Focus Puget Sound

DEPARTMENT OF ECOLOGY
State of Washington

Summary Response to Public Comment on the Draft Remedial Investigation/Feasibility Study

Bay Wood Products Site

Everett, WA

Puget Sound Initiative:
Reaching the goal of a healthy, sustainable Puget Sound now and forever

November 2011

Focus
Puget Sound

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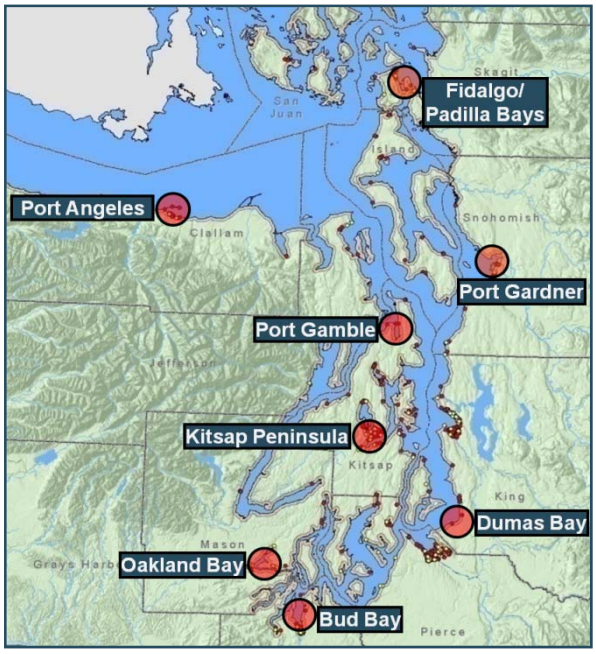
Puget Sound Initiative

Protecting and Restoring Puget Sound

The Puget Sound Initiative, established by Governor Gregoire and the Legislature, is a collaborative effort – by local, tribal, state and federal governments; business; agricultural and environmental interests; and the public – to restore and protect the Sound.

A leading source of pollution to the Sound is contaminated sites around its shorelines. Ecology has accelerated its efforts to clean and restore these contaminated sites within identified priority bays. Within these bays, Ecology is cleaning up 50-60 sites within one-half mile of the Sound. Cleanup actions will help to reduce pollution and restore habitat and shorelines in Puget Sound, resulting in larger areas of usable shoreline habitat for fish, wildlife and people.



Puget Sound Initiative priority bays

Everett Baywide Cleanup - *Port Gardner Bay*

Ecology is taking a baywide, rather than site-specific, approach to cleaning up numerous sites within a geographic area. In Everett, local, state and federal agencies; local Native American tribes; businesses; and property owners are working to restore the waterfront – cleaning up several old industrial sites and restoring waterfront areas for fish, animals and people. This unique, baywide collaboration means more cleanups and restoration are happening faster. Important waterfront uses – shipbuilding, marinas, parks, recreation, housing, fishing, cultural uses and others – can thrive in a revitalized and healthy waterfront environment.

Sites in the Everett area include (see Figure 1 on page 17):

- **Weyerhaeuser Mill A Former**
- **Bay Wood Products**
- **Everett Shipyard, Inc.**
- **Jeld-Wen**
- **North Marina West End**
- **Everett Smelter Site**
- **North Marina Ameron/Hulbert**
- **ExxonMobil ADC**
- **East Waterway**
- **TC Systems, Inc.**

For more information on these sites visit:
http://www.ecy.wa.gov/programs/tcp/sites/psi/everett/psi_everett.html

Bay Wood Products Site

Site Background

The Bay Wood Products Site is one site in the Everett Bay being cleaned up under the Puget Sound Initiative. It is located at 200 West Marine View Drive on Port Gardner Bay in Everett, Snohomish County, WA.

