

Port-Wide Habitat Mitigation Strategy

2022



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PURPOSE

The purpose of the Port of Tacoma's (Port) updated Port-Wide Habitat Mitigation Strategy (Habitat Strategy), as adopted by the Port Commission, is to provide a framework that informs:

- the management of the Port's mitigation credit portfolio,
- the development of future habitat mitigation sites as advance mitigation and/or mitigation bank,
- the direction the Port will take to work with local partners to develop and/or improve habitat sites independent of regulatory requirements,
- the stewardship of existing habitat sites, and
- the advancement of the Port's Strategic Plan [Environmental Leadership goal](#).

This Habitat Strategy supports the Port's 2021-2026 Strategic Plan and the Northwest Seaport Alliance's (NWSA) Coordinated Course 2035 as well as compliance with applicable local, state, and federal laws.

GUIDING PRINCIPLES

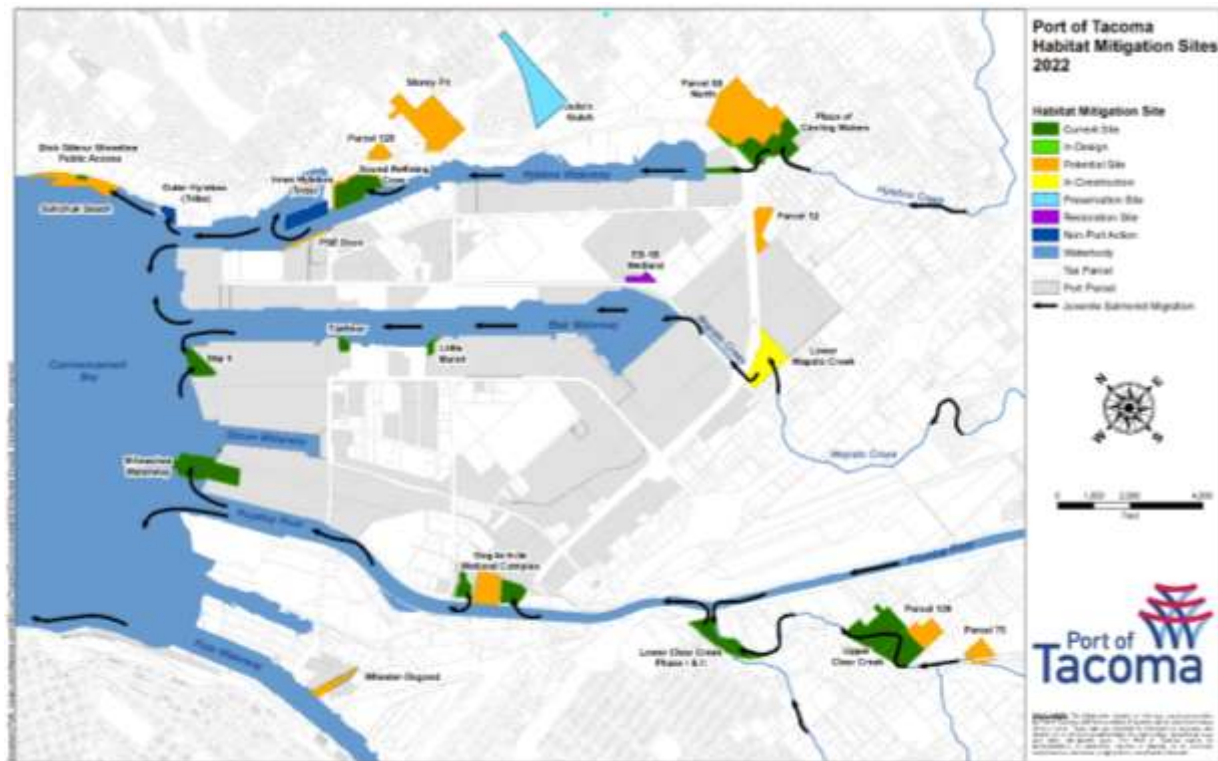
For almost four decades the Port has relied on three foundational principles to guide its mitigation strategies. These principles derive either directly or in part from the Puyallup Land Claims Settlement and include:

- build large, ecologically important sites that focus on fisheries enhancement,
- build sites in advance of the development project requiring the mitigation,
- build sites where they will provide the most ecological good and away from planned future development—view sites as permanent infrastructure.

BACKGROUND

The Port's mitigation efforts began in the 1980s with the construction of Gog-le-hi-te I on a former landfill to mitigate for impacts stemming from the construction of what is now the West Sitcum Terminal. Since then, the Port has constructed, preserved, or participated in 22 sites covering over 230 acres. Those sites include riverine areas along Clear Creek, the last freshwater tributary to the Puyallup River before it enters Commencement Bay; estuarine areas such as the Gog-le-hi-te complex, Place of Circling Waters on Hylebos Creek, and Lower Wapato Creek, (under construction in 2021-22); and nearshore marine areas such as Milwaukee Waterway and Slip 5. These sites follow the migration patterns of juvenile salmonids in the lower Puyallup River system and provide refuge for rearing and foraging in various early life stages. See Figure 1

The Port Commission first adopted a formal habitat mitigation strategy in 2012. That Strategy was updated in 2014 and focused on establishing a mitigation bank and building three new sites: the Upper Clear Creek Mitigation Site (UCCMS), the Lower Wapato Creek Mitigation Site (LWCMS) and the Saltchuk Mitigation Site (Saltchuk). Saltchuk was assumed to be expandable and constructed over many years, or even decades, as dredge material became available. This Habitat Strategy will be updated every 5-10 years, as mitigation needs and opportunities change.

Figure 1. Port of Tacoma Habitat Mitigation Sites and Juvenile Salmonid Migration Patterns

Due to the nature of its location, the Port often encounters aquatic environments and terrestrial sensitive areas. Any impacts to wetlands/aquatic resources that cannot be avoided, minimized, or reduced must be offset through compensatory mitigation. Compensatory mitigation is the creation, restoration, enhancement, and/or preservation of wetlands/aquatic resources to offset the impacts that cannot be avoided or minimized, and to provide the same functions and values that have been lost.

