

AAPA Environmental Improvement Award

Submitting Port: Port of Everett

Entry Classification: Comprehensive Environmental Management

Entry Title: Innovative Dredge Material Management Program

Introduction

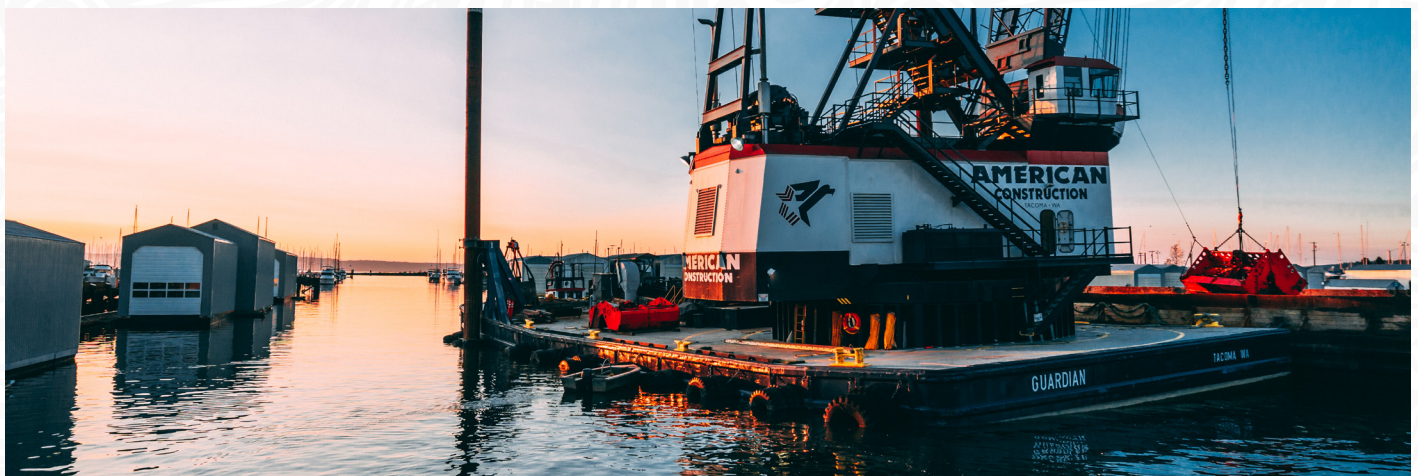
To the members of the AAPA Environmental Awards Committee, please consider the Port of Everett's Innovative Dredge Material Management efforts under the Dredge Material Management Program (DMMP) for the 2020 Environmental Improvements Award for Comprehensive Environmental Management. The DMMP represents a regulatory body that determines how in-water sediment is to be handled and it is comprised of representatives from the Department of Ecology, U.S. Army Corps of Engineers, Department of Natural Resources and Environmental Protection Agency. The following submittal outlines the project, why the project is critical to our mission at the Port, the significance of the Port's project approval to the dredging community, the actions that were taken by the Port to execute the project, and the successful outcomes for which we are submitting for the award.

About the Port of Everett

The Port of Everett is located in Washington State on Port Gardner Bay at the mouth of the Snohomish River, originally formed by the citizens of Everett in 1918 to create economic opportunities and protect the waterfront for the community. The Port has a long history of providing marine-related services and appropriate public access to the waterfront. The Port of Everett strives to bring jobs, business, and tourism to its local and surrounding communities, as well as maintain the overall environmental health of our waterfront through environmental remediation and pollution prevention.

The Port of Everett operates three lines of business: 1) international shipping terminals; 2) marina facilities; and 3) real estate development. Through its operations, the Port supports 35,000 jobs and contributes \$373 million to state and local taxes. The Port's properties also provide numerous public access and recreational opportunities for area residents to enjoy supporting a vibrant, livable and balanced waterfront that generates economic and recreational opportunities.

