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January 19, 2017

Jack Crider
Humboldt Bay Harbor, Recreation, and Conservation District
601 Startare Drive
Eureka, California 95501

George Williamson
Planwest Partners
1125 16th Street #200
Arcata, California 95521

RE: Coast Seafoods Company Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project Final EIR (SCH # 2015082051)

Dear Mr. Crider and Mr. Williamson:

This letter is submitted on behalf of Coast Seafoods ("Coast") in response to comments received on Coast's Final EIR for the above-referenced project (the "FEIR"). Thank you for forwarding the public comments received to-date. Based on our review, and review by Coast's consultants who assisted in preparing the FEIR, Confluence Environmental and H.T. Harvey & Associates, the comments primarily concern issues already addressed in the FEIR that are fully answered by the FEIR analysis. Therefore, based on our review, the comments present no new significant information or analysis which would require revision of the FEIR. The FEIR analysis that addresses the comments received is summarized below, with a citation to the relevant FEIR or R-DEIR section. In some circumstances, additional information has been provided in response to the comment. In the event that you or the Commissioners feel that any of the FEIR comments warrant additional analysis beyond that provided in the FEIR and this letter, please let us know and we would be happy to accommodate any such requests either before or during the January 19 hearing on the matter.

Feel free to contact me at robert@plauchecarr.com or (206) 588-4188 with any questions you may have regarding this response. Thank you for your time and consideration.

Very truly yours,

Robert M. Smith

RMS:cml
Attachment

RESPONSE SUMMARY TO FEIR COMMENTS

Issue	Commenter(s)	Previous DEIR Comment	FEIR Analysis in Response to Comment	Additional Response
The project will significantly limit hunting opportunities	Steve Brandenburg	R-DEIR Comment 28	Responses to Comments 28-5 through 28-14, Topical Response 6	None
	Dean Glaser	R-DEIR Comment 29	Topical Response 6	
The project will restrict recreational opportunities	Dean Glaser	R-DEIR Comment 29	Topical Response 7	None
	Raymond Lyon	None	Topical Response 7	
The project will have adverse impacts to brant	Don Furber	None	Topical Response 4	None
	Scott Fraser	R-DEIR Comment 58-3 and 58-4	Responses to Comments 7-3, 58-3, and 58-4, Topical Response 4	Given the lack of an identified significant impact to brant and the significant amount of local data available on brant foraging in Humboldt Bay and observations conducted regarding brant use of aquaculture gear, additional monitoring is considered unnecessary.
	Dustin Kuehn	None	Response to Comment 17-55, Topical Response 4	None
The project will have adverse impacts to eelgrass	Raymond Lyon	None	Response to Comment 9-44, Topical Response 2	None
	Form Email	Various	Topical Response 2	None
The EIR should evaluate impacts associated with Coast's existing footprint	Ken Bates, Linda Hildebrand	None	Topical Response 1	None

Issue	Commenter(s)	Previous DEIR Comment	FEIR Analysis in Response to Comment	Additional Response
The proposed EBMA Avoidance Alternative mitigation rate will not mitigate for eelgrass impacts	Ken Bates, Linda Hildebrand	None	FEIR, at 4-4	*See* FEIR Response 1 below
	Scott Fraser	None	FEIR, at 4-4	
Coast's nighttime lighting creates hazards to other users of the bay and impacts waterfowl and fish	Ken Bates, Linda Hildebrand	R-DEIR Comment 50-5	R-DEIR Impact AV-3	The lights used by Coast are intended to ensure worker and boater safety and illuminate an area approximately 50 yards around the boat. The lighting is less intense than that used by many commercial fishing boats in Humboldt Bay.
Herring spawn reporting	Ken Bates, Linda Hildebrand	R-DEIR Comment 50-4	Responses to Comments 12-18, 17-43, 17-93, and Topical Response 3	Contrary to the comment, no Coast employees have observed herring spawn "at their feet" in work areas or "herring come up the harvester conveyor belt."
The EIR must consider cumulative impacts	Ken Bates, Linda Hildebrand	None	Cumulative Impacts are discussed in R-DEIR Section 7. Impacts from historic operations are discussed in R-DEIR Section 6.5.1.4.	None
Coast's historic and existing operations create marine debris	Ken Bates, Linda Hildebrand	R-DEIR Comment 50-1	Response to Comment 50-1, R-DEIR Impact HAZ-2.	None
Phase II of the EBMA Avoidance Alternative should be denied	Scott Fraser	R-DEIR Comment 58-1	Response to Comment 58-1	The FEIR evaluated the impacts associated with both Phase I and Phase II of the EBMA Avoidance Alternative, as well as both phases of the R-DEIR project, and included appropriate mitigation. Therefore, there is no need for elimination of Phase II of the EBMA Avoidance Alternative. Further, the net amount of proposed expansion under the EBMA Avoidance Alternative is less than that proposed under Phase I of the project reviewed in the R-DEIR.