There are four general types of compensatory mitigation:

- Concurrent mitigation
 - Habitat construction occurs during or after the impact.
- Advance mitigation and mitigation banking
 - Habitat construction occurs before the impact.
- In-lieu fee program
 - Habitat construction occurs after the impact.

Additional detail about the types of mitigation can be found in the Port-Wide Habitat Mitigation Report.

The Port prefers advance mitigation and mitigation banking. Advance mitigation and mitigation banking complement the Port's foundational tenets of habitat mitigation because they provide the opportunity to build large, ecologically beneficial sites away from existing or planned developments before it's needed; to focus restoration efforts on salmon recovery in a meaningful way; and to manage these sites in perpetuity as Port assets. In addition, creating mitigation before the impact via advance mitigation or mitigation banking has an added economic benefit because fewer mitigation credits are needed for an

impact compared to concurrent mitigation (more favorable mitigation ratio); efficiencies of scale (larger, more contiguous sites); and paying for mitigation credit with less inflated dollars (compared to paying later¹).

CURRENT STATUS OF THE 2014 HABITAT STRATEGY

Mitigation Bank: The Upper Clear Creek mitigation bank instrument was certified in June 2020. The Port anticipates receiving 12.56 wetland acre-credits and 273.16 fish conservation credits (Discounted Service Acre Years [DSAYs]) by 2027 as the UCCMS continues to mature and meet performance standards. As of the fourth quarter of 2021, the Port has received 6.24 wetland acre-credits (135.71 DSAYs) with another 2.82 wetland acre-credits (61.33 DSAYs) expected in 2022.

Upper Clear Creek Mitigation Site (UCCMS): UCCMS is a ~40-acre wetland and stream restoration site comprised of the 28.5-acre mitigation bank site and another restoration site. Construction of UCCMS was completed in 2016. The construction project vegetation maintenance period ended in 2019. The site is undergoing near annual monitoring and has been incorporated into the Port's long-term stewardship program. While controlling invasive vegetation species remains a challenge, and the local beaver population is modifying the hydrology with dams and new channels, the site is performing as designed. Native vegetation establishment is robust and meeting performance standards ahead of schedule and site use by salmonids is far exceeding Port and Puyallup Tribe Fisheries staff expectations. The site is used by both natural origin and hatchery chinook, coho, chum, and pink salmon, steelhead/rainbow trout, cutthroat trout, and likely bull trout. Tribal fishery staff have recorded the highest chinook returns on Clear Creek in over 40 years. For full site description of UCCMS, see the Port-Wide Habitat Mitigation Report.

¹ Given land constraints in Pierce County and the favorable mitigation ratios, the value of mitigation credits tends to increase faster than the opportunity cost of money.

Photo 1. Returning adult Chinook salmon at Upper Clear Creek



Lower Wapato Creek Mitigation Site (LWCMS): LWCMS is a ~20-acre wetland, estuary, and stream restoration site developed as an advance mitigation site. Construction of LWCMS was planned for 2013; however, the project was put on hold due to concerns raised by the Puyallup Tribe of Indians. After years of consultation and coordination with the Puyallup Tribe, the Port received support for the design and construction of the site in 2020. Construction of LWCMS began in July 2021. The grading, seeding, utility relocation, and 12th Street culvert replacement/bridge construction should be completed by the first quarter of 2022. Site planting is scheduled for the fourth quarter of 2022, with the construction project vegetation maintenance period ending and long-term stewardship beginning in 2024. During construction, fish isolation and salvage activities identified a variety of fish and aquatic species including cutthroat trout, coho salmon, sculpin, three-spine stickleback, starry flounder, crawfish, and shrimp. For full site description of LWCMS, see the Port-Wide Habitat Mitigation Report.

The LWCMS highlights the difficulty and expense of urban wetland restoration. Moving/improving utilities and road improvements added several million dollars to the project. These non-habitat improvements would very likely have kept a private mitigation banker from considering the project.