The Port of Everett's dredging project brings together economic development, environmental remediation, and complex regulatory work, centering at its marina, which is a critical feature of its \$500 million mixed use redevelopment known as Waterfront Place Central.



Innovative Dredge Material Management Program Highlights



Dredge Material Management Program (DMMP) authorization for open water disposal



Landmark decision based on bioaccumulation testing proves we are



Critical for continued operation of the south and central marinas – safe navigation and protects marina infrastructure



Critical for continued marina recapitalization and Waterfront Place Central Development



Created a dredge management solution with no risk to human or environmental health



Supports numerous jobs and is a key component of waterfront economy

1. Benefits to Environmental Quality

The Port of Everett operates an active port, serving as a hub for international commerce at its working waterfront and local recreation at its destination waterfront. To ensure viability of both activities, the critical and necessary chore of maintenance dredging is a requirement. Maintaining safe and reliable navigation for commercial traffic in the Snohomish River Federal Navigation Channel falls on the U.S. Army Corps of Engineers (Corps), but it is the Port's responsibility to maintain the basins and berths under its jurisdiction, including areas in and around its marina facilities. The Port of Everett Marina represents the Port's second largest business line and is the largest public marina on the West Coast with 2,300 recreational boating slips, 10 guest docks, a 13-lane boat launch and more. The marina is surrounded by a 65-acre upland mixed-use development known as Waterfront Place Central, now under construction. The Port's dredging program is key to ensuring the operation and usability of these boating facilities, as well as promoting the success of the upland developments, both of which in turn, further support the Port's mission of economic development, job creation and environmental stewardship of the waterfront.

In recent years, for reasons that we will highlight in this application, the Port was faced with two possible outcomes associated with its marina maintenance dredging:

Outcome 1: The Port is able to dredge its marina, a large portion of the marina is renovated, including a new public access dock, and the Port's Waterfront Place Central mixed-use redevelopment becomes the gem of Snohomish County, boasting numerous public access areas, hotels, restaurants, and housing.

Outcome 2: The Port is unable to dredge, the marina falls into disrepair, sediment eventually fills in the marina, and the Port's Waterfront Place Central mixed-use redevelopment stalls.

Outcome 1 was the Port's goal, and set out to generate thousands of jobs, contribute millions in state and local taxes, and create numerous high-quality waterfront public access amenities – all factors that rely on a functioning and updated marina with adequate navigational draft.

As you can see, the Port's marina maintenance program was not certain. In fact, it was highly unlikely. Reason being, new open water dredge disposal criteria put in place in 2010 by Washington State's Dredge Material Management Program (DMMP) caused the cost of dredging to sky-rocket. The new criterion was Dioxins and Furans (Dioxins) – a ubiquitous set of chemicals occurring in very low concentrations in urban bays. Ubiquitous means it's found nearly everywhere, so it's a problem for nearly everyone doing dredging in the Puget Sound area. The Port's marina was found to have low concentrations, slightly above the criteria. Upland disposal is about 10 times the cost of open water disposal, increasing the Port's normal cost of dredging from about \$4 - \$5 million to about \$40 - \$50 million. At this price, the Port could not afford to dredge the marina again, let alone every 10 years on its normal dredge cycle. The real problem with this, at the time before the Port successfully achieved an open water disposal authorization, was the approximate 2,500 jobs, \$9 million in state and local taxes, and \$500 million generated from an upland redevelopment that was counting on the marina. An abandoned marina turned mud flat would not be able to attract the private investment needed at the Port's Waterfront Place Central, the jobs directly associated with the marina would be lost, and the largest marina on the West Coast would have been shut down. No pressure.

The Port was up against serious odds – 160,000 cubic yards had to be dredged. The dioxin criteria was set through public process by the four heavy weight state and federal environmental agencies, collectively known as the DMMP. The Port looked at every possible alternative to open water disposal, and no option was viable except for upland landfill disposal, which was cost prohibitive. So, the only viable alternative was to somehow figure out a technical path forward to achieve open water disposal, despite the new criteria.

