

**AGENDA**  
**SPECIAL MEETING OF THE BOARD OF COMMISSIONERS**  
**HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT**

**DATE:** November 15, 2017

**TIME:** Executive Closed Session – 12:00 PM  
Regular Session – 1:30 PM

**PLACE:** Woodley Island Marina Meeting Room

*The Meeting Room is wheelchair accessible. Accommodations and access to Harbor District meetings for people with other handicaps must be requested of the Director of Administrative Services at 443-0801 at least 24 hours in advance of the meeting.*

1. **Call to Order at 12:00 p.m.**
  - a. Move to Executive Closed Session:
    - 1) Consideration of public employee appointment/public employment for position of Executive Director pursuant to Government Code section 54957(b)(1).
    - 2) Conference with legal counsel re existing litigation pursuant to Government Code section 54956.9, National Audubon Society and CA Waterfowl Assn. v. Humboldt Bay Harbor, Recreation and Conservation District (Coast Seafoods, real party in interest), Humboldt County Superior Court No. CV170248.
    - 3) Conference with legal counsel re existing litigation pursuant to Government Code section 54956.9, Sears v. Humboldt Bay Harbor, Recreation and Conservation District, Humboldt County Superior Court No. CV150690.
2. **Adjourn Executive Closed Session**
3. **Call to Order Regular Session at 1:30 P.M. and Roll Call**
4. **Pledge of Allegiance**
5. **Report on Executive Closed Session**
6. **Public Comment**

*Note: This portion of the Agenda allows the public to speak to the Board on the various issues not itemized on this Agenda. A member of the public may also request that a matter appearing on the Consent Calendar be pulled and discussed separately. Pursuant to the Brown Act, the Board may not take action on any item that does not appear on the Agenda. Each speaker is limited to speak for a period of three (3) minutes regarding each item on the Agenda. Each speaker is limited to speak for a period of three (3) minutes during the PUBLIC COMMENT portion of the Agenda regarding items of special interest to the public not appearing on the Agenda that are within the subject matter jurisdiction of the Board of Commissioners. The three (3) minute time limit may not be transferred to other speakers. The three (3) minute time limit for each speaker may be extended by the President of the Board of Commissioners or the Presiding Member of the Board of Commissioners at the regular meeting of the District. The three (3) minute time limit for each speaker may be enforced by the President of the Board of Commissioners or the Presiding Member of the Board of Commissioners at the regular meeting of the District.*
7. **Consent Calendar – None**
8. **Communications and Reports - None**
9. **Non Agenda**
10. **Unfinished Business -**
  - a) Consideration of approval of agreement with ICF for preparation of Programmatic Environmental Impact Report for implementation of Regional Sediment Management Plan, not to exceed \$200,000.
  - b) Consideration of Resolution 2017-13 adopting a CEQA Addendum to the previously certified Environmental Impact Report (SCH#2015082051) for Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project.

**Agenda for November 15, 2017 Special Board Meeting**

- c) Consideration of findings relative to Permit 14-03 modification request
- d) Consideration of approving Permit 14–03 Modification to Coast Seafoods for Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project

**11. New Business**

- a) Consideration of offer of Executive Director Position to \_\_\_\_\_.

**12. Administrative and Emergency Permits - None**

**13. Adjournment**

REGULAR MEETING OF NOVEMBER 23, 2017 HAS BEEN CANCELLED

## Humboldt Bay Harbor, Recreation and Conservation District

### AGREEMENT FOR PROFESSIONAL SERVICES

November 1, 2017

This is an AGREEMENT for professional services between the Humboldt Bay Harbor Recreation and Conservation District (HBHRCD) (referred to as "CLIENT"), and ICF Jones & Stokes, Inc., (referred to as "CONSULTANT"), for providing services for preparation of Programmatic Environmental Impact Report for Implementation of Coordinated Regional Sediment Management Plan. (referred to as "PROJECT").

#### 1. SCOPE OF SERVICES

CLIENT agrees to engage CONSULTANT and CONSULTANT agrees to perform professional services for CLIENT in accordance with **Exhibit A Scope of Work** attached hereto and incorporated herein.

#### 2. TERMS AND CONDITIONS

Services shall be performed to complete all tasks as specified in **Exhibit A**. All work and professional services will be provided by CONSULTANT and/or subcontractors to the CONSULTANT. Work shall be performed in a manner consistent with the usual and customary standards of the applicable profession. All work products and services shall be subject to review and acceptance by the CLIENT.

#### 3. TERM

Services of CONSULTANT shall commence on the date that the CLIENT authorizes this AGREEMENT, and the AGREEMENT shall remain in effect until November 1, 2018, unless extended in writing by mutual agreement.

#### 4. COMPENSATION & SCHEDULE

As compensation for the services performed hereunder, the CLIENT shall pay CONSULTANT a sum not to exceed \$200,000 (two hundred thousand dollars), which includes CONSULTANT services, on a time and materials basis at current charge rates. CONSULTANT to submit monthly invoices to the CLIENT, with payments due on receipt. This sum is based on the plan scope of work – **EXHIBIT A**. Should the CLIENT require a more extensive plan, or additional studies, the scope and costs would be amended accordingly. Should CLIENT wish to dispute an invoice, it must do so in writing within ten (10) days of receipt. Otherwise, invoices shall be deemed accurate and payable according to the terms thereof.

#### 5. RELATIONSHIP OF PARTIES

The parties intend that CONSULTANT in performing services herein specified shall act as an independent consultant and shall have control over the work and the manner in which it is performed. CONSULTANT shall be free to contract for similar services to be performed for others while under contract with CLIENT. CONSULTANT shall also be free to subcontract portions of the work with other parties. CONSULTANT is not to be considered an agent or employee of CLIENT, and is not entitled to participate in any pension plans, worker's compensation insurance, or similar benefits.

## 6. INSURANCE REQUIREMENTS FOR CONSULTANT

CONSULTANT shall, at all times during the term of this Agreement, maintain and keep in full force and effect, the following policies of insurance with minimum limits as indicated below and issued by insurers with A.M. Best ratings of no less than A-: VI.