Issue	Commenter(s)	Previous DEIR Comment	FEIR Analysis in Response to Comment	Additional Response
Trampling impacts have not been quantified	Scott Fraser	R-DEIR Comment 58-2	Responses to Comments 9-33, 9-34, and 58-2, Topical Response 2, and R-DEIR Appendix D	None
The FEIR misrepresents the Stillman et al. model	Scott Fraser	R-DEIR Comment 58-5	Responses to Comments 24-3 and 58-5, and Topical Response 4	None
The FEIR misrepresents Dr. Rumrill's data regarding eelgrass impacts	Scott Fraser	None	Responses to Comments 17-5, 17-22, 17-24 and Topical Response 2	None
The project will have an adverse impact on wigeon	Scott Fraser	R-DEIR Comment 58-8	Response to Comment 58-8	None
The Pre-Permitting Project will be 200 acres	Scott Fraser	None	R-DEIR Section 7	The R-DEIR analyzed cumulative impacts associated with the full Coast project (622 acres of expansion) and the full Harbor District Mariculture Pre-Permitting Project described in its EIR (266 acres of intertidal cultivation). Therefore, a reduced Pre-Permitting Project, whether 200 acres or 177 acres, would be less than that analyzed in the R-DEIR.
The project will have adverse impacts to shorebirds	Form Email	Various	Topical Response 8	None
The project would exceed the Bay carrying capacity	Kate Panebianco	None	R-DEIR Impact BIO-7, R-DEIR Appendix E	None

SUPPLEMENTAL RESPONSES TO FEIR COMMENTS

1. EBMA Avoidance Alternative Proposed Mitigation and Monitoring

Phase I of the EBMA Avoidance Alternative (the "Alternative") includes the removal of 42.0 acres of existing of 2.5-ft or 2.5-ft/5-ft spaced cultch-on-longline culture. The removal areas were selected in consultation with the interagency working group to maximize the potential for eelgrass regrowth and/or habitat utilization after the removal of culture activities.

The benefits from removal of culture activities are expected to accrue upon the removal of culture gear and cessation of associated culture activity. As further described below, eelgrass can quickly recover in areas where aquaculture gear is removed, particularly when the gear removed is associated with longline culture as compared to dredge harvesting. Therefore, the removal of gear and activity is sufficient to achieve mitigation benefits. The California Eelgrass Mitigation Policy ("CEMP") recommends a 1:1 ratio for mitigation associated for eelgrass density reductions, in that for every one acre-equivalent of functionality lost, one is replaced (NMFS 2014). However, the Alternative does not result in 100% loss of eelgrass density or function. The mitigation ratio is based on an assumed impact of 25% to habitat function, and is used to estimate mitigation needs for the expansion of oyster culture in Humboldt Bay regardless of eelgrass presence. This estimate is significantly more conservative than the estimated eelgrass density reductions based upon the available science described in R-DEIR Impact BIO-3 and FEIR pg. 4-28. Based upon a projected 25% impact to habitat function, the removal of each acre of cultch-on-longline is predicted to offset eelgrass function impacts associated with the expansion using a basic ratio of 0.25:1.0 mitigation acreage to expansion acreage.

Based on a 165.2-acre expansion of oyster culture in Humboldt Bay and a removal of 42.0 acres of existing culture, Phase I of the Project is calculated to result in a net neutral or potentially beneficial overall impact to eelgrass function. During Phase II an expansion of up to 90.8 acres and a removal of up to 22.7 acres of existing cultch-on-longline culture (based on the same mitigation ratio) is similarly expected to result in a net neutral or potentially beneficial overall impact to eelgrass function.