Figure 1. The Bay Wood Products Site is located at 200 West Marine View Drive on Port Gardner Bay in Everett, WA. (Figure 1-1 from the RI/FS)

Bay Wood Products is located on fill that was placed in Port Gardner Bay. Lumber and mill operations began on this site around 1936. In 1979, Bay Wood Products, Inc. removed the sawmill and used the site for log handling and storage until 1994. Site features during Bay Wood Products operations included office and shop buildings, a covered shed, oil drums, electrical transformers, above-ground fuel storage tanks, and log rafts. These features have been removed, and the site is currently vacant.

Polychlorinated biphenyls (PCBs) and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) have been found on the site in upland soil. In addition, wood waste was found in upland soils and in adjacent in-water areas (imbedded in the sediments). Wood waste can smother near-shore habitat and animals such as clams, and can cause changes in water chemistry that can harm marine and sediment ecosystems.

PCB-contaminated soil was removed from the site in 1985 and 1993, and much of the wood waste accumulated in the upland area was removed in 1995.

Site Background *(continued)*

Soil – Soil in the upland portion of the site has levels of cPAHs above cleanup levels. Contaminants are not in the native or fill soil, but at two soil stockpile locations at the site. Previous removal of PCB-contaminated soil was successful, and there are no other contaminants of potential concern (COPCs) in upland soils.

Figure 2. Parcel map of the Bay Wood Products Site and approximate location of the sediment management unit (SMU-1) in the in-water portion of the Site. (Modified Figures 1-2 and 11-1 from the RI/FS)

Sediment – Chemical tests indicate that marine sediments at the site do not have elevated concentrations of any chemical contaminants (i.e., exceeding Ecology's Sediment Quality Standards [SQS]). However, biological tests indicate surface sediments at a single location near the site's northeastern shoreline exceed SQS biological criteria. This in-water portion of the site is designated as sediment management unit 1 (SMU-1) for cleanup alternative analysis in the Feasibility Study (FS) (see Figure 2). SMU-1 coincides with areas identified as being of potential concern for wood waste.

Site Status and Proposed Cleanup

Site Status

October 2008 - Ecology and the Potentially Liable Persons (PLPs), Port of Everett, entered into an Agreed Order for site cleanup.

May 2009 - The Remedial Investigation and Feasibility Study (RI/FS) Work Plan was finalized and approved.

May - August 2009 - RI data (soil, groundwater, and marine sediment samples) were gathered.

September 2009 - An RI Data Report was submitted and was used to identify additional data needs to define the full nature and extent of contamination at the site.

April 2010 - Results of Phase 2 RI additional data collection was submitted to Ecology.

June 2 - July 5, 2011 - Public comment period was held for the Draft RI/FS.

What's next?

After public comments on the draft RI/FS report are reviewed and evaluated, the selected cleanup alternative will be described in the draft Cleanup Action Plan (CAP). The draft CAP will provide a detailed description of the planned cleanup remedy for the site and will be available for public review and comment.

Proposed Cleanup

The FS describes the proposed cleanup alternatives in detail. In summary, the proposed cleanup is divided as follows:

Upland Cleanup *(begins spring 2013)*

The preferred upland cleanup action is Alternative 3, which includes:

- Excavate soil containing cPAHs above cleanup levels.
- Dispose of contaminated soil offsite.
- Install construction erosion control measures.
- Hydroseed the excavated area to protect against erosion.

In-Water Cleanup *(begins summer 2013)*

The preferred in-water cleanup action is basically Alternative 2, which includes:

- Excavate and dredge approximately 3,300 cubic yards of sediment in SMU-1.
- Place an engineered cap to confine remaining wood waste on the site.

Exactly how much material is dredged and which specific capping technologies will be used, will be determined in the final remedial design

Involving the Community in Cleanup

A significant milestone was reached recently with the issuance of the Bay Wood Products Site Draft RI/FS. The draft RI/FS was issued for public comment on June 2, 2011, and the public comment period ran through July 5.

