



Pacific Fishery Management Council

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Dorothy M. Lowman, Chair | Donald O. McIsaac, Executive Director

December 3, 2015

Mr. Adam Wagschal
Deputy Director
Humboldt Bay Harbor, Recreation and Conservation District
601 Startare Drive
Eureka, CA 95501
awagschal@humboltdbay.org

Re: Coast Seafoods Company Humboldt Bay Shellfish Aquaculture Permit
Renewal and Expansion Project (SCH# 2015082051) Draft Environmental Impact Report

Dear Mr. Wagschal:

The Pacific Fishery Management Council (Council) is writing to comment on Coast Seafoods Company Shellfish Aquaculture Draft Environmental Impact Report (DEIR) for the proposed expansion of aquaculture operations into 600 acres of eelgrass habitat. We thank you for delaying the release of the DEIR to provide us the opportunity to comment.

The Council is one of eight regional fishery management councils established by the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA), and recommends management actions for Federal fisheries off Washington, Oregon, and California. The MSA includes provisions to identify, conserve, and enhance essential fish habitat (EFH) for species managed under a Council Fishery Management Plan (FMP). The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Council is authorized under MSA to comment on any Federal or state activity that may affect the habitat, including EFH, of a fishery resource under its authority, and is required to comment on actions that may significantly affect the habitat of an anadromous fishery resource under its authority. In addition, Regional Fishery Management Councils may, at their discretion, designate Habitat Areas of Particular Concern (HAPCs). HAPCs are specific habitat types or areas within EFH that are of particular ecological importance in the fish life cycle or are especially sensitive, rare, or vulnerable. The proposed shellfish culture activities will occur in Humboldt Bay, within the estuarine and eelgrass/marine and estuarine submerged aquatic vegetation HAPCs.

Because Coast Seafoods' shellfish aquaculture expansion project proposed for Humboldt Bay would occupy a substantial amount (>17%) of eelgrass habitat in the bay, the Council remains concerned that the project may have significant adverse effects on the EFH of several Council-managed species, including salmon and groundfishes; and on herring, an important prey item of

salmon and groundfishes. The Council has specific concerns because of the spatial extent and layout of the proposed project in Humboldt Bay. Those key concerns are as follows.

Key Concerns:

1. No Net Loss

The DEIR describes significance criteria for eelgrass that result in a change in areal extent of eelgrass and/or a greater than 25 percent change in eelgrass density. The DEIR bases these criteria on the National Marine Fisheries Service California Eelgrass Mitigation Policy and Implementing Guidelines (NMFS CEMP).

The Council disagrees with Coast Seafoods' interpretation of the CEMP recommendation as guidelines rather than significance criteria under the California Environmental Quality Act. The DEIR uses criteria outlined in the CEMP that are appropriate for small footprint projects, but may not apply to the proposed project due to its scale. The Council again recommends the threshold of significance be changed to no net loss of eelgrass function as recommended in the CEMP and by the State of California. Furthermore, the Council supports the NMFS CEMP and recommends full in-kind mitigation for loss of both eelgrass density and the spatial extent of eelgrass beds, as proxies for eelgrass habitat function.

2. Eelgrass Avoidance Alternative

The Council has reviewed the alternatives within the DEIR. The Eelgrass Avoidance Alternative was removed from further analysis as it would have reduced the amount of area in which Coast could expand operations. In concert with the No Net Loss recommendation of the CEMP, the Council disagrees with the removal of the Eelgrass Avoidance Alternative from the suite of alternatives. This alternative could have resulted in a project with reduced impacts to EFH. The Council recommends including this alternative and an analysis of its impacts in the Final Environmental Impact Report (FEIR).

3. Loss of Eelgrass within Beds at Five-foot Spacing

Data on the effects of cultch-on-longline oyster culture on eelgrass percent cover and turion density were collected by Rumrill and Poulton (2004) and summarized by Dumbauld et al. (2009) and Rumrill (2015). A summary of these results is also presented in the DEIR (Appendix D, page 37, Table 3). In a short-term (two-year) experiment in an area that was previously dredge-harvested, data indicate that areas of longline oyster culture at five-foot spacing showed a 48 percent reduction in spatial cover and a 64 percent reduction in turion density compared to nearby control plots. Tests indicated that the differences were not statistically significant. Rumrill (2015) indicates that these estimates, because of study-design constraints, "will result in an underestimate of the actual levels of loss to eelgrass located beneath the larger-scale commercial oyster longline operations that have been in operation for many years." To better reflect the

expected long-term effects, Rumrill (2015) suggested that the results from East Bay plots should be used. At a five-foot longline spacing, those data showed a 79-81 percent reduction in spatial cover and a 53-94 percent reduction in turion density compared to nearby control plots. Tests of the statistical significance of those results were not provided. Based on these studies, which were summarized in the DEIR, longline oyster culture at a five-foot spacing is expected to result in a substantial reduction in both eelgrass percent cover and turion density compared to areas without longline culture. Given the spatial extent of the proposed project, the Council is concerned that these reductions represent a substantial impact to eelgrass habitat within Humboldt Bay.