Photo 2. Construction of Lower Wapato Creek Mitigation Site



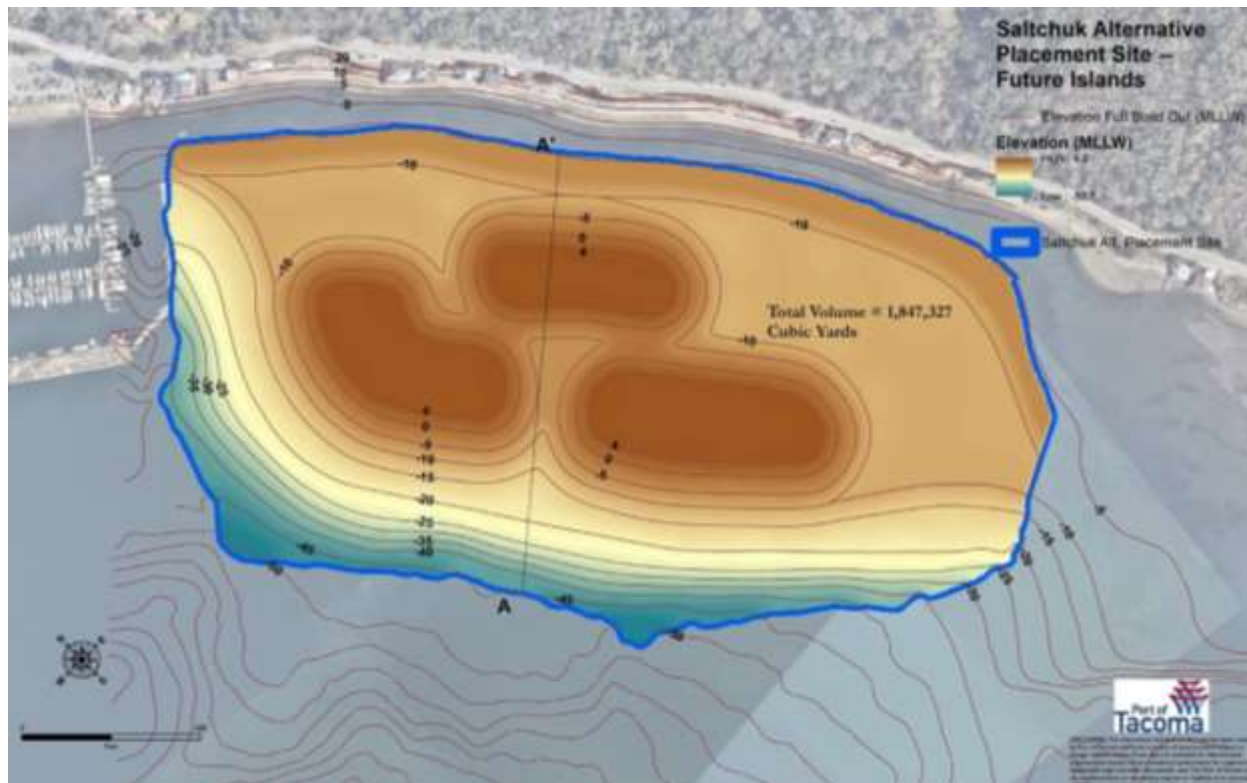
Saltchuk: The Port owns the lands from minus 4.5 feet Mean Lower Low Water (MLLW) and above (approximately 8.5 acres). The Port leases the remaining approximately 65 acres from the Washington State Department of Natural Resources (DNR). The Port had hoped to build a mitigation site at Saltchuk and include it in an umbrella mitigation bank. After years of negotiating lease terms for such a use with DNR, it became apparent a bank was not going to work under existing state aquatic lands law. The Port abandoned the idea to construct the DNR portion of the site and focused solely on making habitat improvements to the Port's property.

However, with the initiation of the [Tacoma Harbor Deepening Study](#) with the U.S. Army Corps of Engineers (USACE), the Port saw an opportunity to approach USACE about using the clean dredge material from the deepening project to construct the DNR portion of the site as a restoration area rather than a mitigation site. After careful coastal engineering analysis, USACE staff and officers became enthusiastic supporters of beneficially using dredge material to build Saltchuk instead of disposing of the dredge material in Commencement Bay's open water disposal site. While many technical and administrative hurdles remain, Port staff are encouraged that the Port's 20-year vision for building this site is a potential outcome of the deepening project. These technical and administrative hurdles are important and include concerns from the Puyallup Tribe regarding habitat changes and values, and Puget Sound Pilots and US Coast Guard regarding proximity to the Hylebos navigation channel and

anchorages. The Port and Corps will work with these and other parties through the design process to determine the ultimate feasibility of this potential nearshore restoration effort. This potential project is scalable. A project of a smaller scale may well address those concerns.

If this restoration project is built, the Port will receive no mitigation credit for the DNR portion of the site. However, this approach is consistent with the Port's 2021-2026 Strategic Plan Strategy EL-4 (create wetland opportunities and improve fish habitat independent of regulatory obligation), Action 2 (engage in habitat enhancement projects with community partners), and Action 3 (ensure Saltchuk Restoration Site is included in the Tacoma Harbor Deepening Project). Further, by restoring the DNR portion of the site, the Port would likely receive more mitigation credit for building the shoreline habitat portion of the site because the Port's property would abut excellent habitat rather than the current degraded, wood waste problem areas. To date, Tribal staff have only expressed support for the Port's beach habitat improvements in this area. For full site description of Saltchuk, see the Port-Wide Habitat Mitigation Report.