- Commercial general liability ~~at least as broad as~~ equivalent to ISO CG 0001 (per occurrence)  
\$1,000,000 (general aggregate) \$2,000,000
- Commercial auto liability ~~at least as broad as~~ equivalent to ISO CA 0001 (per accident)  
\$1,000,000
- Errors and Omissions liability (per claim and aggregate) \$1,000,000
- Workers' compensation Statutory Limits

All insurance required by this section shall apply on a primary basis, with the exception of Professional Liability/E&O. CONSULTANT agrees that all insurance policies and the insurance industry standard ACORD form Certificate(s) of Insurance shall indicate, that should the policy be cancelled before the expiration date thereof written notice of said cancellation will be delivered in accordance with the policy provisions, which shall not be less than thirty (30) days notice of cancellation except for non-payment of premium which shall not be less than ten (10) days notice of cancellation. ~~it will not cancel or reduce said insurance coverage.~~ CONSULTANT agrees that if it does not keep the aforesaid insurance in full force and effect CLIENT may either immediately terminate this Agreement or, if insurance is available at a reasonable cost, CLIENT may take out the necessary insurance and pay, at CONSULTANT's expense, the premium thereon.

Auto liability insurance shall cover owned, non-owned and hired autos. If CONSULTANT owns no vehicles, auto liability coverage may be provided by means of a non-owned and hired auto endorsement to the general liability policy.

At all times during the term of this Agreement; CONSULTANT shall maintain on file with CLIENT an insurance industry standard ACORD form certificate of insurance, ~~in a form acceptable to CLIENT~~, showing that the aforesaid policies are in effect in the required amounts. The general liability policy shall contain or be endorsed to contain a provision including the Indemnities as additional insured. CONSULTANT shall promptly file with CLIENT such certificate or certificates and endorsements if applicable. Coverage for the additional insured shall apply to the fullest extent permitted by law.

No policy required by this section shall prohibit CONSULTANT from waiving any right of recovery prior to loss. CONSULTANT hereby waives such right with regard to the Indemnities. All insurance coverage and limits provided by CONSULTANT and available or applicable to this agreement are intended to apply to the full extent of the policies. Nothing contained in this Agreement limits the application of such insurance coverage.

## 7. HOLD HARMLESS AND INDEMNIFICATION

CONSULTANT shall indemnify, defend and hold harmless CLIENT and its employees, officials and agents (the Indemnities) from and against any liability (including liability for

claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, including attorneys' fees and costs, courts costs, interest, defense costs, and expert witness fees), where the same arise out of, are a consequence of, or are in any way attributable to, in whole or in part, the performance of this Agreement by CONSULTANT or by any individual or entity for which CONSULTANT is legally liable, including but not limited to officers, agents, employees or subcontractors of CONSULTANT. Except for liability for death, bodily injury, damage to tangible or real property or intellectual property infringement caused by the negligence or willful misconduct of the CONSULTANT, the aggregate liability of the CONSULTANT under this Agreement shall not exceed the greater of the amount payable hereunder or the amount recovered under any applicable insurance coverage specified in this Agreement. In no event shall either party be liable for any indirect, incidental, special or consequential damages whatsoever (including but not limited to lost profits or interruption of business) arising out of or related to the services provided under this Agreement, even if advised of the possibility of such damages.

Notwithstanding the foregoing, the CONSULTANT shall not be liable to indemnify CLIENT for damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of CLIENT, or their employees.

#### **8. CONTRACT TERMS TO BE EXCLUSIVE**

This written AGREEMENT contains the sole and entire AGREEMENT between the parties. The parties acknowledge and agree that neither of them has made any representation with respect to the subject matter of this AGREEMENT or any representations inducing the execution and delivery hereof except such representations as are specifically set forth herein; and each party acknowledges that it has relied on its own judgment in entering into the AGREEMENT. The parties further acknowledge that any statements or representations that may have therefore been made by either of them to the other are void and of no effect and that neither of them has relied thereon in connection with its dealings with the other.

#### **9. WAIVER OR MODIFICATION INEFFECTIVE UNLESS IN WRITING**

No waiver or modification of this AGREEMENT or of any covenant, condition, or limitation herein contained shall be valid unless in writing and duly executed by both parties. Furthermore, no evidence of any waiver or modification shall be offered or received in evidence in any proceeding, arbitration, or litigation between the parties arising out of or affecting this AGREEMENT, or the rights or obligations of any party hereunder, unless such waiver or modification is in writing, duly executed as aforesaid. The provisions of this paragraph may not be waived except as herein set forth.

#### **10. CONTRACT GOVERNED BY LAW OF STATE OF CALIFORNIA**

This AGREEMENT and performance hereunder and all suits and special proceedings hereunder shall be construed in accordance with the laws of the State of California. In any action, special proceeding, or other proceeding that may be brought arising out of, in connection with, or by reason of this AGREEMENT, the laws of the State of California shall be applicable and shall govern to the exclusion of the law of any other forum, without regard to the jurisdiction in which the action or special proceeding may be instituted.

**11. CONTRACT TERMINATION**

CLIENT or CONSULTANT may, upon thirty (30) days written notice, terminate this AGREEMENT and be liable only for services rendered to the date termination is effective. All papers and documents relating to the services described in the AGREEMENT, and all materials supplied to the CLIENT will remain the property of the CLIENT.

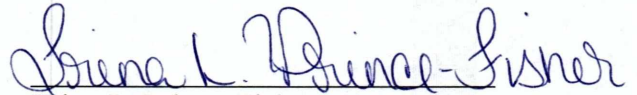
**12. BINDING EFFECT OF AGREEMENT**

This AGREEMENT shall be binding on and inure to the benefit of the respective parties and their respective legal representatives, successors, and assigns except as provided above.

HBHRCD

ICF Jones & Stokes, Inc.

By: \_\_\_\_\_  
Jack Crider  
CEO

  
Trina L. Prince-Fisher  
Authorized Representative

Date: \_\_\_\_\_

Date: October 12, 2017

# EXHIBIT A

## Exhibit A

**Contract Services:** To prepare a Programmatic Environmental Impact (PEIR) for the implementation of the Coordinated Regional Sediment Management Plan (CRSMP) for the Eureka Littoral Cell.

**Background:** The Eureka Littoral Cell CRSMP was prepared by the consulting firm of Moffat and Nichol under the guidance of the US Army Corps of Engineers (USACE), the California Natural Resources Agency (CNRA), and the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD). Input on the scope and content of the CRSMP was also provided by numerous federal, state, and local agencies and non-governmental organizations. The CRSMP has been finalized and will be released to the public in the near future. The final draft of the CRSMP is included as Exhibit 1 to this RFQ.

The Eureka Littoral Cell lies along the northwestern California coast in Humboldt County. The limits of the Eureka Littoral Cell are Trinidad Head to the north and False Cape (just north of Cape Mendocino) to the south. This encompasses approximately 40 miles of coastline that includes major rivers, a coastal dune field, the Eel Submarine Canyon, and Humboldt Bay.

