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7700 Earling Street NE
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February 19, 2015

Mr. Tony Kantas
Associate Planner
Thurston County Planning Department
2000 Lakeridge Drive SW
Olympia, WA 98502-6045

Subject: Presence of eelgrass in Zangle Cove

Re: Application by Pacific Northwest Aquaculture for geoduck farm in Zangle Cove estuary; JARPA application number 2014108800; parcel number 12911440102

Dear Mr. Kantas,

The proposed geoduck applications by Pacific Northwest Aquaculture (ChangMook Sohn) contains critical errors and inaccuracies related to the presence of protected eelgrass (Zostera marina) in these sections (emphasis added):

> JARPA application, Page 4, Part 5L: "Briefly describe the vegetation and habitat conditions on the property":
>
> "The project occurs on private tidelands. The project site is a sandy, muddy beach with no structure. **There are no eelgrass beds** or other priority features. The uplands along the shoreline are native forest with mixed coniferous and deciduous trees. Areas adjacent to the single family residence are landscaped."

And,

> The Pacific Northwest Aquaculture Biological Evaluation, Page 7, Section 2.2, Construction Schedule:
>
> "**No eelgrass is present on our near the project area** … "

And,

The Pacific Northwest Aquaculture Biological Evaluation, Page 8, Section 3.2, Action Area, Baseline conditions in the project area:

"Sediments in the Action Area are largely similar to the Project Area, consisting of unvegetated, mud, course to fine soft sand, and gravel sediment. A site visit during negative tides in June of 2OL4 by ACERA biologists found **no instances of eelgrass** or attached macroalgae (kelp)."

And,

The Pacific Northwest Aquaculture Biological Evaluation, Page 19, Section 5.4, Effects on Puget Sound Chinook Salmon Critical Habitat, Natural Cover:

"The Project Area is a relatively simple low gradient mud/sandy beach and provides negligible natural cover. **Eelgrass and attached kelp are not present** within the Project Area."

These statements about eelgrass are false.

Eelgrass has been present in Zangle Cove for a number of years, adjacent to, if not actually on the Sohn tideland property. Mr. Jeffrey Gaeckle, a marine biologist with the Washington State Department of Natural Resources, identified eelgrass to Mr. Sohn on a tidelands site visit and explained the important role that eelgrass plays in Puget Sound ecology. Eelgrass is still present.

Additionally, the United States Department of Energy has sponsored, and the United States Environmental Protection Agency has provided funding for, eelgrass research and test planting of approximately 45 square meters immediately adjacent to the proposed geoduck aquaculture farm. Please see the attached document "Eelgrass Restoration in Puget Sound: Development and Testing of Tools for Optimizing Site Selection", September 2014.

This report confirms the presence of eelgrass in Zangle Cove and on the project property:

Page 9, Section 2.4.2.1, South Sound:

"The last plot was planted at Zangle Cove to the side of a small existing patch. Visibility at that site varied with tidal current."

The work of the US DOE in restoration of eelgrass in Zangle Cove next to the existing eelgrass has been successful to date:

Page 24, Section 3.3.1, Quantitative Surveys of the Test Plots:

"Zangle Cove and Westcott middle had some mortality, which is expected with the first year of this type of transplanting (e.g., Vavrinec et al. 2007), but did well enough to warrant further investigation for large-scale restoration."

Page 30, Section 4.4, Test Plantings and Site Assessments:

"Conversely, our expectation was that South Sound was largely inhospitable to eelgrass and restoration would be difficult. However, we found that portions of the South Sound may be very good for supporting eelgrass and recruitment limited. The decline on Anderson Island suggests that a strong southwest exposure may be undesirable in the region, so future work should focus on the north or east sides of landmasses (e.g., Zangle Cove) or where the fetch is minimized (e.g., Joemma State Park)."

The US DOE report identifies aquaculture activities as creating negative stressors on eelgrass (emphasis added):

Page iii, Abstract:

Surveys of stakeholders identified dredging/filling, shoreline development, water quality, and **commercial aquaculture as the most significant stressors on eelgrass**, and noted that new regulations and improved enforcement of existing regulations would be necessary to ensure continued recovery and protection of eelgrass.

Page 29, Section 4.3, Stakeholder Input:

The stakeholders we surveyed identified dredging and filling, water quality, shoreline development, and **commercial aquaculture as the greatest stresses to eelgrass.** As the human population in Puget Sound is projected to increase, attention to protecting critical habitats and limiting stressors will be critical to meeting eelgrass recovery goals.

The assertion that no eelgrass is present on the proposed property is inexplicable and it is false. We believe that based on this false assertion alone, the permit should be denied outright. It is inconceivable that Thurston County would give consideration to a permit application based on false information.

However, the more important and significant issue is that because of the ongoing United States Department of Energy eelgrass restoration project, of which Zangle Cove is a documented test site, we believe the permitting of any industrial activity on the tidelands of Zangle Cove should be prohibited now and in the future. Zangle Cove is significant in the effort to restore and preserve the important habitats of Puget Sound for endangered species – a goal that everyone claims is a priority.

The harmful effects of the proposed geoduck aquaculture operation on eelgrass are unmistakably stated in the United States Department of Energy report, which is attached to

this letter. The installation of a commercial geoduck farm in the location of the eelgrass restoration project of the United States Department of Energy is contraindicated.

Furthermore, the ongoing study of Zangle Cove related to eelgrass recovery by United States Department of Energy should preclude the permitting of any geoduck aquaculture or any other type of aquaculture in Zangle Cove at present or in the future. Zangle Cove, as an eelgrass restoration site, should be off-limits to industrial aquaculture.

Sincerely,

Patrick and Kathryn Townsend

Included:
Photos of eelgrass in Zangle Cove

Attached:
Pacific Northwest National Laboratories, US Department of Energy, "Eelgrass Restoration in Puget Sound", 2014

Photos of Eelgrass in Zangle Cove

5/13/06 First observed naturally growing eelgrass in Zangle Cove

5/13/06 Nautrally growing eelgrass in Zangle Cove

Photos of Eelgrass in Zangle Cove

5/13/06 Naturally growing eelgrass in Zangle Cove

2013 Eelgrass in Zangle Cove.

Photos of Eelgrass in Zangle Cove

2013 Eelgrass in Zangle Cove.

Star fish in its home on the eelgrass and kelp of Zangle Cove