March 11, 2015

Mr. Jack Crider, Executive Director
Humboldt Bay Harbor, Recreation, and Conservation District
P.O. Box 1030
Eureka, CA 95502
Sent via email

Re: Comments on the Draft Environmental Impact Report for the Humboldt Bay Mariculture Pre-Permitting Project

Dear Mr. Crider,

On behalf of the members, board, and staff of Humboldt Baykeeper and Northcoast Environmental Center, we respectfully submit these comments on the Draft Environmental Impact Report for the Humboldt Bay Mariculture Pre-Permitting Project.

Humboldt Baykeeper works to safeguard our coastal resources for the health, enjoyment, and economic strength of the Humboldt Bay community. The Northcoast Environmental Center works to promote understanding of the relations between people and the biosphere and to conserve, protect, and celebrate terrestrial, aquatic, and marine ecosystems of northern California and southern Oregon.

The Humboldt Bay Mariculture Pre-Permitting Project proposes shellfish culture on 306 acres of patchy eelgrass, 48 acres on dense eelgrass, 114 acres on mudflats, and 14 acres for native macroalgae cultivation. We believe that the shellfish industry can be compatible with the conservation and recreation functions of the District. Whether shellfish can be sustainably produced in a larger area of Humboldt Bay will depend in large part on whether—and where—they can be grown with minimal impacts to eelgrass and other species that depend on a healthy bay ecosystem. Our specific concerns are discussed below.

Eelgrass and its Habitat: Shellfish culture is done on tidelands which are held by the State of California in trust for the public benefit. Eelgrass (*Zostera marina*) is one of Humboldt Bay's public trust resources. It is a species of great biological and economic importance in that it supports Dungeness crab, juvenile salmon and steelhead, Pacific herring, black brant, and numerous other wildlife species, some of which are important commercial fisheries. Because of its importance, state and

federal agencies' "no net loss" policies exist to prevent eelgrass destruction, including compensatory mitigation when impacts cannot be avoided.

Eelgrass is thought to play a critical role in buffering the pH of Humboldt Bay waters, which is important for all shell-forming marine life, including the commercial shellfish industry as a whole. Oysters and other suspension-feeding bivalves may play a beneficial role in turbid estuarine waters, functioning as biofilters to reduce excessive particulate material from the water column and allow enhanced levels of light penetration, enhancing eelgrass growth, which in turn benefits so many other species in Humboldt Bay. Although few native oysters persist in Humboldt Bay, commercially-grown oysters can play an important ecological function if they are cultivated using appropriate methods and magnitudes to avoid or minimize cumulative effects.

A number of studies have found that impacts to eelgrass vary with aquaculture methods, although no methods have been found to avoid impacts to eelgrass density and biomass entirely. A study done in Willapa Bay, WA concluded that all methods of shellfish production reduce eelgrass production, and that avoidance of eelgrass is the best strategy for eelgrass protection, although hand-picking minimizes impacts relative to longline culture.[1]

Regardless of which culture method is chosen, monitoring strategies should be developed to gather additional site-specific information on the impacts of shellfish culture on eelgrass over the life of the project, beginning with baseline surveys to establish pre-project conditions.

Black Brant: Avoidance of dense eelgrass patches would also lessen impacts to black brant, which feed almost exclusively on eelgrass. Humboldt Bay eelgrass beds are critical to migratory brant following the Pacific Flyway. Adherence to the state and federal agencies' no net loss policy for eelgrass would also lessen significant impacts to brant.

Recreation: Impacts to water-based recreation, particularly boating, canoeing, kayaking, and stand-up paddling should be assessed and avoided, in keeping with the Harbor District's mission to promote recreation on Humboldt Bay.

Aesthetics: Visual impacts in scenic coastal areas should be more thoroughly assessed to include reflections from shellfish equipment like clam rafts. Special attention should be given to areas designated as Coastal Scenic and Coastal View Areas in the Humboldt Bay Area Local Coastal Plan with regard to avoiding or minimizing aesthetic impacts.

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[1] Tallis, H.M. et al. 2009. Oysters and Aquaculture Practices Affect Eelgrass Density and Productivity in a Pacific Northwest Estuary. *Journal of Shellfish Research* 28: 251-261.

Hazards and Hazardous Materials: Please address the inevitable loss of plastic gear and other debris, and how it will be cleaned up before it breaks down and pollutes the bay and ocean. Please analyze whether the expansion is in areas with elevated levels of dioxins and whether there is the potential for resuspension of dioxins from sediment disturbance or increased bioaccumulation.

Marine Mammals: In addition to Impact BIO-3, known seal haulout areas should be identified and avoided in siting shellfish production areas to minimize direct impacts as much as possible.

Nesting Birds: Coast Seafoods' 2007 Initial Study included a mitigation measure to avoid impacts to nesting Caspian terns and cormorants: "All oyster culture activities, for the bed identified in Attachment A as "Sand Island NK" will remain at least 100 meters away from the MHHW line of Sand Island." Potential impacts to nesting birds should be addressed and appropriate mitigation measures should be considered to avoid such impacts in this project as well.

Shorebirds: As noted in the Draft EIR, aquaculture practices have the potential to reduce the amount of foraging habitat for shorebirds and wading birds through habitat degradation and human disturbance. The shift in species diversity summarized in the Draft EIR fails to contemplate mitigation strategies for species that are likely to be negatively impacted. Potentially positive impacts to other species should not be regarded as mitigation for negative impacts to different species of shorebirds. In addition, since no studies have been done on impacts to shorebirds from rack-and-bag method of shellfish culture, it is difficult to conclude that no significant impacts will occur, since these culture methods involve more frequent visits by workers.

Cumulative Effects: Cumulative effects must be analyzed to consider all potential impacts of the proposed project as well as the Coast Seafoods Permit Renewal and Expansion Project, and any other reasonably foreseeable future shellfish projects.

We appreciate the District's initiative to streamline the permitting and environmental review process for a number of shellfish growers, since it undertakes a review of the cumulative impacts of these leases, rather than taking a piecemeal approach. Thank you for the opportunity to comment on the Draft EIR for the Humboldt Bay Mariculture Pre-Permitting Project. We hope that your project team finds these comments helpful.

Sincerely,

___s/_____
Jennifer Kalt, Director
Humboldt Baykeeper

___s/_____
Dan Ehresman, Executive Director
Northcoast Environmental Center