An important aspect of accounting for impacts through mitigation is the timing of the benefits from mitigation compared to the timing of impacts. Impacts to eelgrass from the proposed expansion would occur during installation and removal of the longlines (short-term impact with similar intensities) and from shading, mechanical abrasion, and desiccation (longer term impact) that would occur as the cultch grows over a 2-year period. While trampling is estimated in the maximum footprint scenario to result in a 25% eelgrass density reduction, the current understanding of trampling frequency associated with the Alternative is predicted to result in impacts to eelgrass that are not likely to persist for longer than 1 month (*see* R-DEIR Impact BIO-4).

In terms of recovery potential, there is a range of 2 to 6 years of recovery for areas that are totally devoid of eelgrass (Rumrill and Poulton 2004, Boese et al. 2009, Tallis et al. 2009, Ruesink et al. 2012), especially within softer substrates. However, there is considerable revegetation of eelgrass within 1 year when patches of eelgrass are retained in the disturbed recovery area (Neckles et al. 2005). This last example is likely the most similar to the Alternative, which proposes to remove oyster longlines in areas that already contain eelgrass. Therefore, mitigation was assumed to occur at the same rate as impacts, within a 1 to 2-year period.

Mitigation for natural resources is guided by numerous state and federal policies, including a Presidential Memorandum (80 FR 68743) that directs federal agencies to "establish a net benefit goal or, at minimum, a no-net-loss goal for natural resources the agency manages." The CEMP includes a goal of "no net loss of eelgrass habitat function in California" and recognizes the potential for mitigation through a variety of mechanisms, but identifies in-kind mitigation as preferred (NMFS 2014). The CEMP is based around a scenario where mitigation and impacts occur contemporaneously or mitigation occurs after impacts occur. The CEMP applies a discount rate to the value of eelgrass mitigation sites pre-project to account for the development of eelgrass habitat function over a period of up to three years. This offset between when eelgrass mitigation is presumed to be functional and when impacts are presumed to occur creates a target mitigation ratio of 1.2:1 (NMFS 2014). However, the 1.2:1 ratio is specifically for impacts to eelgrass area (e.g., areal extent); as noted above, with respect to mitigation ratios for impacts to density of eelgrass beds, the CEMP calls for "mitigation … on a one-for-one basis (NMFS 2014)."

The CEMP also identifies comprehensive management plans ("CMPs") as a mechanism to protect eelgrass resources within the context of broader ecosystem needs and management objectives. The proposed mitigation sites designated for culture removal, located primarily within the EBMA and northeast Arcata Channel have been selected based on consultation with several regulatory agencies as having heightened importance for critical habitat resources in addition to eelgrass. EBMA has been identified as an area that supports the highest herring spawning frequency, spawning coverage (m^2) and escapement (tons) in Humboldt Bay (Mello 2005). The northeast portion of Arcata Channel adjacent to Sand Island is an area utilized by green sturgeon (Pinnix et al. 2016), and is an important brant grit site and location for certain species of nesting birds (Caspian terns and double-crested cormorants).

Aside from the rapid recovery of eelgrass anticipated within the mitigation areas, the impacts associated with the Alternative will not occur instantaneously, as noted above. While this impact assessment has applied the same scenarios to assess impacts and mitigation activities, these scenarios are intended to reflect the long-term impacts and uplift associated with the Alternative. Initial impacts associated with longline placement may result in some initial loss of eelgrass function through trampling, but recovery from these activities is expected within 1 month, and the other potential impacts will occur over a 2-year period. Similarly, recovery in areas where suppression is removed is likely to result in some initial recovery and some delayed recovery. Overall, it is likely that both impacts to eelgrass and eelgrass recovery in fallowed culture areas would occur over a 2-year period. Moreover, the timing of impacts and recovery will be monitored, and any lag in mitigation will be accounted for via adaptive management.

Finally, an important component of the Alternative is a robust monitoring plan that will provide verification of the actual impacts associated with the Alternative, combined with an adaptive management plan to provide a strategy if the projected impacts are greater than anticipated. Figure 1 below describes the decision tree that will be followed to implement adaptive management and that describes how data from the monitoring plan will be accounted for in project outcomes.