The goal of the CRSMP is to facilitate improved regional sediment management. Towards that end, the CRSMP:

- Provides information on present conditions
- Projects conditions over the next fifty years if no action is taken
- Identifies erosional hot spots and areas of excess sediment
- Identifies a suite of possible management approaches to restore habitat health and enhance resilience throughout the Littoral Cell
- Obtains public input on Plan development and recommendations
- Develops an appropriate governance structure to help ensure that the CRSMP can and will be implemented

The Plan presents a number of regional sediment management opportunities, primarily gathered from prior regional efforts, and a set of specific strategies and solutions. The CRSMP focuses on areas where regional sediment management can mitigate existing and expected unbalanced sediment budgets that can lead to coastal erosion, coastal flooding, and habitat loss and degradation. In Humboldt Bay, the primary mechanism for sediment management is dredging. Shipping channels are dredged by the USACE. USACE utilizes a hopper dredge, which requires dredged materials to be deposited on the seafloor or Bay bottom. This limits the potential to beneficially reuse sediments from USACE dredging. Sediment from USACE-managed dredging is deposited in the Humboldt Open Ocean Disposal Site, although efforts are underway to permit placement of some USACE-dredged materials at a nearshore site adjacent to Humboldt Bay's North Spit, in order to increase sediment deposition on the North Spit and provide added protection from sea level rise.

Smaller channels, docks and marinas are dredged by local and private entities. Locally managed dredging provides the primary opportunity for the HBHRCD to promote beneficial sediment reuse and implement the objectives of the CRSMP, including:

1. Reduce shoreline erosion and coastal storm damage;
2. Provide for environmental restoration and protection;
3. Increase natural sediment supply to the coast;
4. Restore and preserve beaches.

There are many opportunities to meet these objectives using dredged sediments from the bay. However, there are logistical and environmental challenges involved with moving sediments to the necessary locations at the correct times. The proposed project would help address these challenges for Humboldt Bay's locally managed dredge sites (i.e., smaller channels, docks and marinas that are outside of shipping channels).

There is not currently a comprehensive plan for dredging within Humboldt Bay's locally managed sites. Separate dredging plans are developed prior to each dredging event. During development of dredging plans, there is often controversy about locations to dewater, process and beneficially reuse sediments. This controversy is at least partially due to uncertainty and confusion regarding the environmental effects of dredging project alternatives. The HBHRCD seeks assistance with the preparation of a PEIR for dredging of locally maintained sites and beneficial reuse of the dredged material. Future regulatory documents would tier off the PEIR, increasing efficiency and predictability of future dredge permitting. The HBHRCD would be the lead California Environmental Quality Act (CEQA) agency for the PEIR. The scope of work, budget and schedule for developing the PEIR is described below.

Funding for the project would be provided through a grant from the California Natural Resources Agency on behalf of the California Sediment Management Workgroup (CSMW). Staff from the CSMW and State Coastal Conservancy would participate in meetings and comment on draft documents to ensure the project is consistent with these entities' goals. Additionally, stakeholder input would inform PEIR development. Stakeholders that would be invited to participate include conservation advocacy groups (e.g., Humboldt Baykeeper and North Coast Environmental Center); local researchers; public and private dock and marina owners; Humboldt Bay area tribes; and fishing and shipping interests.

**Scope of Work:** The Scope of Work for this contract would include the following tasks:

Task 1. Project Description Development. The PEIR would cover locally managed dredging activities, pumping of dredged materials directly to some reuse sites, the development of sites for dewatering and stockpiling, and may also cover the placement of materials for habitat restoration, sea level rise adaptation, or other beneficial uses. This task would include at least two meetings with regulatory, and land management agencies to solicit input.

*Deliverables*

- Summaries of key outcomes from two stakeholder meetings.
- Draft and final project description.



## Task 2. Environmental Analysis and PEIR Development

1. Development of the PEIR would involve the following steps:
1. Develop and distribute a Notice of Preparation for public comments.
2. Hold a public scoping meeting.
3. Develop the Draft PEIR, including analysis of all CEQA environmental categories.
4. Conduct consultation with Humboldt Bay area tribes.
5. File Notice of Completion and circulate Draft PEIR for public review.
6. Hold up to two public meetings to receive input on the Draft PEIR.
7. Prepare Final PEIR, Mitigation Monitoring and Reporting Program (MMRP) and response to comments.
8. HBHRCD Commission considers PEIR for certification.
9. Prepare and file notice of determination with County Clerk.

### *Deliverables*

- Notice of Preparation.
- Notes from public scoping meeting.
- Draft PEIR.
- Notice of Completion.
- Notes from up to two public meetings.
- Final PEIR with response to comments.
- MMRP.
- Notice of Determination.

## Task 3. Final Meeting

A final meeting would be held with entities conducting dredging in the bay and interested stakeholders. At this meeting, the final project description and environmental analysis would be reviewed and next steps for implementation would be identified.

## AGENDA REPORT

For agenda of: November 15, 2017

**Agenda Items: Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project – Permit Modification**

**10.b – Consideration of Resolution 2017-13 adopting a CEQA Addendum to the previously certified environmental impact report (SCH#2015082051)**

**10.c – Consideration of findings relative to permit modification request**

**10.d – Consideration of approving requested Permit 14–03 Modification**

### Unfinished Business

Coast Seafoods Company (Coast) is requesting a modification to its permit for its existing and permitted shellfish farm in Humboldt Bay, approved by the Humboldt Bay Harbor, Recreation, and Conservation District (Harbor District) in Permit No. 14-03 on February 28, 2017, and described in the certified Final Environmental Impact Review (FEIR) associated with that permit (identified herein as the "Approved Project").

Coast is seeking to amend its Harbor District permit to be consistent with the California Coastal Commission's approval of a Coastal Development Permit (CDP) associated with Coast's shellfish farm approved by the Coastal Commission on September 13, 2017. Consistent with the CDP, the overall size of Coast's existing farm is proposed to be reduced by approximately 21 acres, for an overall farmed footprint of approximately 279 acres.

Harbor District Permit 14-03 Condition 1, requires request for a plans revision if the plan and scope of the activity changes. Permit No. 14-03, Condition 2, requires that all permit activities authorized by the permit are also subject to any conditions imposed by the California Coastal Commission and other regulatory agencies. Therefore, the purpose of this permit modification is to ensure that the permit is consistent with the Coastal Development Permit issued by the Coastal Commission, and to update the environmental analysis previously certified by the Harbor District to evaluate any new or different environmental impacts associated with the Revised Project as compared to the Approved Project. These impacts are discussed in the attached California Environmental Quality Act (CEQA) Addendum.

