Metro Metals in 2017](#).

Poor water quality can impact human health for communities that spend time in the Slough. Many community partners expressed concern or uncertainty about the safety of recreation and fishing in the Slough. Some of the CBO partners we interviewed shared that they recommend communities wash their hands immediately after touching the water — there's a real fear that people will get sick merely from coming in contact with the water. There's also a [long history of people relying on fish from the Slough for sustenance](#), but contamination of Slough waters with [polychlorinated biphenyls \(PCBs\) and mercury](#) makes eating these fish potentially harmful. The [Oregon Health Authority recommends](#) limiting consumption of Slough resident fish to no more than 1 serving per month.

Several partners interviewed described the effects of colonization and industrialization as devastating to the natural habitat and fish and wildlife species of the Slough. "The Slough is a prime example of the negative impacts of white people taking over. I don't want to tell the kids [we work with] to wash their hands after they touch the mussels because of heavy metals poisoning. There's such a difference here post-colonization."

- CBO partner

Development and ongoing non-point source pollution

Public and environmental partners identified increased development as a challenge to the future water quality in the Slough. Policies that enable and concentrate continued development in this area can contribute to these impacts.

For example, conservation partners shared that the state's land use planning system tends to incentivize continued industrial development even in ecologically sensitive areas. [Goal 9](#) is a state-level mandate that requires municipalities to ensure that enough land is available for industrial and commercial development for economic growth. Partners report that because the City of Portland's zoning of industrial lands has been heavily focused around the Willamette and Columbia Rivers, there is a strong incentive to add impervious area and development in the Slough and other areas that tend to be ecologically sensitive and subject to flooding.

Finally, houselessness is perceived by many partners as a contributor to current dumping in the Slough, although partners also shared that some local businesses and housed community members also take advantage of encampments for illegal and illicit dumping.

Infrastructure poses challenges for connecting habitat areas across the Slough. This includes manmade transportation infrastructure (PDX Airport, Columbia Blvd. and Lombard St.) that cuts across portions of the Slough, culverts that prevent fish passage in some places, as well as the more natural infrastructure (like steep banks and levee slopes) that creates barriers for species.

Invasive species are both a symptom and a cause of habitat degradation in the Slough. Some invasive species, like Himalayan blackberries are notoriously difficult to remove, especially in hard-to-access areas. Invasive aquatic plants compete with native species for resources, degrade aquatic habitat, and disrupt the flow of water through the system. Climate change could potentially exacerbate these issues, creating less favorable conditions for native species while providing opportunities for invasives to thrive in a warmer climate.



Photo provided by MCDD

The patchwork of land ownership makes it difficult to establish accessible recreation opportunities. Regional efforts to create a large [40 mile loop trail](#) for transportation and recreation have stalled out over the past decade because of the difficulty in coordinating development amongst land owners, but without that coordination, there are just disconnected segments of trails that don't provide what the community wants.

Climate change is an ongoing issue that will affect many aspects of the Slough. Heat in particular will change the water temperature in the Slough and have impacts on aquatic species, so finding a way to mitigate rising temperatures through land use and other strategies should be a consideration in planning and mitigation efforts.

C. Recommendations & Next Steps

After hearing from stakeholders in the interview process and at the stakeholder workshop, we identified some key opportunities for organizations to take that A) align with stakeholder priorities in the Slough, and B) further the shared environmental goals of stakeholders and communities within the Slough:

1. Grow collaboration to address the houselessness crisis across the Slough.

Houselessness and unpermitted camping is abundant throughout the Slough, with major impacts to the local community and environment. Nearly every partner interviewed identified camps as being hazard risks through human waste and trash dumping. The environmental effects can be particularly challenging and frustrating when camping takes place in areas that have previously been restored. Many partners are also engaged in addressing the impacts and causes of houselessness, often stepping out of their historical comfort zones or even expanding their organizational mission to do so.