Adaptive Management

The Alternative proposes expanding in two phases, coupled with intensive ecological monitoring, to demonstrate that the Alternative achieves and maintains no-net-loss of ecological function of eelgrass. The CEMP (NMFS 2014) identifies characterization of eelgrass spatial distribution, areal extent, percent vegetated cover, and turion (shoot) density as import metrics of eelgrass habitat condition that are used as a surrogate for eelgrass ecological function. The Alternative has taken a CMP approach, as described in the CEMP. A CMP protects eelgrass resources within the context of broader ecosystem needs and ecosystem objectives. The monitoring plan will use two complementary methods to measure these characteristics in the field using a before-after control-impact (BACI) type of design:

1. Ground quadrat measurements of eelgrass percent vegetated cover and turion densities within aquaculture areas and reference areas.

2. Aerial imagery observations of eelgrass spatial distribution of areal extent.

3. Efforts to monitor eelgrass are complicated by natural variability, which limits the potential for monitoring efforts to detect small amounts of change resulting from the Project. Therefore, to support the objective of achieving no-net-loss of ecological function of eelgrass, the Project will likely report monitoring observations in two ways: (1) the absolute difference in means between observation periods and treatments, and (2) the statistical difference (hypothesis testing) between the observations for treatment plots and no change due to treatment. In addition, new technology associated with Unmanned Aerial Vehicles ("UAVs") or drones may be able to provide a complete census of eelgrass in North Bay, which would reduce the need for statistical testing other than to determine natural variability.