To ensure that the community was aware of the invitation to comment on this important site cleanup document, Ecology provided the following public involvement materials and opportunities:

1. Distributed a fact sheet describing the site and the documents through a mailing to addresses in the area and other interested parties.
2. Published a paid display ad in the following area newspapers: *The Daily Herald, Marysville Globe,* and the *Snohomish County Tribune.*
3. Published notice in the Toxics Cleanup Program Site Register.
4. Published notice in the Ecology Public Involvement Calendar.
5. Posted the draft RI/FS on the Ecology website.
6. Provided copies of the RI/FS through information repositories at Ecology's Headquarters Office and the Everett Public Library.
7. Issued a press release – June 1, 2011.

Through this summary, Ecology is providing information about the Bay Wood Products Site and responding to public comments received during the public comment period. Ecology has considered all comments received on the draft RI/FS. After careful consideration of comments received, Ecology determined that sufficient information and analyses were included to support developing the draft CAP; no changes to the draft document were needed.

Comments and Responses

The comments received on the draft RI/FS were reviewed and evaluated by the Ecology cleanup team, and are included with their responses in the following table. Many comments touched on aspects of more than one comment category, and the comment summaries are coded to individual commenters. The comment categories in this document are:

1. **Alternatives and preferred alternative selection**
   Comments about the process of evaluating environmental impacts, evaluating cleanup options, and selecting a cleanup alternative.

2. **Environmental review and documentation**
   Comments about the draft RI/FS and opportunities for public review.

3. **Site investigations and cleanup levels**
   Comments about the site investigation and appropriate cleanup levels.

Three persons provided written comment through letters and email messages regarding the draft document. In the following table, each commenter is referenced by an assigned comment number.

Commenters:

Todd Zackey, Tulalip Tribes Natural and Cultural Resources Department, Commenter 1
Darlene Schanfald, Olympic Environmental Council Coalition, Commenter 2
Heather Trim, People for Puget Sound, Commenter 3

1. Alternatives and preferred alternative selection

Responses included in this category relate to comments about the process of evaluating environmental impacts, evaluating cleanup options, and selecting a cleanup alternative.

Comment	Ecology's Response
1.1 Dredging concerns, will dredging expose the area of higher concentrations of dioxins (BW-07 below surface has a concentration of 62 pptr) and how fast will the cap be applied? [Commenter 1]	To obtain more information about dioxin concentrations and distribution, Ecology will require the Port of Everett to conduct additional dioxin sampling. Ecology will be able to accurately assess whether dredging will potentially expose dioxin to surface water after the Port's sampling is complete. Sampling results will be included in a revised version of the Remedial Investigation and Feasibility Study (RIFS) report. After consideration of those results, if Ecology anticipates areas of higher dioxin concentrations might be exposed, appropriate dredge methods and safety measures will be used to minimize short-term and long-term impacts of temporary exposure. Capping or backfilling in such areas will be done using the same protective methods and measures. Capping generally occurs within several weeks of post-dredging sediment confirmation sampling, which ensures that anticipated contaminants have been removed from the dredged area.
1.2 The cleanup options do not address potential limits on or opportunities for restoration at the site. [Commenter 1]	At this time, Ecology does not know what the future site use will be or what habitat restoration will be implemented. The most protective cleanup levels will be used to develop a cleanup strategy that is protective of the environment and human health and is cost effective. Any habitat that is impacted during the cleanup action will be replaced, improved upon, or mitigated in another location as the cleanup is completed. This approach will be