#### *Approved Project (February 2017)*

The Approved Project was proposed to occur in two phases over 8 years with a combination of existing culture, expansion of culture, and mitigation activities for each phase. The Approved Project renewed Coast's permit for its existing shellfish culture activities, and approved a 165.2-acre expansion associated with a Phase I operation and 90.8-acre expansion associated with a Phase II operation. Cumulatively, the Approved Project included a 256-acre expansion of shellfish aquaculture activities in Arcata Bay. The total cumulative Approved Project acreage, including existing culture, removed culture, and expanded culture, was proposed to be 490 acres (11.4%) within the 4,313 acres owned or leased by Coast.

#### *Revised Project*

The Revised Project will reduce the total acreage operated by Coast from 300 acres to 279 acres over a 2.5-year period. The Revised Project will include the following activities:

- Remove approximately 63.2 acres of existing oyster longlines (spaced 2.5 feet [ft] apart) in the central and eastern areas of Humboldt Bay.
- Replant approximately 42.2 acres into areas of historical dredging and shell deposition in the Mad River and Bird Island areas of the bay. Cultivation beds in these relocation areas will be installed with a wider spacing between cultivation gear of either 10 ft spaces between double-hung cultch-on-longlines or alternating 9 ft and 16 ft spaces between basket-on-longlines.
- Convert approximately 20.6 acres of existing culture from densely-spaced longlines to 9 ft- and 16 ft-spaced basket lines.

The remaining 215 acres of existing cultch-on-longline and basket-on-longline cultivation beds, as well as Coast's existing FLUPSYs, rafts, storage floats, and nursery operations, would continue as currently permitted. The total cumulative acreage proposed in the Revised Project (existing, replanted, and converted culture) is approximately 279 acres, or approximately 6.5% of the 4,313 acres owned or leased by Coast. Overall, the Revised Project would result in a net reduction of approximately 21 acres compared to Coast's existing footprint.

Other changes between the Approved Project and the Revised Project include the following:

- The Revised Project no longer proposes 4 acres of rack-and-bag culture near the northern end of Indian Island that was proposed by the Approved Project.
- The Revised Project includes 218.0 acres of cultch-on-longline culture (199.4 acres at existing spacing), compared to 307.2 acres in the Approved Project (218 acres at existing spacing). A reduction of about 29% of the cultch-on-longline culture proposed.
- The Revised Project includes 56.4 acres of basket-on-longline culture (12.1 acres at existing line spacing), compared to 174.0 acres in the Approved Project (12.1 acres at existing spacing). A reduction of about 68% of the basket-on-longline culture proposed.
- The Revised Project results in a reduction in vessel routes used for access of culture areas due to the increased concentration of culture activity into three primary growing areas - East Bay, Mad River and Bird Island.
- The Revised Project moves the western boundary of Coast culture activities approximately ½ mile to the west due to the removal of culture areas in East Bay and Sand Island.

**10.b Consideration of Resolution 2017-13 adopting a CEQA Addendum** to the previously certified environmental impact report (SCH#2015082051) for the Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project.

#### *CEQA Addendum*

In general, environmental impacts that result from the Revised Project are mostly reduced compared to the Approved Project. This reduction of impacts is primarily due to changes to the areas where culture is proposed or reductions in the total area proposed for shellfish aquaculture activities. Further, for many of the environmental impacts evaluated, the areas where cultivation is proposed under the Revised Project involve fewer ecological concerns as compared to certain areas proposed under the Approved Project.

The CEQA Guidelines provide that an addendum, rather than a supplemental EIR, is appropriate “if some changes are necessary [to the previously certified EIR] but none of the conditions described in Section 15162 . . . have occurred” (Pub. Resources Code § 21166; 14 CCR § 15162). These circumstances include:

- Substantial changes are proposed in the project which will require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified as complete, shows any of the following:
  - The project will have one or more significant effects not discussed in the Certified EIR;
  - Significant effects previously examined will be substantially more severe than shown in the Certified EIR;
  - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - Mitigation measures or alternatives which are considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative

As documented in the attached CEQA Addendum, the Revised Project would not result in any new significant environmental impacts, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR. Therefore, the Revised Project does not require preparation of a Supplemental or Subsequent EIR.

#### *Conservation and Mitigation Measures*

Along with the 19 conservation measures provided in the Certified EIR, the Coastal Commission listed 22 special conditions associated with the CDP. The Certified EIR also proposed 13 mitigation measures to ensure that potential impacts under the Approved Project were reduced to a level that was less than significant. A summary of the final list of conservation measures, mitigation measures, and Coastal Commission special conditions applicable for each potential impact identified in the Certified EIR is presented in CEQA Addendum Appendix A. The Revised Project will incorporate all conservation measures and mitigation measures described in the Certified EIR. No additional conservation and mitigation measures are proposed because the Revised Project would generally result in less impacts as compared to the Approved Project.

#### *Board Packet Material:*

- Coast Seafoods Permit Modification Request (Permit No. 14-03) Letter dated Oct. 27, 2017

- CEQA Addendum (October 2017) (Appendices provided electronically)
- Resolution 2017-13 Adopting CEQA Addendum

*Staff Recommendation:* that the Board of Commissioners determine that:

- (1) The Project CEQA Addendum has been completed in compliance with CEQA,
- (2) The Revised Project and CEQA Addendum were presented to the decision-making body of the Humboldt Bay Harbor Recreation and Conservation District and that the District reviewed and considered the information contained the Addendum prior to approving the revised project; and
- (3) The Project CEQA Addendum reflect the Harbor District's independent judgment and analysis; and

Approve Resolution 2017-13 Adopting CEQA Addendum to the Previously Certified Environmental Impact Report for the Coast Seafoods Company Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project.

**10.c Consideration of findings relative to the modification of Permit 14-03** for the Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project.

The Findings adopted with respect to the Approved Project by Resolution 2017-03 remain applicable to the Revised Project. No changes are necessary.

*Board Packet Material:* Adopted Resolution 2017-03 Establishing Findings Relative to the Application by Coast Seafoods Company for Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project

*Staff Recommendation:* Re-affirm the Findings adopted by Resolution 2017-03.

**10.d Consideration of granting Permit 14-03 modification** for the Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project.

*Summary:* As described above and in attachments, the Approved Project renewed Coast's permit for its existing shellfish culture activities, and approved a 165.2-acre expansion associated with a Phase I operation and 90.8-acre expansion associated with a Phase II operation. Cumulatively, the Approved Project included a 256-acre expansion of shellfish aquaculture activities in Arcata Bay. The total cumulative Approved Project acreage, including existing culture, removed culture, and expanded culture, was proposed to be 490 acres (11.4%) within the 4,313 acres owned or leased by Coast.

