



September 22, 2008

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**RE: Bremerton, City of (NWS-2008-737-SO)**

To Mr. Ehorn and Ms. Patchett,

We are writing to comment on the *Joint Application for a Department of the Army Permit and a Washington State Department of Ecology Water Quality Certification and Coastal Zone Management Consistency Concurrence* for Bremerton Boardwalk Project (NWS-2008-737-SO).

People For Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore Puget Sound and the Northwest Straits.

The proposed Bremerton Boardwalk Project is an overwater boardwalk - two-thirds of a mile in length - that would connect an existing downtown boardwalk with the south end of Evergreen-Rotary Park. The boardwalk width would range from 20-28 feet wide with one section as wide as 32 feet and would be located between 50 and 150 feet offshore. An access pier would be 170 by 18 feet. Total new

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overwater coverage would be approximately 2 acres and 179 new pilings will be installed.

As part of the proposal, a former Chevron fuel distribution facility will be cleaned up (remediate contaminated soil, remove bulkhead, create pocket beach, removed creosote pilings) and transformed into parkland. Also a sewer main will be replaced with a 4000 foot long pipe with 1400 foot of new lateral connections and three manholes that would connect to the boardwalk with finger piers. The sewer would be constructed in the intertidal area, approximately 4 feet below beach elevation.

People For Puget Sound supports Bremerton's overall vision of rejuvenation of the downtown and waterfront area. We do not, however, support the proposed boardwalk project because of its potential serious impacts to fish and wildlife and their habitat. New overwater coverage is contrary to the Puget Sound Partnership's goal of restoration of the health of the Sound by 2020.

1. **Overwater coverage in nearshore.** One of People For Puget Sound's main goals is to protect and restore the nearshore zone of Puget Sound, including all areas influenced by marine waters. The proposed Bremerton Boardwalk, which would follow the 20-30 foot depth contour, is in the nearshore zone.

Studies have documented that overwater structures can negatively affect nearshore habitat by reducing light levels and altering ambient light patterns, altering wavy energy patterns, altering substrate characteristics, and degrading water quality by increasing exotic species, toxics, nutrients and bacteria. Distributions of invertebrates, fishes, and plants have been found to be severely limited in shaded environments when compared to adjacent vegetated habitat in the Pacific Northwest not shaded by overwater structures. The cumulative impacts of one or more additional overwater structures are likely to result in significant habitat degradation and are inconsistent with best available science for protecting critical marine nearshore habitat, including habitat-forming processes that contribute to Bremerton's nearshore environment.

2. **New pilings in nearshore.** People For Puget Sound opposes the installation of 179 new pilings in Puget Sound. As noted below, in-water structures impact physical processes leading to potential adverse effects on wildlife.
3. **Orcas and Fishing Rights.** People For Puget Sound supports the tribal treaty fishing rights and shares the concern that the proposed boardwalk impacts those rights. In addition, killer whales have been observed in project area, which has been federally designated as critical habitat.

4. **Precluding future restoration work.** People For Puget Sound strongly supports the removal of bulkheads and the installation of alternative shoreline stabilization techniques such as those using vegetation, terraces, and “artificial” habitat throughout the Sound. We understand that projects such as the proposed boardwalk will potentially preclude such work because projects will not be able to include components that might damage the pilings of the boardwalk (such as logs that might come loose). This could lead to all future work (in the area of the proposed boardwalk) involving more hardscape.
5. **Sewer line replacement and access.** According to the city’s web page, the sewer line was poorly sited when constructed in 1971 by being placed in the nearshore without consideration for maintenance or cleaning and many of the existing laterals back to shoreline parcels are exposed at the toe of the steep bluff on the beach and some are sheared off near ground level.

Although upgrade and replacement of a sewer main provides an environmental benefit with regard to an improved line, there are numerous other alternatives which would have less overall negative environmental impacts. Due to the high price tag and negative environmental impacts of the proposed project, other alternatives should be considered including:

- a. Rather than create three manhole connections to a boardwalk in a waterward direction, manhole access connections could be made towards shore, thus significantly reducing the amount of overwater coverage.
- b. Create vertical manhole or much smaller horizontal manhole structure that can be accessed by boat or barge.
- c. Replace pipe in the upland and use pumps to move sewage from the affected parcels up to the line.
- d. Purchase key shore properties and reconsider the alignment of the sewer main.

If the city desires amenities separate from the sewer project, pedestrian and water access alternatives that would be less costly and more environmentally friendly have been used in other areas such as water taxis or elevated pedestrian walkways over upland alignments.

6. **Chevron Facility.** People For Puget Sound supports this element of the proposed project that includes remediating contaminated material and installing beach habitat.

7. **Mitigation versus “do no harm.”** People For Puget Sound argues that the proposed boardwalk project should be denied because there are other alternatives to address the sewage line replacement that will be less costly and will incur less environmental harm. Therefore a “do no harm” standard should be applied. The boardwalk proposal provides too much potential harm to the environment.

### **Additional comments:**

#### Dyes Inlet and Port Washington Narrows are Habitat for Salmon and Prey Sources

The importance of the project area’s relatively intact habitat to marine species, including salmon, is documented in reports and maps generated in the WRIA 15 process (<http://www.ecy.wa.gov/apps/watersheds/wriapages/15.html>). Estuarine and shallow marine nearshore habitats provide pathways for fish and shellfish, larvae, and are important habitats for prey resources, refugia, and spawning substrates for the region’s Pacific salmon, groundfish, and forage fish<sup>1</sup>.