Comment	Ecology's Response
	included in the draft CAP and available for public review. Ecology will evaluate any opportunities or limitations for restoration at this site as the draft CAP is developed.
1.3 Sediment cleanup option. People for Puget Sound has concerns about Ecology's preferred option (Alternative 2) because wood waste will be left in place. We support thorough cleanup of sites in Puget Sound. Leaving contamination in place is not protective. Too often, we find that incomplete cleanups only lead to renewed need for cleanup years later. Already, this site has had three previous cleanups. [Commenter 3]	Ecology believes that sufficient investigation has been conducted to delineate the areal extent of the wood waste causing biological exceedances. Wood waste characterization was performed using bioassays identified in WAC 173-204, as well as chemical analyses and visual observation. The only sampling location where a bioassay failure occurred (and thus deleterious impacts caused by wood waste) was sampling location BW-07. All other bioassay locations passed. SMU-1, the area proposed for dredging, encompasses BW-07 and the adjacent vicinity. Based on these analyses, wood waste that is causing a negative environmental effect will be remediated through dredging or capping. Wood waste that does not fail the bioassays, however, does not warrant cleanup and will be left in place.
1.4 We support Alternative 1 – dredge to the extent practicable. We disagree with the scoring on pages 94 to 97 and find these scores to be arbitrary and not adequately justified. The spread in scores for the alternatives would not be "slight" but significant if the scoring were done more accurately in our opinion. [Commenter 3]	Ecology has reviewed the scoring and will use additional scoring information in a revised version of the RIFS report.

2. Environmental review and documentation

Responses included in this category relate to comments about the draft RI/FS and opportunities for public review.

Comment	Ecology's Response
2.1 Incomplete plan. We are concerned that the RI/FS states that "discussion of protection of cultural resources, habitat restoration opportunities, and future land use considerations for the recommended Site remedy are currently reserved pending further direction from Ecology." What does this mean? Will the public be given a chance to review new information as it becomes available before a final decision is made? [Commenter 3]	Ecology is continuing to assess these issues as it develops the draft CAP. In regard to cultural resources, a cultural resources protection plan will be included in the draft CAP, and available for public and tribal review. After the cleanup remedy is finalized and prior to construction, the Tribe will be notified so it may assign a tribal monitor to provide appropriate archeological supervision. Any habitat that is impacted during the cleanup action will be replaced or improved upon or mitigated in another location as the cleanup is completed. The specific approach will be included in the draft CAP and available for public review. While future land use is not known, Ecology will require use of the most protective cleanup standards that will allow unrestricted use of the site.
2.2 It appears that the land use for this site is unknown at this time and so, therefore, the most protective option for the remedy should be selected (i.e., contaminated material spread on the upland should not be relied on for the cost calculation of the cleanup). [Commenter 3]	While future land use is not known, the cleanup will require use of the most protective cleanup standards that will allow unrestricted use of the site. Ecology does not plan to dispose of any contaminated material on the site, and the cost estimate includes the cost of disposal.
2.3 Overall, we find that this RI/FS is not written in a clear and concise fashion and is incomplete. [Commenter 3]	Ecology will require the Port of Everett to conduct more sampling and produce a revised version of the RIFS report that will be written in a more complete, clear, and concise fashion. .

3. Site investigations and cleanup levels

Responses included in this category relate to comments about risks to human health from the consumption of fish near the site and how they relate to selecting site cleanup levels.

Comment	Ecology's Response
3.1 TPH-Dx (Heavy oil) levels exceeding preliminary cleanup levels (PCL) were found at boring sites, PB-3C-7, PB-5A-9, & PB-6A-6. It was determined that the sites do not need to be cleaned up because the exceedances are below the top 6 ft biologically active area. However, no samples were taken at shallower depths (< 6ft) to determine if the TPH-Dx levels do exceed PCLs in the biologically active area. Additional samples need to be taken at the TPH-Dx exceedence sites above 6 feet bgs to determine if the contamination is in the biologically active zone and requires clean up. [Commenter 1]	Ecology is requiring the Port of Everett to conduct additional sampling in order to better determine if exceedances exist in the biologically active zone. Should the results show exceedances, the remedy will be modified accordingly.

