

April 6, 2011

TO: GPT MAP Team

FR: Cyrilla Cook, Washington Department of Natural Resources

RE: Comments on the GPT Project, March 2011 Documents

DNR looks forward to receiving the updated Biological Evaluation, Essential Fish Habitat Evaluation, Marine current and Tides, Marine Sediment and Water Quality, Nearshore Macroalgae, Hydrology, Geotechnical, Stormwater Management, Noise Impact Analysis, Vessel Traffic, and other studies as these will provide necessary information on evaluation of impacts to habitat from the proposed development on state owned aquatic land. Within these studies, DNR anticipates that specific information on the following issues relevant to managing state owned aquatic lands be provided:

Additional Information Needed:

1. Assessment of alterations to hydrology (wave reduction by the wharf and trestle and increased wave energy from ship wakes), sediment transport, and disruption of herring migratory patterns from deepwater to the nearshore and along the nearshore.

- The Cherry Point Environmental Aquatic Reserve Management Plan (Cherry Point Plan) requires that new structures be designed to avoid disruption of herring migratory patterns and minimize wave and sediment transport impacts to the maximum extent feasible.
- How will scour around the pilings installed in the intertidal and shallow subtidal change the sediment characteristics and hydrodynamic environment? How will habitat for marine invertebrates adjacent to the pilings be affected by changes in wave energy and sediment transport?
- How will accretion of sediment that is anticipated due to changes in the wave dynamics alter sediment characteristics and affect the benthic community?
- How will propeller wash from vessel traffic affect aquatic vegetation?
- How will moorage of large vessels and shade affect submerged aquatic vegetation?

2. Biological Evaluation: Please include spatially explicit mapping and species identification of 1) seagrass presence, to at least a one meter resolution, 2) geoduck and other shellfish resources, 3) known forage fish spawning and holding areas, 4) benthic and epibenthic invertebrate abundance and distribution.

- Macroalgae survey including spatially explicit mapping of plants identified to the species to at least a one meter resolution.
- Hydrology study should provide information on changes in sediment transport or sediment characteristics that may affect sustainable viability of benthic plant and animal communities.

3. Assessment of potential construction and operational noise on aquatic habitats and species on herring and salmon. The Cherry Point Plan requires that proposed designs avoid or minimize noise and artificial light impacts. Noise impact analysis should provide information on construction and operations on forage fish spawning.

4. Assessment of accumulation of Toxic Chemicals and Pollutants and avoidance measures:

Provide information on what safeguards are proposed to prevent potential release of toxic chemicals associated with construction of cast-in-place concrete. Will the transfer of materials from the conveyor belt to the ship be fully enclosed? Describe how potential pollutants to the air or aquatic habitats will be prevented during ship loading and unloading.

5. Details regarding proposed Artificial Night Lighting on the trestle and wharfs: Describe how proposed marine directional lighting would be used to minimize lighting impacts on the marine environment.

6. Analysis of Operational noise: Describe how operation-related noise impacts would occur from trucks at the Terminal, ships, conveyors, and material loading and handling will be minimized to avoid impacts to aquatic habitats and species.

7. Updated Assessment of Impacts of Increased Shading on Aquatic Vegetation and salmon:

Please provide a copy of the shading model used to assess potential impacts of the project on aquatic vegetation, benthic communities, and fish migration and use. Please address shading impacts from the third conveyor that would be either stacked above the other two or cantilevered off to the side. See below for the list of aquatic species providing herring spawning substrate.

Please provide an updated survey of marine aquatic vegetation, as 1996 survey is too old and the terminal has been moved to a new location since then. Provide a detailed analysis of how the proposed design and operations, including ship docking, avoid shading impacts on aquatic vegetation, salmon, and important other species and habitats. The JARPA states there are no eelgrass communities present within the project area. However, page 167 states that the trestle was designed to specifically avoid impacts to eelgrass.