The Revised Project reduces the overall operational footprint as compared to the previously Approved Project and would result in a net reduction of approximately 21 acres compared to Coast's existing footprint. The total cumulative acreage proposed in the Revised Project (existing, replanted, and converted culture) is approximately 279 acres, or approximately 6.5% of the 4,313 acres owned or leased by Coast.

This Permit Modification will be subject to the same terms and conditions as the existing Permit.

*Board Packet Material:* Permit 14-03 Modification.

*Staff Recommendation:* Approve Permit 14-03 Modification as described.



PLAUCHÉ & CARR  
LLP

*Partners*

Samuel W. Plauché: LA, WA  
Amanda M. Carr: OR, WA  
Peter H. Dykstra: OR, WA  
Robert M. Smith: CA, DC, WA

*Of Counsel*

George W. Plauché: LA

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www.plauchecarr.com

October 27, 2017

Mr. Jack Crider  
District Planner  
Humboldt Bay Harbor, Recreation and Conservation District  
601 Startare Dr.  
Eureka, CA 95501

**Re: Coast Seafoods Permit Modification Request (Permit No. 14-03)**

Dear Mr. Crider:

Coast Seafoods/Pacific Seafoods Company (Coast) is requesting a modification to its permit for its existing and permitted shellfish farm in Humboldt Bay, approved by the Humboldt Bay Harbor, Recreation, and Conservation District (Harbor District) in Permit No. 14-03 on February 28, 2017, and described in the certified Final Environmental Impact Review (FEIR) associated with that permit (identified herein as the "Approved Project").<sup>1</sup>

In its subsequent review of the Approved Project, the California Coastal Commission approved a number of revisions to the project, including reducing the overall farmed footprint of Coast's operations and consolidating the growing areas primarily into three geographic locations of the bay (identified herein as the "Revised Project"). Notably, unlike the Approved Project, which would have expanded Coast's farmed footprint, the Revised Project reduces its farmed footprint as compared to existing conditions.

Permit No. 14-03, Condition 2, requires that all permit activities authorized by the permit are also subject to any conditions imposed by the California Coastal Commission. Therefore, the purpose of this permit modification is to ensure that the permit is consistent with the Coastal Development Permit issued by the Coastal Commission, and to update the environmental analysis previously certified by the Harbor District to evaluate any new or different environmental impacts associated with the Revised Project as compared to the Approved Project. These impacts are discussed in the attached draft California Environmental

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<sup>1</sup> The Revised Draft Environmental Impact Report and FEIR are collectively referred to below as the "Certified EIR."

Mr. Jack Crider  
October 27, 2017

Quality Act (CEQA) Addendum. Below is a description of the Revised Project and a comparison of the Revised Project as compared to the project previously approved by the Harbor District.

Mr. Jack Crider  
October 27, 2017

## **Project Location and Existing Conditions**

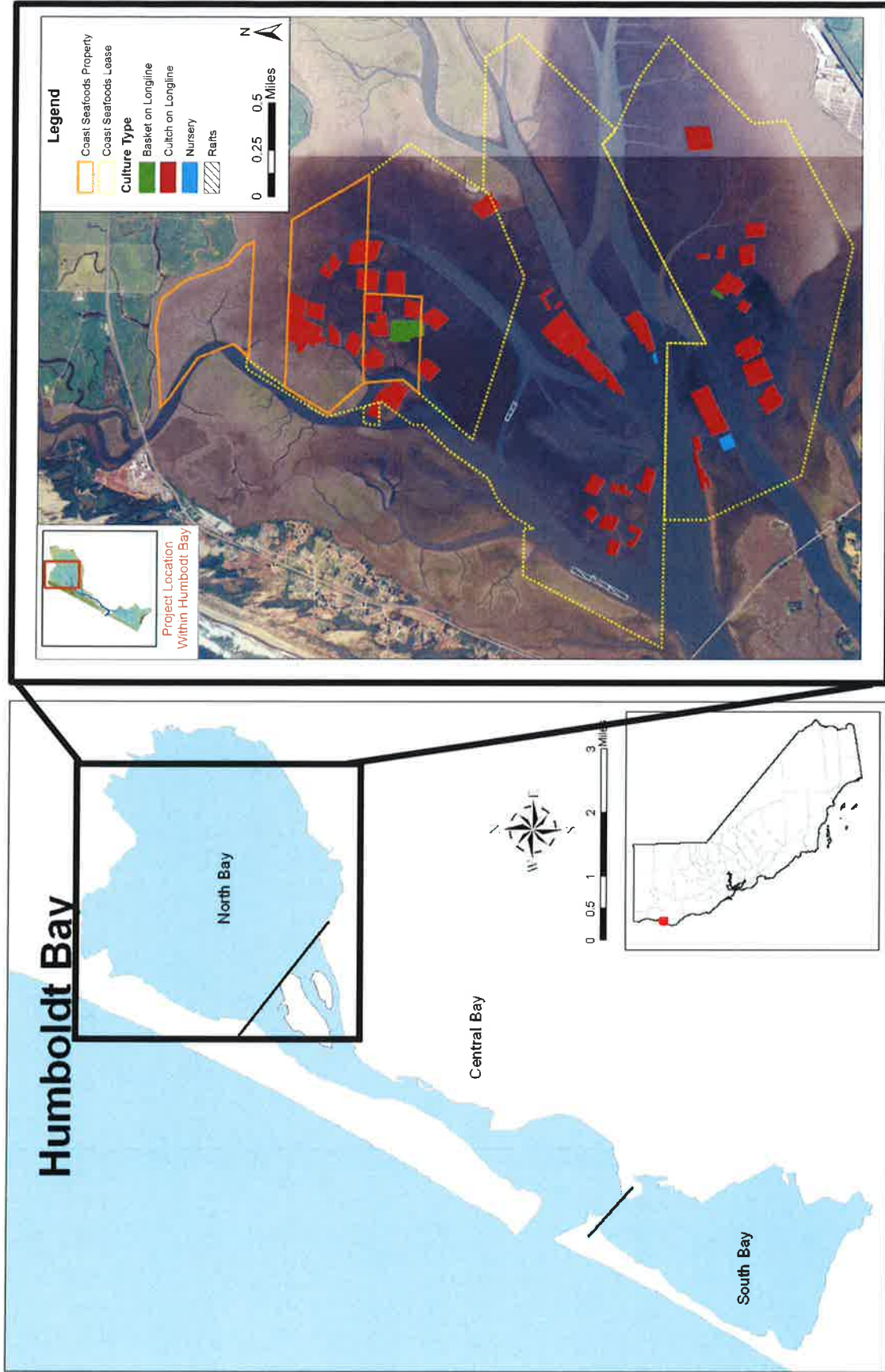
The project site is in the north and central parts of Humboldt Bay, California. Humboldt Bay encompasses roughly 62.4 square kilometers (about 15,400 acres) at mean high tide in three geographic segments: South Bay, Entrance Bay, and Arcata Bay. Coast leases and/or owns approximately 4,313 acres in Arcata Bay (Figure 1). Coast's leased area includes approximately 1,827 acres owned or held in trust by the City of Eureka, approximately 1,452 acres owned or held in trust by the Harbor District, approximately 515 acres owned by the Karamu Corporation, approximately 5 acres owned by the Manila Community Services District, and approximately 514 acres owned by Coast.

