

McNamara, Cade

From: Adam Canter <adam@wiyot.us>
Sent: Friday, February 18, 2022 2:41 PM
To: CEQAResponses
Cc: Ford, John; William Matsubu; ted@wiyot.us; michelle@wiyot.us
Subject: Nordic Aquafarms DEIR Comments, Wiyot NRD
Attachments: Nordic_Aquafarms_DEIR_comments_WiyotNRD.pdf

Ha'wa'lou Cade and John, please find our attached comments on the Nordic Aquafarms DEIR. Thank you for your time and consideration. Rra'dutwas (with kindness), Adam

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February 18, 2022

Planning Director, John Ford
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Re: Nordic Aquafarms Land-Based Aquaculture Project Draft EIR Comments

Ha'wa'lou (Greetings)

The Wiyot Tribe Natural Resources Department (WNRD) hope this comment letter reaches you in good health and appreciates Nordic Aquafarms (NAF) for their accessibility and willingness to address concerns of Tribal citizens and the general public, who have the potential of being impacted by this large development project. The WNRD note that there will be community and environmental costs and benefits from a food production project of this scale and that as part of the CEQA process NAF is required to fully address potential impacts and plan for their appropriate and scaled mitigations where needed. As stewards of the Wigi (Humboldt Bay) environment since time immemorial it is paramount that the Wiyot continue to protect the water and life that depend upon these exceptional resources that we are willing to share with NAF in their good faith to also protect these waters and resources and it is through efforts such as this that we help to vet and improve the project through our opportunity to comment on the Draft Environmental Impact Report (DEIR). As with many small Native American Tribes, it is difficult to have the capacity take a deep dive into every aspect of the project that has the potential to impact ancestral waters, lands, and species, and we appreciate the information provided by our friends and colleagues from various local environmental organizations, including Humboldt Baykeeper, and encourage NAF to address the environmental coalitions concerns, which mirror many of the Tribe's major concerns in general.

Ambient water quality data more proximate to the discharge point than was employed in the Numeric Modeling Report should be obtained and used to better assess potential impacts of nutrients proposed to be discharged in the project's effluent. The dataset used in the modeling study was collected approximately 3.5 miles south-southeast of the Redwood Marine Terminal II diffuser, rather than in the area that will be affected by the discharge.

The Central & Northern California Ocean Observing System (CeNCOOS), partnered with Humboldt State University and the WNRD, measures hydrographic parameters at Trinidad Pier and several locations within Humboldt Bay and serves these data through the CeNCOOS Data Portal. Comparing CeNCOOS data provides evidence that there are significant differences in water quality conditions in Humboldt Bay (measured at the Humboldt Bay Shoreline Station) compared to open ocean conditions (measured at the Trinidad Pier Station).

Ambient water quality conditions such as temperature, salinity, dissolved oxygen, and chlorophyll levels are considerably different during different seasons in Humboldt Bay compared to the open ocean. These data do not support the assumption in the DEIR that ambient water conditions taken inside Humboldt Bay (Swanson, 2015) are adequate for modeling ambient conditions 1.55 miles offshore at the point of discharge.

Higher temperatures and lower salinity levels can be an attractant, can exacerbate Harmful Algal Blooms, and can encourage the growth of invasive species. For example, *Diplosoma listerianum*, a

colonial tunicate that can outcompete indigenous colonial tunicates and benthic invertebrates for space, was one of several invasive fouling species which showed increased growth (% coverage) at temperatures 3.5 and 4.5°C above the ambient temperature in Bodega Harbor (13.5°C), while a native tunicate, *Distaplia occidentalis*, showed reduced survival.

There is concern over further elevating the water temperature in the region as our oceans are already warming. In 2014 a large Marine Heat Wave (MHW) known as “the blob” was identified as it began dominating the northeast Pacific Ocean. Researchers documented many ecological effects associated with the blob, including unprecedented harmful algal blooms, shifting distributions of marine life, and changes in the marine food web. We expect NAF to monitor how elevated ocean temperatures will affect the surrounding environment and mitigate any harmful effects.

The WNRD would like for NAF to continue to use the best available science and data when modeling the impacts for the outfall discharge but should seek input/validation from local experts, including academics at Cal Poly Humboldt, and local NOAA Oceanographers regarding the local complexities of hydrodynamics. The WNRD also want NAF to ensure transparency regarding the conditions of the discharge water quality.