Photo 3. Saltchuk Restoration Area conceptual design



CURRENT PORT MITIGATION CREDIT BALANCE VS ANTICIPATED FUTURE CREDIT NEEDS

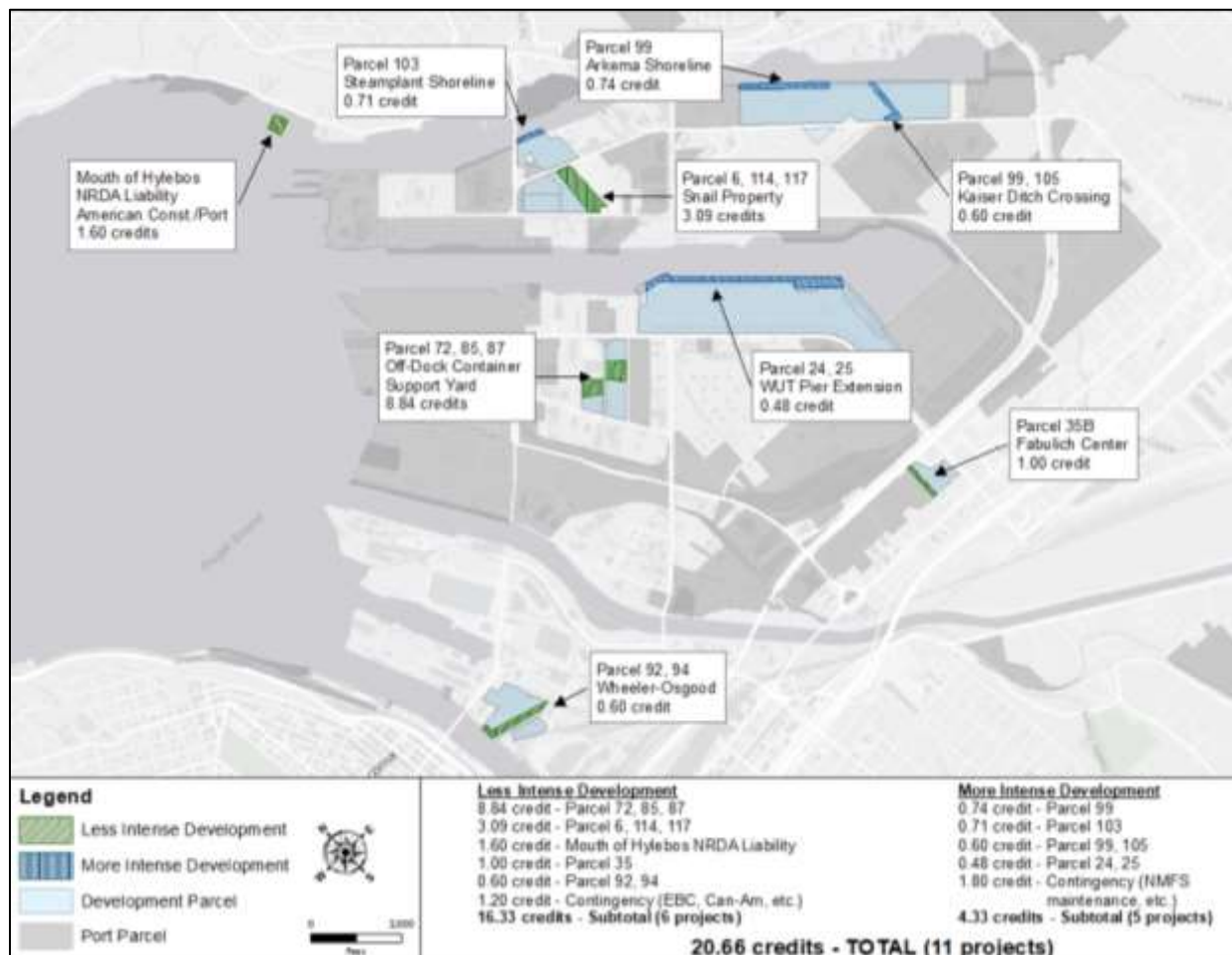
Potential projects identified within the visioning work being conducted by the NWSA for the Coordinated Course to 2035, in addition to supporting the Port's 2021-2026 Strategic Plan, staff project a need of approximately 16 wetland acre-credits; however, a more intense re-development scenario may require almost 21 wetland acre-credits. The Port's current mitigation credit portfolio includes an estimated 26 wetland acre-credits produced by 2027 from our current advance/bank mitigation sites (Place of Circling Waters, Upper Clear Creek Mitigation Bank, and LWCMS) for a potential of 5 to 10

unused wetland acre-credits. See Table 1, Figure 2, and the Port-Wide Habitat Mitigation Report for details of this analysis.

Table 1. Mitigation Credit Portfolio (available by 2027)

	Wetland Acre-Credit	DSAY
Place of Circling Waters Advance Credit Area	3.42	112.26
Upper Clear Creek Mitigation Bank	12.56	273.16
Lower Wapato Creek Advance Mitigation Site	10.00	N/A
TOTAL	25.98	385.42

Figure 2. Anticipated Future Wetland Credit Needs



CURRENT REGULATORY UNCERTAINTY AND COMMERCIAL OPPORTUNITIES

Due to significant policy changes at local National Marine Fisheries Service (NMFS) offices, Puget Sound and lower Columbia River waterfront property owners face significant regulatory uncertainty when trying to maintain their properties and structures. In short, NMFS is seeking mitigation for maintenance activities that has not been required in the past; however, USACE, who is responsible for issuing the permits to conduct in-water maintenance activities, is not authorized to seek mitigation for

maintenance work. This impasse between the two agencies has delayed routine in-water maintenance projects since 2018.

While this impasse has caused significant difficulties for both the ports of Seattle and Tacoma and the NWSA, it creates an interesting commercial opportunity. NMFS relies heavily on the concept of fish conservation credit² banking/in-lieu fee programs to make their new policy direction work. To do this NMFS is teaming with the [Puget Sound Partnership](#) (PSP) which is establishing a hybrid bank/in-lieu fee [program](#) to supply fish conservation credits to property owners to cover their maintenance needs. PSP will generate credits by removing derelict creosote piles and over-water structures.

The commercial opportunity lies in the Port's ability to generate fish conservation credits for far less cost than the PSP is pricing their credits. The PSP has established a price of \$80,000 per DSAY. The Port has opportunities to generate credits for substantially less. If the NMFS policy change holds, this provides the opportunity for the Port to broaden/diversify its mitigation bank portfolio to produce and sell fish conservation credits. A fish-only conservation bank protects the wetland acre-credits established at UCCMS and Place of Circling Waters by providing a source of fish-only conservation credits. If fish conservation credits are used from either of those sites, the Port must also deduct a commensurate amount of wetland acre-credits.

While providing fish conservation credits may not be a traditional Port service, there are public and private waterfront landowners within the community that urgently need these credits to simply maintain their facilities (e.g., bulkhead, park, road, rail, slope stabilization, marina, dock, ramp, or industrial pier) per NMFS policy. As the NMFS policy evolves for requiring fish conservation credits for maintenance activities, the Port has the opportunity to further explore this potential unorthodox revenue stream.

OPPORTUNITIES FOR PORT HABITAT MITIGATION SITE DEVELOPMENT

Three large Port-owned areas remain where the Port can create significant habitat mitigation sites.

Saltchuk Beach Mitigation Site: This project improves the intertidal and riparian areas along Marine View Drive, complementing the larger Saltchuk Restoration project. This site could restore up to 8.50 acres and produce up to 195.2 DSAYS. This site will be the most cost effective if built in conjunction with a berth deepening and before the larger Saltchuk Restoration site is built in the nearshore DNR lease area. It will take approximately 29,000 cubic yards of material to build the site, plus large, rounded rock and large woody material. Placing that material by barge may be the only financially feasible way to build the site. Thus, it is important to build it in conjunction with, or (ideally) right before the Tacoma Harbor Deepening Project.

² Fish conservation credits differ from wetland acre-credits in that they are established by NMFS in a separate process that is much faster and easier than the process established by USACE and Ecology for wetland mitigation bank credits. Fish credits have historically been expressed as DSAYS. Now these credits are expressed as conservation credits which are 1/100th of a DSAY.