Coast has been culturing shellfish in Humboldt Bay, California since the early 1950's. Coast's predecessors cultured shellfish in Humboldt Bay since the early 1900s. Historically, there has been as much as 1,000 acres of tidelands used for oyster culture within the current owned and leased footprint. Coast traditionally cultured shellfish using bottom culture methods, which entailed growing oysters directly on the bay bottom and harvesting them with an oyster dredge. In the mid to late 1990s, in response to requests from regulatory agencies, Coast began to transition its operations to more environmentally sustainable off-bottom culture methods.

In 2006, Coast reduced its operational farm footprint to 300 acres within Arcata Bay and Central Bay using exclusively off-bottom culture methods within intertidal habitat (cultch-on-longline, basket-on-longline, and rack-and-bag) to grow Pacific (*Crassostrea gigas*) and Kumamoto (*C. sikamea*) oysters. Coast also received approvals for clam rafts, a FLUPSY, intertidal nursery, and wet storage areas. In 2013, Coast amended its permits to convert to basket-on-longline culture in the portion of its existing footprint dedicated to rack-and-bag culture. Coast currently uses approximately 294 acres of its existing beds to cultivate Pacific and Kumamoto oysters using longline culture (cultch-on-longline and basket-on-longline), although Coast's existing footprint will need to be modified to be consistent with the Commission's approval.

The remaining acreage within the existing operational footprint is apportioned as follows: approximately 4.8 acres utilized as a nursery area; approximately 0.04 acres utilized for the FLUPSY; approximately 0.04 acres utilized for wet storage floats; and approximately 0.93 acres utilized for clam rafts. Coast's existing farm operations were thoroughly discussed in the Certified EIR and Coastal Commission (2017) staff report.





**Figure 1** Location of Humboldt Bay, California, and Existing Shellfish Aquaculture in North (Arcata) Bay  
 Source: GIS layers provided by Wagschal, pers. comm., 2015; Note: Habitat and shellfish culture areas based on data from NOAA (2012).

Mr. Jack Crider  
October 27, 2017

## **Approved Harbor District Project**

The Approved Project was proposed to occur in two phases over 8 years with a combination of existing culture, expansion of culture, and mitigation activities for each phase. The Approved Project renewed Coast's permit for its existing shellfish culture activities, and approved a 165.2-acre expansion associated with a Phase I operation (Figure 2) and 90.8-acre expansion associated with a Phase II operation (Figure 3). Cumulatively, the Approved Project included a 256-acre expansion of shellfish aquaculture activities in Arcata Bay. The culture methods included the same as those currently employed by Coast.

In-kind mitigation, through the removal of existing culture, was prioritized in three areas: Sand Island, Arcata Channel, and Indian Island. Mitigation included total removal of existing culture (fallowing) and was based on a 4:1 ratio of expansion acreage to removed existing culture acreage.

Phase I of the Approved Project included the following expansion and mitigation activities:

- Expansion of up to 4.0 acres of rack-and-bag or basket-on-longline culture in areas outside of native eelgrass beds, including a 25-foot buffer.
- Expansion of 72 acres of 9-foot spaced basket-on-longline culture with 16-foot boat rows between groups of 2 lines.
- Expansion of 89.2 acres of 10-foot spaced double-hung cultch-on-longline culture.
- Removal of 42.0 acres of 2.5-foot spaced single-hung cultch-on-longline culture on Sand Island.

Phase II of the Approved Project included the following expansion and mitigation activities:

- Expansion of up to 90.8 acres of either 9-ft/16-foot (ft) basket-on-longline culture or 10-ft spaced double-hung cultch-on-longline culture.
- Removal of 22.7 acres of 2.5-ft spaced single-hung cultch-on-longline culture on Sand Island, Indian Island, and in Arcata Channel.

The total cumulative Approved Project acreage, including existing culture, removed culture, and expanded culture, was proposed to be 490 acres (11.4%) within the 4,313 acres owned or leased by Coast. As part of the Approved Project, the Harbor District also required Coast to implement an eelgrass monitoring plan and brant monitoring plan to confirm the impact analysis of those impacts described in the Certified EIR.