8. Impact Monitoring and Compensatory Mitigation Plan:

- Please provide an Impact Monitoring Plan and a Compensatory Mitigation Plan for the marine aquatic resources. Compensatory? mitigation should result in no net loss of functional habitat on state-owned aquatic land. The compensatory mitigation site is based on the 1996 aquatic vegetation survey. A better assessment of impacts on a more accurate survey will almost certainly increase the area of vegetation being impacted.
- The map of the proposed mitigation site shows all rock being placed above 0 mean lower low water (MLLW). The aquatic vegetation survey done in 1996 found kelp down to -15 and macroalgae down to -21. In 1996, small patches of *Zostera Marina* were found in the project area. If there is eelgrass at the new location, the compensatory mitigation must include eelgrass.
- The new aquatic vegetation survey is likely to show kelp on the site. DNR prefers that compensation be provided for kelp and eelgrass if present. DNR would like to work with the applicant on the compensatory mitigation requirements for aquatic vegetation.
- Compensatory mitigation needs to include monitoring and contingency.

- The proposed location of the compensatory mitigation site is within the area that will be impacted by the trestle and wharf. DNR requests that the site be located outside the area of potential impact.

9. Vessel Traffic Analysis and assessment of traffic management needs. Vessel Traffic study should provide information on vessel draft, ballast water management, frequency of entry, egress, and moorage time anticipated for the different types and sizes of vessels, and their potential impact on aquatic habitats. This must be completed and available for review prior to consideration of lease authorization.

10. Assessment of Ballast water: Provide an assessment of the impacts of the proposed ballast water management.

11. Stormwater Management Plan: The JARPA states stormwater would be treated and discharged onsite rather than into marine waters, avoiding the need for additional water quality assessments. The JARPA states that spill containment basins would be rerouted to upland stormwater facilities for treatment.

However, page 4-22 of the PID states that uncontaminated stormwater runoff from the wharf and trestle would be discharged to the water. Page 4-45 states that stormwater from other portions of the access trestle and wharf that are not exposed to potential pollutants could be drained to the adjacent upland or into the water.

- Please provide a characterization of the source, quality and quantity, and analysis of potential impacts of all stormwater runoff proposed to enter state waters, whether treated or untreated. Consistent with the Cherry Point Plan, demonstrate that all new point source discharge outfalls for stormwater will be designed to avoid or minimize individual and cumulative adverse impacts.
- Per the Cherry Point Plan, provide results of the ambient water toxicity study using protocols accepted by EPA and Ecology to evaluate cumulative effects of existing industrial wastewater outfalls and groundwater seeps on nearshore species survival and water quality.
- Assess bioaccumulation of PAH, PCB, and heavy metals in caged mussels as described by Applied Biomonitoring, 2002.

12. Geotechnical information and engineering design of trestle and wharfs. Geotechnical study should provide spatially explicit mapping of sediment characteristics, beach geomorphology, bathymetry and stability.

13. Compensatory Mitigation for impacts to aquatic vegetation

Any unavoidable impacts that may occur to aquatic vegetation on state owned aquatic lands will require compensatory mitigation. This includes impacts to eelgrass or macroalgae damaged during construction or operations through displacement, shading, burial or scour. The JARPA proposes compensation for up to 4,350 square feet of shading impacts to macroalgae. The proposed location of the macroalgae plots are too deep for eelgrass to grow. The project proposes to drop small to large cobble and small boulders on top of sandy substrate. This substrate is not conducive to eelgrass growth, and may increase the risk of attracting *Ulva*.

Other Compensatory Mitigation requirements: If proposed compensation for displaced or damaged eelgrass includes transplanting, the site for transplant must be selected prior to commencement of Washington Department of Natural Resources – April 6, 2011

construction. The transplant site must also be on state owned aquatic lands and must be approved by DNR. A reference site should also be chosen to match the characteristics of the mitigation area. A greater than 1:1 ratio would be expected in an effort to spatially compensate for the temporal losses of ecological function of the eelgrass.