Compounding the problem was time. The Port started the permitting work for this dredging in 2010. The same year the dioxin criteria was established, and the same year, the Port discovered it had low levels of dioxins in the marina. It wasn't until 2015 that the Port started down a perilous, but ultimately successful path. Meanwhile as time was passing, sediment continued to pour into the marina, navigation was becoming problematic, and the upland redevelopment was barreling forward.

The Port's ultimate strategy was to develop a new testing protocol that could actually determine whether dioxins could bioaccumulate in clam and worm tissue at the levels found in the marina, and do this in a public setting with the DMMP agencies. Luckily, the DMMP dioxin criteria was based on compound conservative assumptions and not on laboratory testing. In parallel, and in order to prioritize the importance of this work, the Port worked in concert with the Washington Public Ports Association (WPPA) on a legislative proviso requiring a "Management Review" of the DMMP.

On the technical front, working closely with the DMMP Staff, the Port and consulting firm Windward Environmental, developed a first-of-its-kind bioaccumulation testing protocol and then implemented a bioaccumulation study of the marina with the goal of assessing whether the dioxins in the Marina presented a risk to the environment and the open water disposal site. The final report for the bioaccumulation study was published in March 2017. The Port invested approximately \$260,000 on this trail-blazing bioaccumulation study — from the outset, it was highly uncertain and in no way guaranteed a successful outcome.

On the policy front and in parallel with the bioaccumulation study, the Port participated in the WPPA Dredging Subcommittee, wherein WPPA passed a Legislative Proviso in 2016 that called for a "Management Review" of the DMMP. The purpose of the DMMP management review was to assess and ensure sufficient policy level oversight and communication was occurring within the DMMP, and that DMMP was fully utilizing the allowed flexibility offered by the current guidance and regulations. This clarity was important to ensure that use of the open water disposal sites for marina dredging could continue.

The unique bioaccumulation testing and evaluation approach developed by the Port, ultimately proved that the dioxins present in the marina are so low that they pose no risk to human health or the environment and as a result the DMMP issued an open water suitability determination to the Port for all 160,000 cubic yards of dredge material. At this time, the Port is proud to be well down the road implementing option 1 described on page 2, and is realizing the entire economic, environmental and public access benefits as it renovates its marina and redevelops its uplands.

2. Involvement and Effort by the Port of Everett

The Port's involvement and partnership with the DMMP Management, WPPA, and Windward Environmental all helped create major advances. The Port's initiative and leadership through the complicated technical work and agency negotiations allowed the Port to spearhead the process in order to have open water disposal.

This strategic approach created major breakthroughs on both fronts. On the technical side, it resulted in new DMMP bioaccumulation protocol guidance for dioxins, that other organizations throughout the Puget Sound and broader dredging community can reference and duplicate. On the policy side, the DMMP Management Review has helped foster open communication between DMMP agency staff, their directors and the dredge community on how to restore and protect the Puget Sound dredge community's ability to dredge and utilize the open water disposal sites that our ports so heavily depend on. The close collaboration with DMMP on the Bioaccumulation Study and the Management Review enhanced the relationships that will be critical as DMMP guidelines continue to evolve.



These images show the bioaccumulation laboratory testing that took place over 45 days to measure the levels of dioxins in the Port of Everett Marina.




The Port of Everett won WPPA's Environmental Project of the Year Award in 2019 for this work.