The estimated discharge of 1484 lbs. of nitrogen per day reinforces the need for baseline ambient water quality assessment at the point of discharge and regular monitoring to accurately assess the impact of increased nutrients, including monitoring for Harmful Algal Blooms (HAB). The coast of Humboldt County has already experienced high levels of *Pseudo-nitzschia australis*, which causes domoic acid and has led to fisheries closures in Humboldt County in 2016 through 2021. *Pseudo-nitzschia* growth and domoic acid production benefit from nitrogen loading in the environment. Given the potential risk to ecosystems and the local economy, it is important that NAF collect appropriate data to accurately conclude that the impacts of increased nitrogen are indeed “less than significant” and that regular monitoring of discharged nitrogen be conducted throughout all phases of production to ensure that it does not contribute to increased HABs. As is previously stated, ambient water quality data from closer to the discharge point than was used in the Numeric Modeling Report should be obtained and used to better assess potential impacts of nutrients proposed to be discharged in the project’s effluent. The potential for the effluent to exacerbate Harmful Algal Blooms, particularly in winter, should be assessed using an upwelling model as suggested by California Sea Grant Advisor Joe Tyburczy: “Simple calculations undertaken using a published model for ocean productivity (BEUTI, Biologically Effective Upwelling Transport Index) suggest that nitrate released by the Nordic facility (roughly 700 kg/day) may be substantial relative to natural, ambient nutrient supply – especially during the winter when upwelling is lower and when alongshore currents and resultant dilution is reduced.”

Baseline and post-project monitoring for toxic algae near the discharge point should be conducted and a threshold that would trigger adaptive management should be established as a condition of the project. Ongoing monitoring should include early detection of toxic algae such as *Alexandrium*, the dinoflagellate that produces PSP toxins, and *Pseudo-nitzschia*, the diatom that produces domoic acid, which caused devastating impacts to the marine ecosystem in 2014-15, including the Dungeness crab fishery, marine mammals, and seabirds from Alaska to Southern California. We cannot let this project increase conditions that make these toxins more prolific.

One primary concern is the impact of pumping 11.9 million gallons of water from the Wigi (Humboldt Bay) to culturally important species, including the endangered longfin smelt (*Spirinchus thaleichthys*). Although the screen size (1mm) and maximum approach velocity (0.2 feet per second) are designed to have minimal impacts, recent studies (Tenera 2022 unpublished) indicated the presence of vulnerable larval longfin smelt. With entrainment and impingement of culturally important and endangered fishes likely unavoidable, the WNRD suggests that Nordic Aquafarms and the Humboldt Bay Harbor District explore other methods to minimize any negative impacts. In addition to more complete studies to understand finer scale spatiotemporal distributions of larval fishes, we suggest continued sampling proximate to the intakes when water diversion volumes are above certain thresholds. WNRD suggests that other options to minimize entrainment could include seasonal or diurnal decreases in water diversions coinciding with the presence of vulnerable larval fishes. The piling removal project proposed as off-site compensation for impacts to spawning longfin smelt is not appropriate, since the subject area is not known to be

spawning habitat for the species. The DEIR states that the potential for entrainment of Longfin Smelt larvae can be mitigated on a 1:1 basis to ensure there would be no loss in number of individual larvae; therefore, the impact is less than significant. However, the DEIR also states that "the removal of pilings does not directly recreate habitat for the life stage of the larvae, but improving habitat will increase the number of Longfin Smelt resulting in an increased number of larvae." It is not clear if or how improving non-spawning habitat will improve spawning. A mitigation measure that directly recreates or restores Longfin Smelt spawning habitat should be developed and incorporated, once the site-specific surveys quantify the extent of impacts on this species.

An adaptive management plan should be adopted that sets thresholds that would trigger action to avert a toxic algae bloom once it is detected. The adoption of appropriate thresholds and implementation plan for adaptive management should include experts in detecting and managing HABS, as well as scientific experts from trustee agencies focused on protecting marine resources, including the California Coastal Commission, California Dept. of Fish & Wildlife's Marine Region, and National Marine Fisheries Service. We also expect plans and control protocols that address the possibility of fish or pathogen escape from NAF facilities.

The substantial energy demands of this proposed facility cannot be overlooked and we stress to NAF that they should increase the size of the on-site solar electricity system, including solarizing parking areas and including an energy storage system, commit to purchasing 100% renewable energy, and have a commitment to purchasing local, carbon free, renewable electricity, whenever it is available and feasible to purchase.

The Wiyot recognize and support the clean-up of the toxic former pulp mill property that is a major benefit from this proposed project. In addition to cleaning up the pulp mill site, other beneficial mitigation is noted, including the removal of creosote-soaked pilings and removal of invasive spartina. We look forward to more thorough assessment of the potential impacts from the outfall discharge and bay water in-takes and the other important considerations to ensure our environment is protected. Thank you for taking the time to consider these concerns and please continue to reach out to us at any time.

Rra'dutwas (with kindness),

A handwritten signature in black ink, appearing to read 'Adam N. Canter', with a long horizontal line extending to the right.

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