4. Buffers

The Council's Pacific Coast Salmon Fishery Management Plan specifically recommends that new or expanded aquaculture farms implement 25-30 foot buffers from existing native eelgrass beds to avoid and minimize impacts to eelgrass (Appendix A, Pacific Coast Salmon Fishery Management Plan 2014, page 61). For this project, the buffer would apply to rack-and-bag culture only. That recommendation has been accepted and we understand it will appear in the FEIR. Based on the current buffer proposals in the DEIR, the buffer recommendations for longline aquaculture will not be met. To protect and enhance EFH for salmon in Humboldt Bay, the Council recommends a minimum 25-foot buffer, consistent with the salmon FMP.

5. Mitigation Activities

The FEIR should specify the methods to be used to restore eelgrass in salt marsh channels and the acres of eelgrass to be anticipated. Monitoring and adaptive management methods should also be defined.

6. Impacts to Fish Resources

Salmon: The Council disagrees with the assessment of "less than significant impacts" for salmon. Salmonids have been shown to extensively use eelgrass in both Oregon and Washington (Murphy 2000, Semmens 2008). The Council is concerned the DEIR only references studies from Humboldt Bay that were not designed to detect salmonid use of eelgrass habitat and neglects to reference the multitude of studies showing extensive eelgrass use by salmonids throughout the Pacific Northwest. The Project may significantly impact salmonid populations by reducing and altering EFH eelgrass habitat that provides foraging and refugia.

Groundfish: Groundfish extensively use eelgrass habitat within estuaries along the Pacific Coast and rely on eelgrass habitat for predator avoidance and prey species. Reduction or thinning of the eelgrass may have detrimental effects on the juvenile groundfish population. The Council disagrees with the "less than significant impact" assessment cited in the DEIR.

Herring: While the DEIR cites successful herring spawn on substrate other than eelgrass, uncertainty remains about the survival of herring eggs on aquaculture gear relative to natural vegetated substrates. Palsson (1984) evaluated egg survival on several types of artificial substrate (including polypropylene and hemp rope, polyethylene netting, tubing and turf mats, and plastic sheeting) deployed within natural eelgrass habitat. Total survival and larval production was significantly lower for the artificial substrates when compared to natural eelgrass spawning substrate. This study highlights that spawning on non-natural substrates may lead to significantly reduced survival of herring eggs through both egg loss (eggs displaced from substrate) and egg death (non-viability of eggs).

Numerous comments have been provided to Coast Seafoods regarding potentially significant impacts to Pacific herring caused by placing aquaculture infrastructure within core herring spawning areas, including loss of native eelgrass habitat, increased desiccation of eggs deposited on aquaculture gear, differential survival of eggs deposited on artificial substrates (aquaculture gear), and changes in fish community structure within core herring spawning areas that may increase predation of eggs and early larval herring. The Council is concerned that, although the DEIR determines impacts to Pacific herring will be less than significant under California Environmental Quality Act, no substantive information is provided to support this determination.

The Council is concerned that a large-scale shift in the type of spawning substrate available to herring in the core eelgrass spawning areas of Humboldt Bay could have impacts on spawning success and negatively impact the population.

The Council appreciates the opportunity to provide comment and looks forward to these issues being addressed in the FEIR.

Sincerely,



D.O. McIsaac, Ph.D.
Executive Director

JDG:kma

Enclosures

Cc: Holly Costa, San Francisco District Regulatory Chief, North Branch US Army Corps of Engineers
Cassidy Teufel, Senior Environmental Scientist (Specialist) California Coastal Commission
Gil Falcone, Environmental Scientist North Coast Regional Water Quality Control Board
Jim Watkins, Fish and Wildlife Biologist US Fish and Wildlife Service

References

- California Department of Fish and Wildlife (September 23, 2015) Re: Notice of Preparation of an Environmental Impact Report for the Coast Seafoods Company Humboldt Bay Shellfish Culture Permit Renewal and Expansion Project (SCH# 2015082051)
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- Murphy, M.L., Johnson, S.W., and D.J. Csepp. 2000. A Comparison of Fish Assemblages in Eelgrass and Adjacent Subtidal Habitats near Craig, Alaska. *Alaska Fishery Research Bulletin*. 7:11-21.
- Pacific Fishery Management Council Salmon Fishery Management Plan. 2014.
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- Rumrill, S. and V. Poulton. 2004. Ecological role and potential impacts of molluscan shellfish culture in the estuarine environment of Humboldt Bay, CA. Western Regional Aquaculture Center Annual Report November 2004. 79 p.
- Rumrill, S. 2015. Personal communication with the National Marine Fisheries Service regarding eelgrass and shellfish aquaculture interactions from Humboldt Bay WRAC study. Oregon Department of Fish and Wildlife. April 5, 2015. steven.s.rumrill@state.or.us
- Semmens, B.X. 2008. Acoustically derived fine-scale behaviors of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) associated with intertidal benthic habitats in an estuary. *Canadian Journal of Fisheries and Aquatic Sciences* Vol. 65.