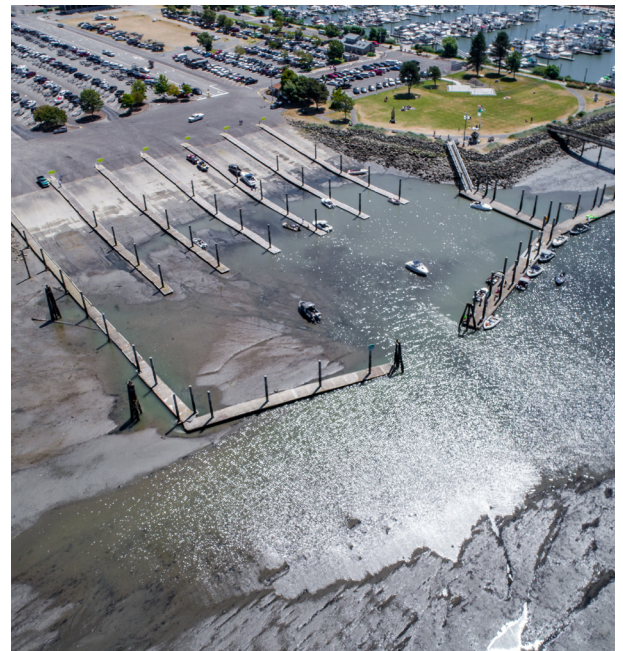
3. Creativity of the solution

The Port of Everett Marina is located at the confluence of the Snohomish River and Port Gardner Bay. In addition to offering regular moorage, the Port averages 8,000 transient vessels each year, more than 33,000 boats are launched annually, and the Marina also accommodates about 800 haul-outs for vessel owners needing maintenance and repair and other boat work completed by service providers located at the Port of Everett. This unique location provides great access to some of the best fishing grounds in Puget Sound, and the brackish water is attractive to slipholders as it minimizes maintenance needs.

However, the location also comes with some challenges. Because it is located adjacent to the Snohomish River, the Port's Marina facilities are susceptible to siltation, especially from heavy rainfalls and flood events we have seen more often. Typical dredge cycles for the Marina are every 10 years, but in 2010, the last dredge cycle had been more than 16 years prior. With much time that had passed, the Marina basins had numerous shoals and dredging that was sorely needed. Historically, the Port has depended on the proximity and efficiency of the Port Gardner Bay open water disposal site where material can be placed for a fee of 45-cents per cubic yard. Not being able to dispose of the material at

the open water site is a significant concern, as upland disposal cost estimates for the 160,000 cubic yards was approximately \$40 million, versus the approximately \$5 million for open water disposal. The \$40 million would have crippled the Marina's bottomline and was in no case a feasible routine or even one-time expense. The efficiency of open water dredge disposal is critical sustaining the low-margin marina business. Not only does the maintenance dredging project tie directly to the viability of the Marina, it also has a direct link to the long-term success of the Port's \$500-plus million Waterfront Place development, which taken together, create substantial economic benefits in the Everett regional economy. The Waterfront Place development and Marina are unified as one economic unit to create a sustainable and unique commercial, recreational, and residential community.

Right: The largest boat launch in Washington State with 33,000+ launches a year faces critical siltation challenges as seen by the aerial photo showing the launch at extreme low tide (bottom right).



With ten guest docks, the Port of Everett Marina hosts over 8,000 transient vessels a year.

4. Project Results

The Port of Everett has now finished its final phase of dredging to support the redevelopment of the Central Marina. This project included the following:

CENTRAL MARINA IMPROVEMENTS PHASE 1 | 2014 - 2015

TOTAL INVESTMENT: \$10 MILLION

- Demolition and removal of aging marine infrastructure, including the old marine railway, 14th Street Travelift dock, Central L, M and N-Docks and hundreds of creosote pilings
- Stormwater Treatment Systems Installation
- Removal and replacement of a segment of bulkhead
- Dredging of more than 10,000 cubic yards of contaminated sediment
- Realignment of Central Marina docks
- Public access enhancements

CENTRAL MARINA IMPROVEMENTS PHASE 2 | 2015 - 2016

TOTAL INVESTMENT: \$6.5 MILLION

- Demolition of Central I-Dock, O-Dock, and a portion of P-Dock
- Construction of a new Central I-Dock and utility/service upgrades
- Boathouse realignment with temporary and final relocations
- East Marina bulkhead replacement - Segment C, approx. 450 linear feet of new bulkhead and adjacent interim public access path and railing system continuation