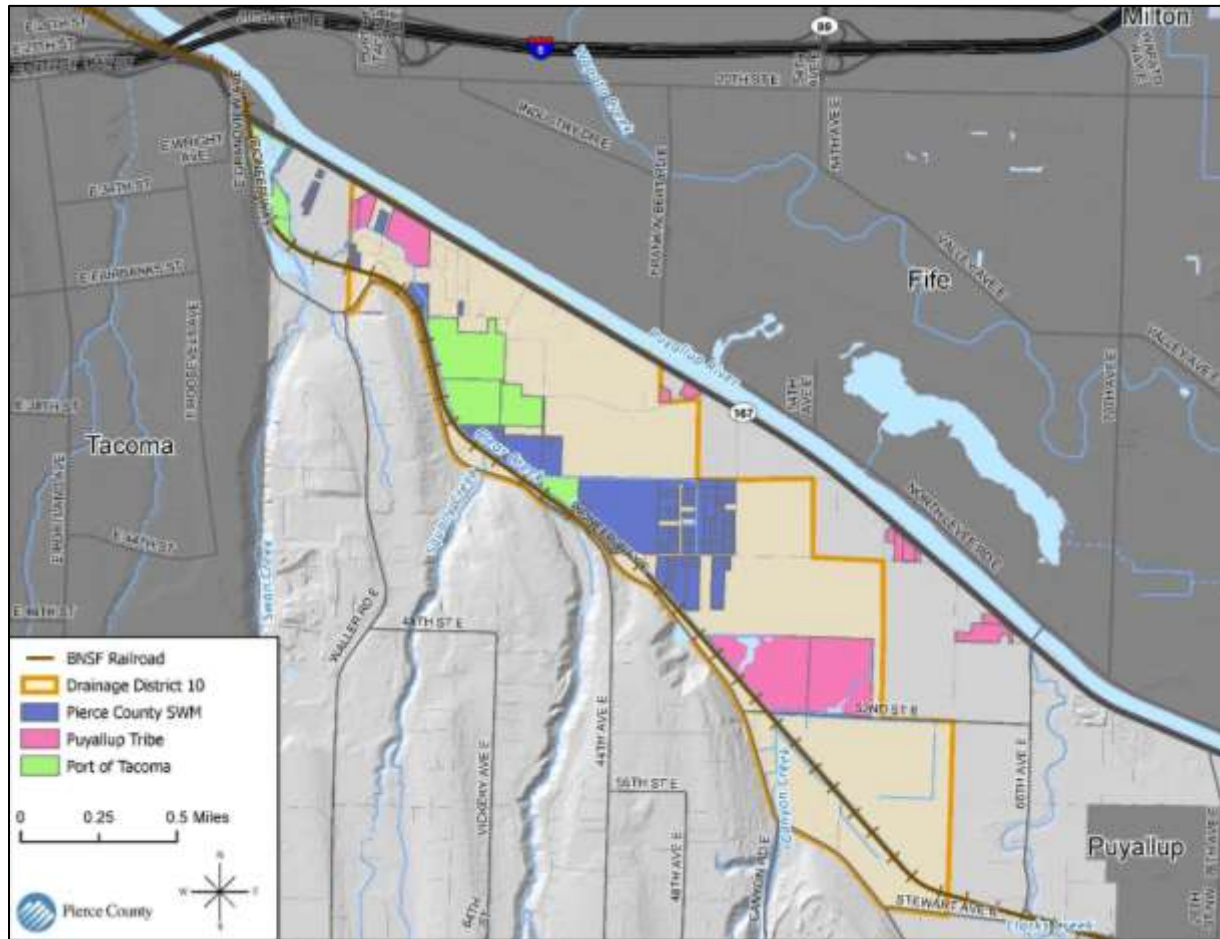
Figure 3. Saltchuk Beach conceptual design options



Gog-le-hi-te III: This site is located between Gog-le-hi-te I and II and could create several acres of Category I estuarine wetlands. The Port has learned that urban sites such as LWCMS and Place of Circling Waters can be more expensive to develop than rural sites (UCCMS) due to utilities, easements, lower wetland-to-buffer ratio, and potential legacy contamination. Gog-le-hi-te III will be more costly to develop than a rural site as it sits on an old City of Tacoma landfill, and excavation and disposal will be expensive; however, it has the potential to connect Gog-le-hi-te I and II and add more extremely valuable estuary and off-channel habitat on the lower Puyallup River. This will create one large, contiguous off-channel refuge for migrating juvenile salmonids as they transition from freshwater to saltwater (osmoregulation and smoltification). Over-excavation will be necessary, and all excavated material will likely need to be disposed of as solid waste. A solid waste disposal cost-share agreement with the City of Tacoma was developed for the previous Gog-le-hi-te projects. Staff anticipate a similar agreement for the final project which will likely cover the increased cost of disposing the material as solid waste. The setback levees are already in place which is a significant advantage compared to when Gog-le-hi-te I and II were constructed. This site will complete the Gog-le-hi-te complex and let all three phases of Gog-le-hi-te function as an oxbow, further improving the function of both Gog-le-hi-te I and II. Developing this site will require close coordination with the Puyallup Tribe of Indians as the Tribe owns a small, but critical portion of the site. There are several areas of potential partnership with the Puyallup Tribe on this project including fishing access and mitigation credit use. Staff anticipate this site will be kept in reserve for a major terminal redevelopment project or as a NMFS DSAY/fish conservation credit bank. A basis-of-design report and preliminary engineer's estimate will help inform the highest and best use of Gog-le-hi-te III.