Comment	Ecology's Response
3.2 There are no standards for PCL for dioxins clean up concentrations other than the Dredge Material Management Program interim guidelines for open water disposal of 4 pptr, background dioxin levels from the Sediment Characterization Study in Port Gardner and Lower Snohomish Estuary Baywide Sediment range from 0.2 – 5.2 pptr. Background dioxin levels for a cleanup site in Olympia were 1.8-7.2 pptr. In 2008 the EPA conducted sampling in Puget Sound for non-urban background levels for dioxin and only 1 site North of Seattle has a level greater than 2 pptr (site is between reservation and hat island dioxin level was 2.39 pptr. Justification for determining the dioxin level cleanup thresholds for the site were not clear and do not seem to reflect surrounding or Puget Sound wide background levels. Sites where dioxin levels exceeded 6 pptr should be cleaned up e.g BW-07 & 09. [Commenter 1]	Ecology is developing a natural background dioxin level which will be the basis for establishing a cleanup level for the site. This will be determined prior to developing the draft CAP. The Port will also be asked to evaluate cleanup levels based on protection of human health. This will include dioxin and may include other bioaccumulatives. The dioxin background concentrations will be applied to the Bay Wood Products Site and will allow Ecology to determine what cleanup level is appropriate. Because natural background dioxin concentrations in Puget Sound have been determined to exceed human health criteria, WAC 173-340 specifies that cleanup levels shall not be set at levels below the practical quantization limit or natural background concentrations, whichever is higher (WAC 173-340-707 and 173-340-709).
3.3 If the dredge spoil is disposed of on onsite uplands at what rate will the dioxin breakdown? If disposal of the dioxin contaminated sediments poses a threat I would suggest the dredge spoil be disposed of elsewhere. [Commenter 1]	Ecology does not plan to dispose of any contaminated material on the site. Any sediment that exceeds the natural background for upland soils (5.2 parts per trillion [ppt]) will be disposed of at a permitted facility.
3.4 When if dredging occurs there needs to be thorough archeological oversight given the proximity to a known cultural site the Tribes should probably have someone there will the dredging occurs. [Commenter 1]	Prior to the remedial action, the Tribes will be notified so a tribal monitor may be assigned to provide the appropriate archeological supervision. Additionally, a cultural resources protection plan will be included in the draft CAP. The public will be given an opportunity to provide comments on the draft CAP as per WAC 173-340-600 (14).
3.5 Clarity in citing what contaminants exist and at what levels are critical to both the cleanup standards and citizens health standards. This can be improved on in your Draft RI/FS. [Commenter	The contaminants that exist are shown in Tables 4-4 through 5-5 of the RI/FS. Since future site use is currently unknown, cleanup levels will be set at the most protective level to

Comment	Ecology's Response
2]	allow unrestricted land use.
3.6 Dioxin cleanup levels should meet the highest standard. [Commenter 2]	Ecology is developing a natural background dioxin level which will be the basis for establishing a cleanup level for the site. This will be determined prior to developing the draft CAP. The Port will also be asked to evaluate cleanup levels based on protection of human health. This will include dioxin and may include other bioaccumulatives. The dioxin background concentrations will be applied to the Bay Wood Products Site and will allow Ecology to determine what cleanup level is appropriate. Because natural background dioxin concentrations in Puget Sound have been determined to exceed human health criteria, WAC 173-340 specifies that cleanup levels shall not be set at levels below the practical quantization limit or natural background concentrations, whichever is higher (WAC 173-340-707 and 173-340-709).
3.7 Wood waste in the sediment contributes its own contamination and should be removed for good submerged land regeneration. Better characterization of the wood waste is needed to know where it should be moved to. [Commenter 2]	Ecology believes that sufficient investigation has been conducted to delineate the areal extent of the wood waste causing biological exceedances. Wood waste characterization was performed using bioassays identified in WAC 173-204, as well as chemical analyses and visual observation. The only sampling location where a bioassay failure occurred (and thus deleterious impacts caused by wood waste) was sampling location BW-07. All other bioassay locations passed. SMU-1, the area proposed for dredging, encompasses BW-07 and the adjacent vicinity. Based on these analyses, wood waste that is causing a negative environmental effect will be remediated through dredging or capping. Wood waste that does not fail the bioassays, however, does not