Dyes Inlet and Port Washington Narrows supports a small herring stock that supports important prey resource for non-natal Chinook populations. The Puget Sound Salmon Recovery Plan recommends protection of Dyes Inlet herring stock in order to recovery Chinook salmon.<sup>2</sup>

#### Impacts of Overwater Structures on Nearshore Habitat

Overwater structures can pose alterations to key controlling factors such as light, wave energy and substrate regimes, that determine the habitat characteristics that support critical habitat functions<sup>3</sup>. Shading from docks and piers and prop wash from boats can have major impacts on subtidal vegetation and associated habitat. <sup>4</sup> Plant growth, survival, and depth of penetration are directly related to light availability. Recent studies have found that, to the degree that a shade footprint limits plant photosynthesis, it decreases the extent and quality of habitat that supports a wide variety

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<sup>1</sup> Nightingale, Barbara and Charles Simonstad. Overwater Structures: Marine Issues. Submitted to Washington Department of Fish and Wildlife, Washington Department of Ecology, and Washington Department of Transportation. University of Washington, Seattle. May 9, 2001.

<sup>2</sup> Puget Sound Salmon Recovery Plan. Local Watershed and Regional Nearshore Chapter, December 2005. Page 6-76.

<sup>3</sup> Ibid, Page 1.

<sup>4</sup> Thom, Ronald M., Gregory Williams, and Heida L. Diefenderfer. Balancing the Need to Develop Coastal Areas with the Desire for an Ecologically Functioning Coastal Environment: Is Net Ecosystem Improvement Possible? Restoration Ecology, Vol. 13, No. 1, pp. 193-203.

of fish and shellfish populations. Another study found that construction of even

partially shading types of structures, floating or on pilings, could be expected to largely eliminate existing macroflora with little chance for replacement plant growth<sup>5</sup>.

Without proper precautions, docks, piers (e.g., overwater boardwalks and finger piers), and pilings can cast shade upon the underwater water environment thereby limiting light availability for plant photosynthesis. Distributions of invertebrates, fishes, and plants have been found to be severely limited in shaded environments when compared to adjacent vegetated habitat in the Pacific Northwest not shaded by overwater structures.<sup>6</sup>

Further, a number of studies have documented the impact of shade on juvenile salmon migration; behavioral responses have included pausing, school dispersal, and migration directional changes<sup>7</sup>. The abundance and types of epibenthic prey available for juvenile salmonids and other small nearshore fishes appear to be closely linked to bottom elevation and gradient and wave and current exposure. The elevation ranges of main concern for salmon prey is +8 to -8 feet MLLW. In early parts of the growing season, high elevation bottoms in protected waters have been found to have high concentrations of epibenthic prey due primarily to the greater sunlight and plant productivity occurring there. In later seasons, they have smaller abundances than lower elevations. Similarly, sampling of bare sand and kelp-covered cobble at the Elliott Bay Marina (1990) showed prey density ratios to range from 1:11 to 1:16 (sand:kelp) with the higher prey densities attributed to increased plant production in the kelp-covered cobble habitat. Wave energy conditions are also an important component in the suitability of habitat for *z. marina* colonization and propagation and the utilization of that habitat by epibenthic copepod communities that support juvenile fish. A number of studies reported that moderate current speeds appear to enhance *z. marina* growth. It is believed that currents make nutrients and CO<sub>2</sub> more readily available to the plant by breaking down the leaf surface diffusion gradient. The plant does not appear to grow in the presence of regular wave shock with too much current tearing the leaves, eroding the supporting substrate, and burying the plant. However, currents too slow will allow dominant algae colonization on *z. marina* leaves that will compromise seagrass survival. *Z.*

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<sup>5</sup> Nightingale, Page 39.

<sup>6</sup> Nightingale, Page 38.

<sup>7</sup> Nightingale, Page 1.

*marina* tends to grow in protected conditions and has a dampening effect on wave action as the leaves have been found to reduce current velocity and turbulence<sup>8</sup>.

### Impact of in-water structures

Alteration of sediment transport patterns can present potential barriers to the natural processes that build spits and beaches and provide substrates required for plant propagation, fish and shellfish settlement and rearing, and forage fish spawning.<sup>9</sup> For example, experimental investigations demonstrate how the construction of jetties and other in-water structures can partially or completely disrupt the longshore transport process. In a natural hydrodynamic regime, size separation of sediments proceeds along the bottom slope with wave flow impact, steep sloped bottoms move larger sediments towards the shore accumulating a thin near-shore strip along the shoreline. While smaller sediments were found to move towards deeper areas where they accumulate or were transported further by currents, the opposite was found to occur on gentle bottom slopes where smaller size sediments accumulated near the shore and coarser sediments were moved towards the deeper areas.

### Cumulative impacts

Cumulative impacts related to the proposed project are significant and must be addressed in consideration of the permit application. The environmental effects of the proposed project include: impact on prey species due to the physical structure, including shading; impacts on fish migration and other behaviors due to in-water structure; changes to habitat resulting from the project (especially juvenile fish); impacts to wildlife due to light (night) and noise; potential pollutant threats from human activities associated with the boardwalk; and physical impacts to beach and nearshore structure and habitat.

Thank you for the opportunity to comment on the joint permit application. Please contact me with questions at (206) 382-7007 X215. Please add us to the list of interested parties.

Sincerely,

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<sup>8</sup> Nightingale, Page 46.

<sup>9</sup> Nightingale, page 47.

Heather Trim  
Urban Bays and Toxics Program Manager