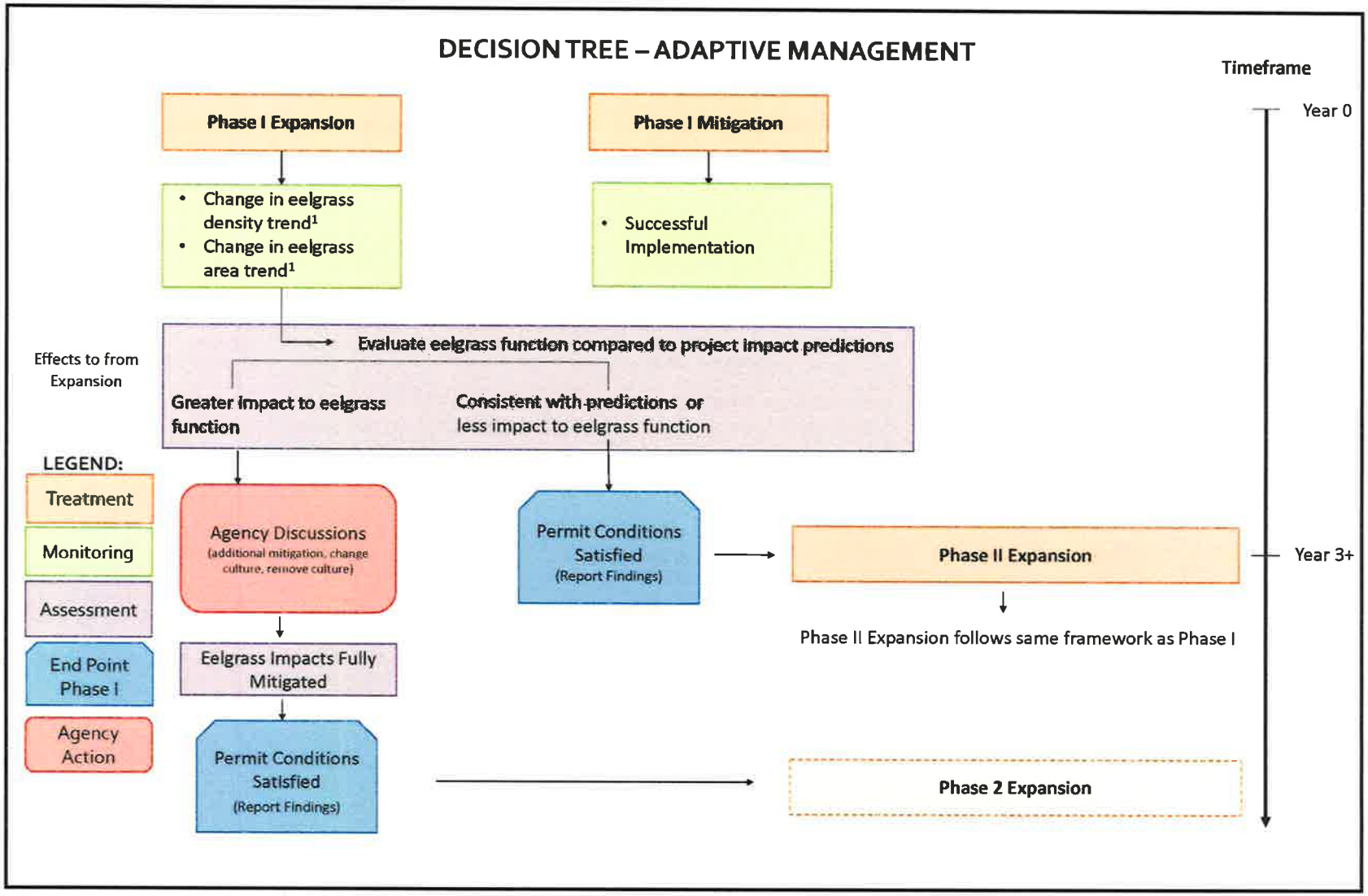

Figure 1 **Proposed Adaptive Management Process for the Proposed Coast Expansion Project**

4. As characterized in the Decision Tree – Adaptive Management (Figure 1), Phase I (Expansion and Mitigation) and Phase II (Expansion) will be evaluated independently. Both Phases are projected to result in reductions of eelgrass density within some expansion areas. Given that Phase II utilizes the same culture techniques and spacing as Phase I, the impacts are anticipated to be similar, although over a smaller proposed expansion area. These reductions are proposed to be offset by the proposed mitigation described above. Therefore, achieving no-net-loss of eelgrass function during Phase I requires increases in eelgrass density associated with the mitigation site to offset reductions in eelgrass density predicted to occur in the expansion areas. Monitoring will start prior to Project actions comprising a baseline, Year 0, for subsequent comparisons. Phase II expansion will occur later in time and will occur after monitoring occurs for Phase I. Phase I is projected to take at least 3 years before Phase II would occur.

For Phase I, the monitoring observations of eelgrass density will be scaled from the monitoring areas to be representative of the entire Phase I expansion and mitigation areas. In contrast, eelgrass areal extent will be mapped for the entire expansion area using imagery collected from an airplane ground-truthed using UAV technology and, therefore, will not require scaling. As described above, there are two measures of change that will be reported – difference in means, a highly sensitive metric which can show any difference in the average density between the treatment (aquaculture) and reference (no aquaculture or pre-project) areas. However, difference in means alone does not account for the variance in the system, and variance may or may not represent actual differences.

Monitoring will include sufficient samples to test the hypothesis that eelgrass density will decrease by 25% or less with alpha = 0.2 and beta= 0.2 for one-sided t-test. An additional year of data collection may demonstrate equivalence of eelgrass ecological function. If, however, an additional year of data collection fails to demonstrate that the change in ecological function is consistent with predictions, then meetings would occur with resource agencies to identify appropriate options. These potential pathways are detailed in Figure 1.

Options may include identification of additional mitigation requirements, changes to implementation of aquaculture to reduce impacts, and/or removal of aquaculture areas from active production to allow for increases in eelgrass ecological function. If initial monitoring shows a 25% or greater decrease in eelgrass ecological function (measured as either density or area), then Coast will engage with the appropriate agencies to identify appropriate options at that time. All results will be reported to the resource agencies and the Wiyot Tribe after Year 3 of project monitoring, with an identification of whether permit conditions are met, additional monitoring is needed, or additional consultation and mitigation measures are required.

If additional mitigation measures are required, then they will occur in areas where eelgrass restoration or recovery has a high likelihood of success. Secondary objectives would be for providing eelgrass in areas of known herring spawning use. As described in R-DEIR Impact BIO-21, this species has dependence on eelgrass as a resource, and may be adversely affected by reductions in eelgrass within Humboldt Bay. Improvements in eelgrass habitat may improve

potential spawning success, although the extent to which this would be meaningful is not known as herring do not appear to be limited by spawning substrate in North Bay.

Phase II will proceed in a similar manner to Phase I, except that expansion and mitigation may occur incrementally. Monitoring and reporting will occur as in Phase I, however since Phase II occurs in the same areas and uses the same types of culture gear, monitoring is anticipated to be more limited than during Phase I. Following the adaptive management plan (Figure 1), Coast will initiate Phase II after satisfying the permit conditions for Phase I and evaluating the Phase I monitoring results with the appropriate agencies to confirm that they align with the impact analysis provided in this assessment.