DNR has developed a macroalgae herring spawn list which contains macroalgae documented through WDFW surveys to provide substrate for herring spawn (see below). Viable presence of these species is particularly critical to functioning nearshore habitat at Cherry Point. Lethal or sublethal impacts to any of these species that are not avoided must be compensated for on a species specific in-kind basis. The proposed placement of rock or gravel on existing bare sediment is unlikely to provide this species specific compensation. Macroalgae seeding (spore dispersal or embedded lines) would be necessary for this type of compensatory mitigation as well as selection and monitoring of reference sites. A greater than 1:1 ratio would be expected in an effort to spatially compensate for the temporal losses of ecological function of the macroalgae during project construction and establishment of the macroalgae bed.

Documented herring spawn macroalgae substrate
<i>Agarum</i>
<i>Ahnfeltia</i>
<i>Alaria</i>
<i>Botryglossum</i>
<i>Callophyllis</i>
<i>Chondracanthus</i>
<i>Constantinea</i>
<i>Costaria</i>
<i>Cryptosiphonia</i>
<i>Desmarestia</i>
<i>Enteromorpha</i>
<i>Fucus</i>
<i>Gelidium</i>
<i>Gracilaria, Gracilariopsis</i>
<i>Mazzaella</i>
<i>Laminaria</i>
<i>Mastocarpus</i>
<i>Microcladia</i>
<i>Neorhodamela</i>
<i>Nereocystis</i>
<i>Odonthalia</i>
<i>Osmundia</i>
<i>Palmaria</i>
<i>Plocamium</i>
<i>Polyneura</i>
<i>Polysiphonia</i>

<i>Prionitis</i>
<i>Pterosiphonia</i>
<i>Rhodymenia</i>
<i>Saccharina</i>
<i>Sarcodiotheca</i>
<i>Sargassum</i>
<i>Sparlingia</i>
<i>Ulva</i>
<i>Urospora</i>

The goal of compensatory mitigation of eelgrass or macroalgae is to establish a viable plant community that replaces the habitat functions lost through impacts of the construction and operation of the authorized activity. Therefore, any transplant sites for compensatory mitigation would require monitoring for the term of the lease. The frequency of monitoring should be scheduled to provide the opportunity for adaptive management.

Contingency Planning

A contingency plan should be developed for implementation if the compensatory mitigation plan does not perform as expected. ‘Triggers’ for determining when to implement any adaptive management/contingency should be developed and agreed upon. For transplant projects, remedial planting (re-planting at the site where transplanted vegetation did not survive) is a common first contingency step taken. A defined ‘trigger point’ for a site – e.g. what percentage of non-survival at what point in time after the initial transplant – should be determined prior to initiating the mitigation. New actions should be identified that will be taken if the remedial plantings fail. New actions may include transplanting at an altogether new site or require off-site/out of kind mitigation. Interim targets for eelgrass shoot growth and macroalgae areal coverage should also be established prior to initiating the mitigation.

14. Update the characterization of the Cherry Point Aquatic Reserve Management Plan for accuracy:

. Page 5-179 of the PID states: “The management goal is to balance potentially competing uses and emphasize environmental protection.” This is an inaccurate statement. The correct statement of the plan’s management goals are: *“The management emphasis for new authorizations on state-owned lands will place protection of native aquatic habitats above all other management actions. For existing uses located on state-owned aquatic lands directly adjacent to the reserve, the focus will be to reduce their existing impacts over the 90-year time frame of the reserve”*.

Page 5-179 also states the reserve was established in 2000 with state owned lands and an additional 69 acres of privately owned lands. There are no private lands within the reserve.

The bottom of page 5-179 contains a partial list of requirements of the plan. It omits the plan’s requirements regarding new outfalls, impacts of the project on salmon and herring behavior and distribution, wave impacts, bank stabilization, and saltwater intake.

15. List of complete references requested to be available for agency review:

Please provide the following full references cited in the *Project Information Document dated February 28, 2011, Chapter 5* :

Page 5-11: Lymon C. Reese & Associates (1993), Ben C. Gerwick, Inc. (1993)

Page 5-29: Chavez et al. (2003), Gustafson et al. (2006)

Page 5-47 Westmar (1996)

Page 5-49 Shapiro & Associates (1996)

Page 5-51 Resource Analysts International (2006), Hay et al. (2001), O'Toole(2010).