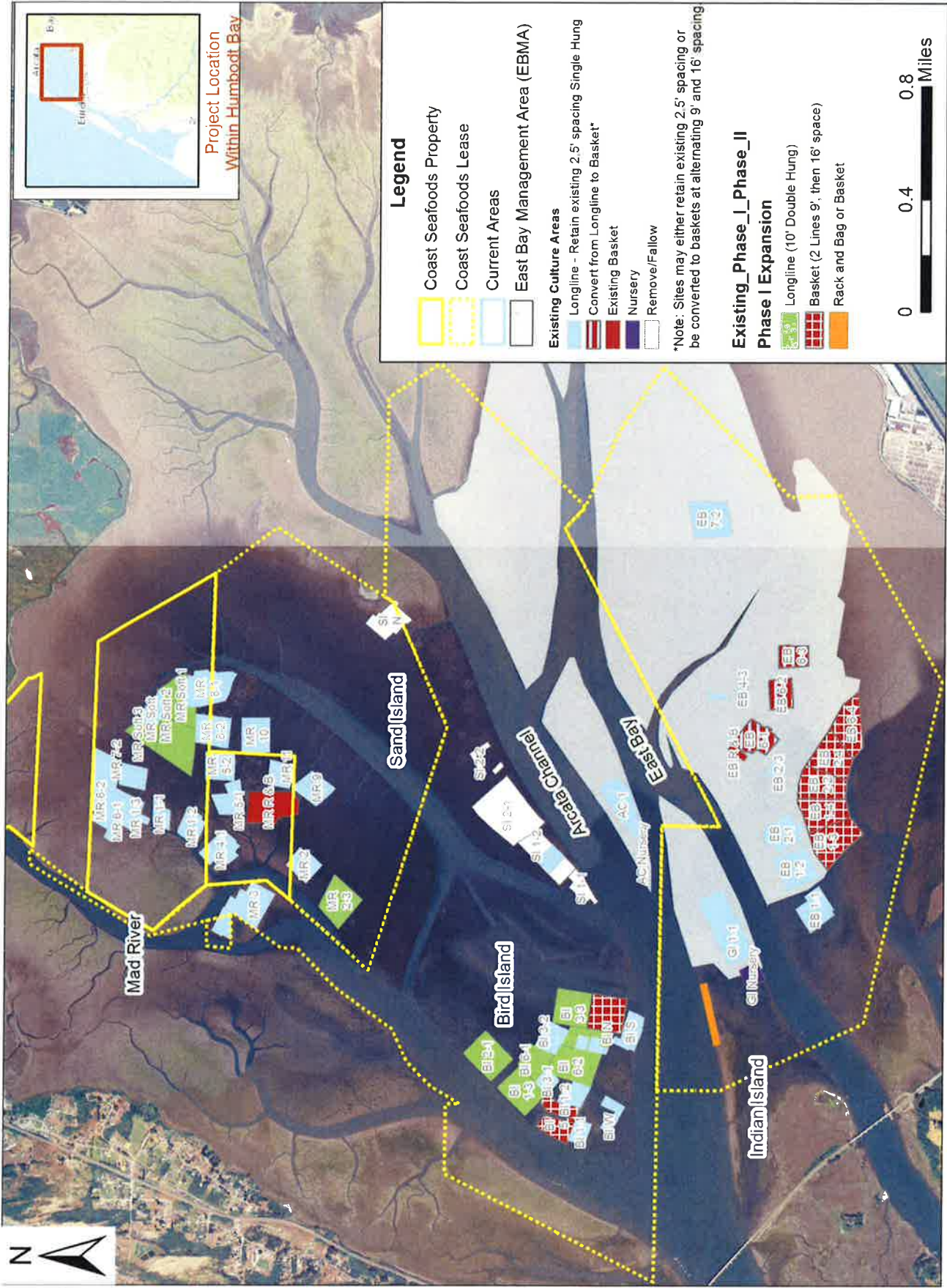


Figure 2 Approved Project Phase I Culture and Mitigation Areas

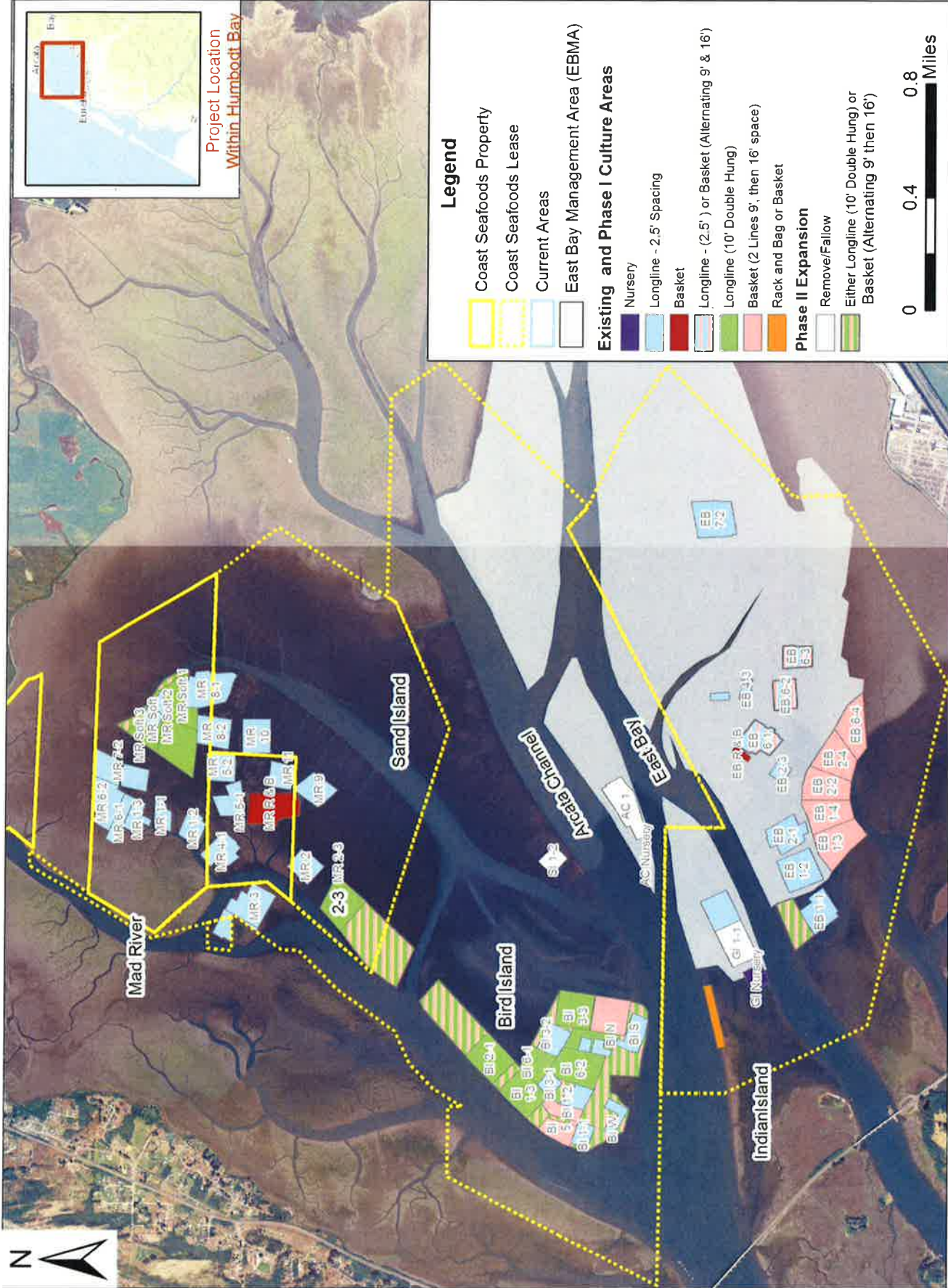


Figure 3 Approved Project Phase II Culture and Mitigation Areas

Mr. Jack Crider  
October 27, 2017

## **Revised Project**

The Revised Project will reduce the total acreage operated by Coast from 300 acres to 279 acres over a 2.5-year period. This reduction will occur through complete removal of culture activity on Sand Island and consolidation of culture activities into three primary areas: around Bird Island, Mad River, and the southeastern area of Arcata Bay (Figure 4). Consolidation of culture activities will occur in areas previously used that have historical impacts (e.g., areas of historical dredging and shell deposition in the Mad River and Bird Island areas of the bay) described in the Certified EIR. In addition, Coast will increase its overall production levels by using cultivation techniques (i.e., SEAPA® baskets) that achieve more production per acre. The operational footprint, including cultivation beds and the location of vessel activity, will be reduced by 1/3 from the current operations.