Figure 4. Gog-le-hi-te III Potential Concept

Expansion of Upper Clear Creek Mitigation Site: The Port has purchased – and continues to explore future purchases (and/or partnerships) – of properties adjacent to the UCCMS. The Port currently has a Basis of Design for Parcel 129 for an approximately 10-acre expansion of the UCCMS. While the cost per wetland acre-credit of the expansion areas will be more than the original site, this is likely the most cost-effective place for the Port to develop more wetland credits because it removes/changes the current buffers, which will release more credits; rural sites generally have fewer legacy contamination concerns and infrastructure obstacles, which drive up project costs; and rural areas can accommodate larger sites, which will create more favorable wetland-to-buffer ratios. Pierce County is also purchasing property in the area as a flood mitigation measure. Pierce County has expressed interest in exploring potential partnerships where the Port uses County property to restore habitat (through developing mitigation sites) near Port-owned property in the Clear Creek watershed.

Figure 5. Clear Creek Watershed Ownership

OTHER CURRENT MITIGATION OPPORTUNITIES

The Port has significant land holdings available for small-scale habitat improvements/mitigation sites. Three are discussed below with the others summarized in Table 1.

Wheeler-Osgood Waterway: This site has the potential for both a commercial development as well as habitat improvements. An office building design set back from the water could incorporate native vegetation to provide a natural buffer between it and the waterway; it could also include a small dock along the waterway and intertidal habitat improvements.

Parcel 88 North: This site is a former sand and gravel mine and is currently used to manage excess soil from Port projects and is undergoing mine reclamation. The Port purchased the property in 2006. The reclamation is likely to take a decade or more; however, the Port could include freshwater wetlands into the final reclamation design, creating even more high-quality habitat connectivity to the adjacent Place of Circling Waters Mitigation Site and the natural vegetated buffer between the Port and adjacent residential areas.

Parcel 12: Parcel 12 has proved to be of little commercial use. It is highly constrained by State Route (SR) 509 and the future alignment of SR 167 extension. The site is heavily vegetated and could be improved with wetland features, possibly in combination with water quality improvements to the Drainage District 23/Fife Ditch.

CURRENT STATUS OF STEWARDSHIP PROGRAM

The Port has a long-standing stewardship program to care for its existing habitat sites. The goal of the stewardship program is to ensure that all habitat sites that are in their monitoring period meet the performance standards established for them during the permitting process. The program also ensures that sites that have completed their monitoring period continue to function ecologically as designed and provide high quality habitat. This is accomplished by actively managing the habitat sites, including removing non-native, invasive, and weedy species; replacing native plants as necessary; and removing trash and debris. The stewardship program relies on stewardship crews provided by the Washington Conservation Corps (WCC) and community volunteer events.

2020 and 2021 proved to be particularly difficult years for the stewardship program. The Covid-19 pandemic prevented the WCC crews from performing stewardship work for the majority of 2020 and effectively canceled all the planned volunteer events. This lack of stewardship activity allowed invasive plants to establish in some areas and trash and debris to accumulate in others. While stewardship crews returned to work in 2021, a labor shortage has made it difficult to obtain enough WCC crew days to offset the impact of the lost stewardship work. Fortunately, local companies and organizations stepped forward in 2021 to provide critical volunteer days at Port habitat sites.

2022 HABITAT MITIGATION STRATEGY INITIATIVES

Mitigation Bank

As mentioned in above in the Current Port Credit Balance vs Anticipated Future Credit Needs section, and in Table 1, there are currently more mitigation credits in the Port's mitigation credit portfolio (advance mitigation and mitigation bank credits) than the Port's anticipated mitigation needs. This surplus presents the Port with several strategic opportunities for those surplus mitigation bank credits. These opportunities include:

- Hold onto the surplus mitigation bank credits as a hedge against a currently unanticipated intense development scenario.
 - Pro: Port has a known supply of mitigation credits within its portfolio at all times.
 - Con: Limits the Port in supporting economic growth within Pierce County and generating a revenue stream.
- Sell the surplus mitigation bank credits from the mitigation credit portfolio and replenish the portfolio by developing more mitigation bank sites/credits.
 - Pro: The replenished mitigation bank credits could be used as an ongoing supply of mitigation bank credits to sell to support economic development in Pierce County, or for the Port's own use in the future.
 - Con: Mitigation bank credits may not generate as fast as the demand.
- Sell the surplus mitigation bank credits from the mitigation credit portfolio and replenish the portfolio by developing more advance mitigation sites/credits for the Port to use in the future.
 - Pro: Advance mitigation credits are less expensive and quicker to develop.
 - Con: Advance mitigation credits can only be for the Port's use and cannot be sold.

- Sell the surplus mitigation bank credits from the mitigation credit portfolio and do not replenish the credits with additional mitigation bank sites or advance mitigation sites.
 - Pro: Short-term revenue stream.
 - Con: Once the Port exhausts the mitigation credit portfolio, future aquatic impacts would have to be mitigated for as concurrent mitigation which is more costly due to less favorable mitigation ratios, riskier, and typically has less ecological value.

Through surplus actions, the Port can use its long history of successful habitat development to support economic development in Pierce County. The mitigation bank sale policy allows the Port to sell³ mitigation credits to facilitate transportation and cargo logistics projects that support the Port's mission and goals. Replenishing surplus mitigation credits rather than selling them out or using them up supports long-term Port needs and/or supports transportation and cargo logistics projects by providing the opportunity for additional mitigation credit sales.

Through the development of the mitigation bank sales policy (to be incorporated into the 2022 master policy resolution), the Commission expressed a willingness to sell credits under certain circumstances, which include:

- The Port will only sell credits that are in excess of its own mitigation needs.
- The Port will only sell credits to an entity that supports the Port's mission and goals as established in the 2021-2026 Strategic Plan.
- The Port will sell credits at a price equal to the market value, but not less than the replacement cost of the credits.