Comment	Ecology's Response
	warrant cleanup and will be left in place. Wood waste dredged from the site will be disposed of by one of three methods: open-water disposal; upland disposal on-site (if determined to meet upland on-site disposal criteria); or, upland disposal at a permitted landfill facility. In each case, standards set by local, state, or federal authorities will be met. Regardless of the disposal option selected, the material to be disposed will be analyzed to ensure all local, state, and federal disposal criteria are met and human health and the environment are protected.
3.8 Dioxin. We are concerned that the dioxin is not being addressed adequately at this site. In the sediment, the concentrations are described (page 45) as "relatively low dioxin/furan concentrations, with TEQ concentrations ranging from 4 to 9 parts per trillion (ppt), which is within the regional background concentration range reported by the DMMP in Port Gardner." This is not the standard that Ecology is using for other Puget Sound cleanups, per the new DMMP guidelines. [Commenter 3]	Ecology is currently working to develop a natural background dioxin level which may be applied to the Bay Wood Products Site and will allow Ecology to determine what cleanup level is appropriate. Because natural background dioxin concentrations in Puget Sound have been determined to exceed human health criteria, WAC 173-340 specifies that cleanup levels shall not be set at levels below the practical quantization limit or natural background concentrations, whichever is higher (WAC 173-340-707 and 173-340-709).
3.9 In addition, the report is not consistent in reporting the dioxin concentration levels – in another part of the report (page 71), it states "TEQ of approximately 61 ppt" for sediment levels. [Commenter 3]	Ecology believes the dioxin values are correct as referred to in the RIFS report. Most dioxin samples were gathered at the surface (0 to 10 centimeters [cm] in depth) and had results that ranged from 4 to 9 ppt. One dioxin sample (BW-07-SC-COMP-100726) was gathered from a composited core that ranged from 10 to 190 cm in depth below surface. It is presumed that the dioxin values are different between the surface samples and the composited core sample because of the different depths they are

Comment	Ecology's Response
	gathered from. Ecology is requiring the Port of Everett to conduct additional review of existing dioxin data and to develop a sampling plan to further investigate dioxin in the sediments.
3.10 The concentrations and cleanup standard being used for upland areas is not clear. Metals and other contamination are also inadequately described in the document. Commenter 3]	Cleanup levels and the results from the RI/FS can be found in Tables 2-1 through Tables 5-9 of the draft RIFS report. A discussion of the results can be found Sections 4 and 5 of the RI/FS report. Ecology will require the Port to revise the RI/FS to provide a more detailed characterization in these parts of the report.
3.11 We also have concerns about sparging the sediment wood waste material on the upland portion of the site if the material contains dioxin (and other) contamination. It does not appear that this material has been adequately characterized. [Commenter 3]	Any sediment wood waste material that exceeds upland criteria for dioxin or any other contaminant will not be sparged on the uplands portion of the Site.
3.12 Sediment Conceptual Site Model. The Site Model is incomplete. The model should address how ALL of the contamination at the site occurred but instead it only addresses the wood waste. How is the dioxin contamination, for example, explained? [Commenter 3]	Ecology will require the Port of Everett to produce a revised version of the RIFS Report. Section 6.2 of the report (Sediment Conceptual Site Model) appears to address only wood waste. This section will be revised to clearly discuss all of contamination, including dioxin.

Explanatory Figures

Figure 1. Everett baywide area cleanup sites under the Puget Sound Initiative.

Ecology Contact Information

For more information on the Bay Wood Products Site, contact:

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Hours: Mon – Wed 10 am - 9 pm
Thurs – Sat 10 am - 6 pm
Sun 1 - 5 pm

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https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2581