CENTRAL MARINA IMPROVEMENTS PHASE 3 | 2018 - 2019

TOTAL INVESTMENT: \$8.8 MILLION

- Construction of the new Central Guest Dock 5 and activity float at the base of the Fisherman's Harbor project
- Dredging approximately 40,000 cubic yards in the north east corner of the Central Marina
- Construction of the new Central K-Dock for yacht-class vessels
- Build Central L-Dock for the commercial fishing fleet

CENTRAL MARINA IMPROVEMENTS PHASE 4 | 2019- MARCH 2020

TOTAL INVESTMENT: \$4.7 MILLION

- Demolition and reconstruction of Central G-dock
- Dredging approximately 30,000 cubic yards in the Central and South Marinas with open water disposal
- Demolition and removal of all Port-owned boathouses
- Consolidation of all private boathouses to the east sides of Central G and I-Docks
- Creation of 500-linear feet of new side tie moorage on the west side of Central G-Dock



The Waterfront Place Central project creates a new waterfront neighborhood where people can live, work, shop, relax and be entertained. At completion, it includes new public gathering spaces of regional significance, up to 660 residential units, a waterfront hotel, 10 fine and casual dining restaurants, government services, and 662,000 square feet of office and retail space. The project is expected to generate more than \$500 million in public-private investment and support more than 2,000 direct, indirect and induced jobs, and generate \$8.6 million in additional tax revenue for local government agencies.

5. Cost effectiveness of the Project

The Port of Everett's aggressive and innovative approach to move forward with bioaccumulation testing paid off. The Port received a favorable suitability determination that allows 100 percent of the 160,000 cubic yards to be disposed of in the open water site. This saved the Port approximately \$35 million over a 10 year period, and arguably, kept the Port of Everett in the recreational boating business.

Without the Marina, the Port's Waterfront Place upland activities would not reach its full potential for the community or generate the maximum jobs and economic return. Taken separately, the Marina alone supports significant economic activity critical to the waterfront, including numerous jobs and significant tax base from the recreational and commercial moorage (including the commercial fishing fleet), the private and public vessel support services, nearby commercial and retail services, and restaurants.

Marina activities and the Waterfront Place Central development currently generate more than 1,753 jobs and \$11 million in state and local tax revenue. At full build out of the Marina and development, the Port expects to add more than 2,000 additional jobs to the waterfront and contribute \$8 million in additional local tax base. The economic development and recreational opportunities created by the Marina and Waterfront Place Central would not be possible without an economical method of maintenance dredging and dredge material disposal.



Marina activities and the Waterfront Place Central development currently generate more than 1,753 jobs and \$11 million in state and local tax revenue with another 2,000 jobs on the horizon



6. Transferability to the Port Industry

The other benefit is that it set key regulatory precedents for other marinas and locations that require dredging and have relatively low dioxin levels. Without dredging, the Port of Everett Marina would cease to exist as we know it. Many other marinas in Washington state have similar stories. A few marinas around the Puget Sound area, both public ports and privately-owned marinas are starting to utilize this work and implement it to meet their dredging needs.

Last spring, the Port earned a rare industry recognition as the sole recipient of the Washington Public Ports Association 2019 Environmental Project of the Year Award for these innovative achievements with dredge material management. It was also featured in the February issue of *Marina Dockage* for this work. Again, this winning project developed new scientific methods by the Port's environmental team and gained approval from the Environmental Protection Agency, U.S. Army Corps of Engineers, Department of Ecology and Department of Natural Resources. The new methodology is transferable across the Port and dredging industry, and helps solve highly-challenging dredge approval process facing ports industry-wide, while ensuring the protection and improvement of a healthy Puget Sound.