Mitigation Bank Recommended Actions:

- The Port could sell at least 5.5 and maybe as many as 10 of its existing mitigation bank credits as determined by the Commission.
- The Port should maintain enough Bank and Advance credits on hand to cover the 2021-2026 Strategic Plan and NWSA Vision 2035 potential developments.
- The Port should amend the Upper Clear Creek Mitigation Bank to include the following:
 - At a minimum, relocate portions of the existing "paper buffer"⁴ to generate/release additional credits.
 - Expand the mitigation bank to include future habitat restoration of additional adjacent properties.
 - The Port should explore partnering with Pierce County to build and/or enhance additional wetland and/or fish habitat on County property to potentially expand the mitigation bank by several dozen acres.
- If the Port expands its mitigation bank wetland credit holdings, the Port could sell all of its current surplus mitigation bank wetland acre-credits to further support transportation and cargo logistics projects.

³ In this context the term "sell" could mean a cash sale to another entity or as an in-kind contribution to a project the Port has offered to support monetarily (or with an in-kind contribution) such as the SR 167 Extension.

⁴ A paper buffer is an area on the mitigation site where the Port created wetland area but did not get mitigation credit for it because the Port did not own the adjoining property. Mitigation bank buffers cannot extend offsite as that can be construed as constraining or even taking a neighboring property. The Port and Pierce County have purchased most of those areas, removing the potential constraints.

- The Port should conduct regular reviews of the mitigation credit portfolio balance, anticipated Port credit needs, and potential credit sales to determine the surplus of mitigation bank credits available for sale on an ongoing basis, but no less than every five years.
- If the NMFS policy change requiring mitigation for maintenance work becomes permanent, the Port should include mitigation bank sites for mitigation actions that require fish-only conservation credits and make credits available throughout the marine areas of Pierce County including the Key Peninsula and South Sound (south of the Narrows Bridge).

Habitat Site Development

Other than the habitat sites associated with the wetland and fish bank site(s), the Port likely does not have the same need for large scale mitigation site development over the next 10 years as it did over the previous 10 years, unless a major terminal redevelopment (e.g., the expansion of the West Sitcum Terminal) emerges as a project. Even though intense development is not anticipated, business drivers can develop quickly, and it is important to have mitigation projects identified, conceptualized, and/or designed in the event a business opportunity requires large-scale mitigation.

Habitat Site Development Recommended Actions:

- Use existing and new Port properties, and explore partnerships with Pierce County, to expand mitigation/restoration sites in the Clear Creek watershed. Amend the existing Upper Clear Creek Mitigation Bank to incorporate additional mitigation credits, as feasible, or develop a new mitigation bank site.
- Design and construct the expansion of Upper Clear Creek site after the bank amendment process or as advance mitigation site(s).
- Design and construct the Saltchuk Beach Area as a fish conservation credit bank.
- Pursue a conceptual or basis of design for Gog-le-hi-te III in partnership with the Puyallup Tribe of Indians.
- Look for opportunities for derelict structure removal and habitat improvements to add to a fish conservation credit bank.
- Continue to evaluate the Port's Saltchuk DNR lease area as a beneficial use restoration project as part of the Tacoma Harbor Deepening Project.

Partnership Opportunities

Consistent with Action EL4 A-2 of the Strategic Plan 2021-2026, the Port is looking for partnership opportunities to improve wetland and fish habitat independent of regulatory requirements. The Port's portfolio of habitat sites has grown to the point where minor incremental improvements on existing Port sites can create significant cumulative positive impacts for the area. Further, there are opportunities non-Port properties that are significant enough to improve the functioning of current Port habitat sites. These kinds of opportunities strengthen partnerships with existing stakeholders and have the potential to create new partnerships that would not otherwise be realized.

Pierce County and Lower Clear Creek Mitigation Site (LCCMS): Pierce County and Tribal staff approached the Port regarding potential improvements to the Port's LCCMS. Those improvements include using Natural Resource Damage Assessment (NRDA) funds granted to Pierce County to remove the existing access road, thereby improving hydraulic connectivity of the existing creek to the Port's constructed wetlands. This action provides significantly improved fish access opportunity to those wetlands and also includes some minor floodplain improvements. The project also includes reconfiguring the existing flood

gate system at the confluence of Clear Creek and the Puyallup River which will improve both fish passage barriers and flood control.

While the Port needs to spend approximately \$30,000 as part of this effort, it will transfer the operation and maintenance of the reconfigured flood gate system to Pierce County; thereby, reducing the Port's liability associated with owning and maintaining a flood gate, and the diesel generator and its associated fuel tank off Port property below the Puyallup River's 500-year flood stage. Given that LCCMS was built to address the Port's obligation under Superfund, and NRDA grant funds will be used to make the improvements, there is no opportunity for the Port to obtain wetland or fish conservation credits for this specific action; however, the flood gate modifications may release additional fish conservation credits at the UCCMS Mitigation Bank previously reduced by NMFS due to the old wooden flap gate acting as a fish passage barrier.

Puyallup Tribe of Indians and Improvements to Clear Creek Upstream of UCCMS: Currently the 2.1-mile uppermost stretch of Clear Creek is completely blocked to migratory fish access by a dam at a private fish hatchery. Given the success of the habitat mitigation actions that have occurred downstream of that dam, it is critical for migratory fish to have access to the upper stretches of the creek. In 2021 Puyallup Tribe Fisheries staff estimated approximately 600 returning Chinook to the creek to spawn (the most since the late 1970s). Unfortunately, there is currently only enough room for approximately 35 nesting sites (redds) and the salmon essentially have to build their redds on top of each other. Since coho return to the site after Chinook, the coho potentially disrupt the Chinook redds in their attempt to build their own nests in the same limited space. Thus, less than 21 percent of the returning Chinook have room to spawn and the redds the Chinook do successfully build may be damaged or destroyed by other salmonids.

Opening the upper reaches of Clear Creek above Trout Lodge could accommodate all returning Chinook and more. The Puyallup Tribe has looked at various ways to provide fish access to the upper stretch, including engaging the hatchery and other potential partners. The Port has considerable technical expertise that could be brought to these efforts and has already made substantial investments to improve the Clear Creek fishery.