Partners recognize that without a coordinated effort, cleaning up one campsite in the Slough will simply displace campers to another part of the Slough. Continued collaboration with partners across Multnomah County is critical to address this complex social issue in ways that are equitable. Partners floated ideas like developing a designated camping area in the Slough to reduce environmental impacts. Organizations that are not sure how to engage can contact the [Joint Office of Homeless Services](#), and may need to be willing to step outside of their organizational missions and jurisdictional boundaries to help solve this problem together.

2. Engage partners and stakeholders to create an integrated water quality & watershed restoration plan for the Slough.

Between cities and special districts, the Slough includes part or all of at least 12 local jurisdictions. Many of those governments have shared or similar priorities for the Slough region, and many coordinate closely with partner agencies on specific issues. However, there has not been a coordinated planning effort to identify watershed goals, strategies, and priorities.

Partners identified needs for both a water quality plan and a watershed restoration plan for the Slough, but the two are intricately connected. As one conservation partner put it, "We don't need six different plans. We need one good one." Another partner emphasized the importance of keeping any integrated planning simple and streamlined - for example, developing a simple, collaboratively developed, color-coded map to identify priority areas for restoration actions.

In a world of limited funding and capacity, an integrated watershed plan can also help identify and prioritize actions that help solve multiple environmental, social, and economic challenges at the same time. It can also help identify land acquisition priorities and include information on funding sources so that partners have clear pathways to collaborate on high-impact projects. This kind of plan can also unlock certain funding sources for remediation and restoration that require watershed-level plans in order to apply for grants.

An integrated watershed plan can and should be centered in a vision created with the community, partners, and stakeholders from across sectors (environmental, industrial, etc.) to increase support and authentically reflect the many voices represented in the Slough. It should also take into account and help provide an organizing framework for the many other kinds of plans that exist for this area - from local stormwater management plans, plans to meet water quality standards through the Total Maximum Daily Load program, to non-profit partner work plans to plans associated with levee modernization and compensatory mitigation for infrastructure projects.

3. Build capacity for coordinated funding and implementation efforts.

Even the best watershed plans sometimes have trouble transitioning into an implementation phase. Doing effective, coordinated work at the watershed scale requires collaborative leadership, capacity, and funding. An integrated watershed plan should be developed from the beginning with an eye to strong implementation:

- How do the roles and responsibilities of different partners in the Slough fit together or overlap? What gaps exist?
- What sources of funding are currently available to help address shared priorities in the watershed? How can public and private investment be coordinated to get more “bang for the buck”? Where are there gaps in funding for high-priority actions or areas?
- What amount and type of coordination is needed among partners in the watershed to help set shared goals, track progress, find opportunities for joint action, and communicate around successes and lessons learned?

Compensatory mitigation is one example of a potentially significant source of funding for meeting environmental goals in the watershed that could be more effective if investments were better coordinated across jurisdictional boundaries. Mitigation projects are too often done in a piecemeal way, when individual developers realize that the projects they are proposing will require mitigation. Forecasting restoration needs and pooling mitigation funding can help deliver bigger, better projects that better align with community objectives.

4. Support and create more opportunities for communities to joyfully connect with the Slough.

If people don't know about the Slough, they can't care about the Slough. Being able to visit the watershed — to paddle through its waters, catch a fish, spot an osprey perched on a branch — provides a visceral connection to place that's important to local communities and to environmental protection efforts. Several partners we interviewed provide educational opportunities that foster this connection with the Slough and its inhabitants, and others are leading recreational opportunities to get people actively engaging in the landscape.

Finding ways to support organizations that are already doing this work, as well as lift up new opportunities for joyful connection in the Slough, provides a myriad of benefits to community. Being out in nature [can improve community physical and mental health](#), and the raised awareness of the Slough and its issues can bring more partners into the fold for collaborative projects.

In our workshop, stakeholders specifically identified [joyful connection](#) as a missing part of these recommendations, and with so many of the partners already engaged in this work, finding ways to increase these opportunities and support the organizations providing them is important.



Photo from annual festival, Regatta, on August 11, 2019 / Columbia Slough Watershed Council