Partnership Opportunity Recommended Actions:

- Partner with Pierce County on improvements to the Lower Clear Creek Mitigation site.
- Partner with the Puyallup Tribe to address the fish passage barrier to the upper reaches of Clear Creek.
- Continue to seek out other no- or low-cost community partnership opportunities focused on fisheries enhancement.
- Explore partnership(s) with Puyallup Tribe and/or DNR to research/construct/maintain the Saltchuk restoration area.
- Explore additional partnerships/projects with Pierce County to combine flood control and habitat improvements near the Port's Upper Clear Creek site.

Stewardship Program

The Port will continue to provide a robust stewardship program to care for our existing sites. That program will expand by another 20 acres when construction is completed at the LWCMS and the two-year project maintenance period ends in 2024. As the Port continues to add habitat mitigation sites to its portfolio, the stewardship program will also grow and expand to ensure all the Port's habitat

mitigation sites provide high-quality ecological functions in perpetuity. This may require having a year-round WCC crew dedicated solely to Port habitat sites to minimize the potential for not acquiring enough crew days to properly manage each habitat site.

Local businesses and customers have expressed interest in giving back to their community. One way for them to do that is to “adopt a habitat site”. Port staff are developing a plan for organized groups to perform stewardship activities at regularly scheduled intervals at Port habitat sites. This plan is still in the development phase but can help the Port manage habitat sites that are out of the performance monitoring period, ensures habitat sites continue to receive dedicated stewardship, and allows for local organizations to meet their corporate social responsibility goals.

As the world reemerges from the global pandemic, the Port needs to find ways to reengage the community and reconnect them to the Port’s habitat mitigation and public access sites. Community engagement with the Port’s habitat and public access sites helps share the Port’s environmental story in a much more organic way and generates a sense of ownership by the public to these sites. Community engagement can include more volunteer events, tours of sites not normally open to the public, presentations to community groups, and a larger presence on social media, etc. Environmental staff and Communications staff will work together to formulate a plan to reengage the community to the Port’s habitat and public access sites.

SUMMARY OF HABITAT MITIGATION STRATEGY RECOMMENDED ACTIONS

The following recommended actions have been developed to meet the habitat mitigation needs of the Port and potentially the larger Pierce County economic development community; proactively anticipate regulatory changes; develop and strengthen community partnerships; and continue to provide the highest functioning habitat possible.

- Mitigation Bank Portfolio Recommended Actions:
 - The Port of Tacoma should sell at least 5.5 and as many as 10 of its existing mitigation bank credits as determined by the Commission.
 - The Port should maintain enough Bank and Advance credits on hand to cover the 2021-2026 Strategic Plan and NWSA Vision 2035 potential developments.
 - The Port should amend the Upper Clear Creek Mitigation Bank to include the following:
 - At a minimum, relocate portions of the existing “paper buffer” to generate/release additional credits.
 - Expand the mitigation bank to include future habitat restoration of additional adjacent properties.
 - The Port should explore partnering with Pierce County to build and/or enhance additional wetland and/or fish habitat on County property to potentially expand the mitigation bank by several dozen acres.
 - If the Port expands its mitigation bank wetland credit holdings, the Port should sell all of its current surplus mitigation bank wetland acre-credits to further support transportation and cargo logistics projects.
 - The Port should conduct regular reviews of the mitigation credit portfolio balance, anticipated Port credit needs, and potential credit sales to determine the surplus of mitigation bank credits available for sale on an ongoing basis.

- If the NMFS policy change requiring mitigation for maintenance work becomes established, the Port should expand the mitigation bank portfolio to include mitigation actions for fish-only conservation credits and make credits available throughout the marine areas of Pierce County including the Key Peninsula and South Sound (south of the Narrows Bridge).
- **Habitat Site Development Recommended Actions:**
 - Use existing and new Port properties and explore partnerships with Pierce County to expand mitigation/restoration sites in the Clear Creek watershed. Amend the existing Upper Clear Creek Mitigation Bank to incorporate additional mitigation credits, as feasible or develop a new mitigation bank site.
 - Design and construct the expansion of Upper Clear Creek site after the bank amendment process or as advance mitigation site(s).
 - Design and construct the Saltchuk Beach Area as a fish conservation credit bank.
 - Pursue a conceptual or basis of design for Gog-le-hi-te III in partnership with the Puyallup Tribe of Indians.
 - Look for opportunities for derelict structure removal and habitat improvements to add to a fish conservation credit bank.
 - Continue to support the Port's Saltchuk DNR lease area as a beneficial use restoration project as part of the Tacoma Harbor Deepening Project.
- **Partnership Opportunity Recommended Actions:**
 - Partner with Pierce County on improvements to the Lower Clear Creek Mitigation site.
 - Partner with the Puyallup Tribe to address the fish passage barrier to the upper reaches of Clear Creek.
 - Continue to seek out other no- or low-cost community partnership opportunities focused on fisheries enhancement.
 - Explore partnership(s) with Puyallup Tribe and/or DNR to research/construct/maintain the Saltchuk restoration area.
 - Explore additional partnerships/projects with Pierce County to combine flood control and habitat improvements near the Port's Upper Clear Creek site.
- **Stewardship Program Recommended Actions**
 - Perform a cost-benefit analysis on contracting a full-time WCC crew to perform stewardship activities year-round.
 - Develop a plan and offer Port habitat sites to local organizations to "adopt" to meet stewardship and corporate social responsibility goals.
 - Find creative ways to reengage the community post-pandemic with the Port's habitat sites (e.g., tours, volunteer events, other public outreach opportunities, etc.).

CONCLUSION

The next 5-10 years will be a dynamic period for developing habitat mitigation, and the Port is uniquely positioned to be a valuable resource in Pierce County for developing and maintaining the highest-quality habitat. There are several regulatory changes and challenges that the Port will have to respond to, but these challenges also create opportunity for the Port to support economic development within the region while also ensuring natural resources are protected and enhanced. There is a lot of momentum within the greater community to protect the region's natural resources and the Port has an opportunity to create and strengthen partnerships to capitalize on that momentum.