The Revised Project will include the following activities:

- Remove approximately 63.2 acres of existing oyster longlines (spaced 2.5 feet [ft] apart) in the central and eastern areas of Humboldt Bay.
- Replant approximately 42.2 acres into areas of historical dredging and shell deposition in the Mad River and Bird Island areas of the bay. Cultivation beds in these relocation areas will be installed with a wider spacing between cultivation gear of either 10 ft spaces between double-hung cultch-on-longlines or alternating 9 ft and 16 ft spaces between basket-on-longlines.
- Convert approximately 20.6 acres of existing culture from densely-spaced longlines to 9 ft- and 16 ft-spaced basket lines.

The remaining 215 acres of existing cultch-on-longline and basket-on-longline cultivation beds, as well as Coast's existing FLUPSYs, rafts, storage floats, and nursery operations, would continue as currently permitted. The total cumulative acreage proposed in the Revised Project (existing, replanted, and converted culture) is approximately 279 acres, or approximately 6.5% of the 4,313 acres owned or leased by Coast. Overall, the Revised Project would result in a net reduction of approximately 21 acres compared to Coast's existing footprint.



Figure 4 Revised Project Culture and Mitigation Areas

## Project Comparison

As stated above, the Revised Project reduces the overall operational footprint as compared to the Approved Project. Table 1 provides a comparison of the intertidal culture acreage between the Approved Project and Revised Project.

**Table 1. Comparison of Intertidal Culture Acreage by Habitat between the Approved Project and Revised Project.**

Habitat	Approved Project (acre)	Revised Project (acre)	Difference (acre)
<b>Existing Intertidal Culture Area</b>			
Mudflat	11.7	11.7	No Change
Continuous Eelgrass	25.2	25.2	No Change
Patchy Eelgrass	261.8	261.8	No Change
<b>Total Existing Culture</b>	<b>298.7</b>	<b>298.7</b>	<b>No Change</b>
<b>Proposed Removal</b>			
Removal	-64.7	-63.2	↓ 1.5
<b>Existing Culture to Continue</b>			
Mudflat	11.7	5.3	↓ 6.4
Continuous Eelgrass	25.2	18.1	↓ 7.1
Patchy Eelgrass	197.1	212.2	↑ 15.1
<b>Total Continuing Culture</b>	<b>234.0</b>	<b>235.6</b>	<b>↑ 1.6</b>
<b>New Culture Areas (Expansion or Relocation)</b>			
Mudflat	17.3	2.2	↓ 15.1
Continuous Eelgrass	127.0	8.9	↓ 118.1
Patchy Eelgrass	111.7	31.1	↓ 80.6
<b>Total Expansion</b>	<b>256.0</b>	<b>42.2</b>	<b>↓ 213.8</b>
<b>Total Project</b>	<b>490.0</b>	<b>277.8</b>	<b>↓ 212.2</b>

Other changes between the Approved Project and the Revised Project not identified above include the following:

- The Revised Project no longer proposes 4 acres of rack-and-bag culture near the northern end of Indian Island that was proposed by the Approved Project.
- The Revised Project includes 218.0 acres of cultch-on-longline culture (199.4 acres at existing spacing), compared to 307.2 acres in the Approved Project (218 acres at existing spacing). A reduction of about 29% of the cultch-on-longline culture proposed.
- The Revised Project includes 56.4 acres of basket-on-longline culture (12.1 acres at existing line spacing), compared to 174.0 acres in the Approved Project (12.1 acres at existing spacing). A reduction of about 68% of the basket-on-longline culture proposed.

- The Revised Project results in a reduction in vessel routes used for access of culture areas due to the increased concentration of culture activity into three primary growing areas – East Bay, Mad River and Bird Island.
- The Revised Project moves the western boundary of Coast culture activities approximately ½ mile to the west due to the removal of culture areas in East Bay and Sand Island.

If you have any questions about this permit modification, please do not hesitate to contact Miranda Ries (Pacific Seafood) at 503-905-4257.

Sincerely,



Robert M. Smith  
PLAUCHÉ & CARR LLP



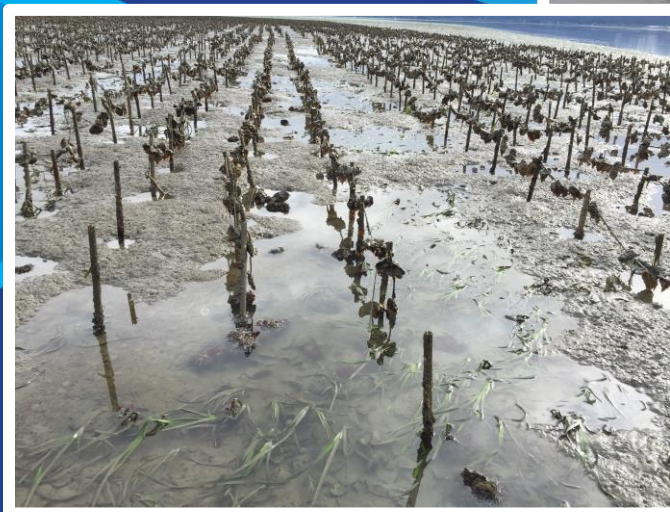
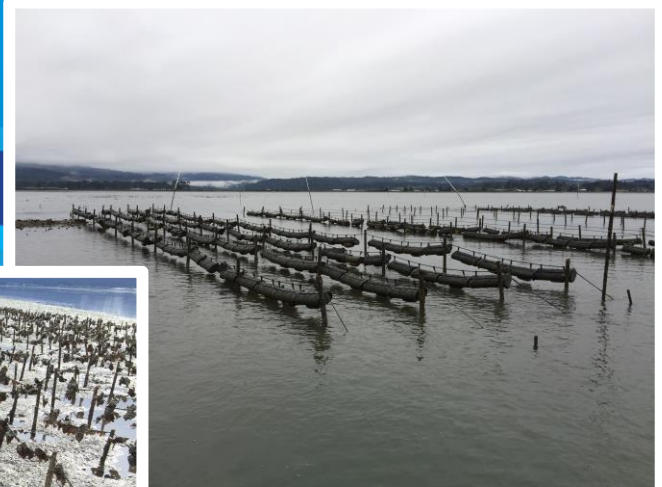


**CONFLUENCE**  
ENVIRONMENTAL COMPANY

Coast Seafoods Company, Humboldt Bay Shellfish  
Aquaculture: Permit Renewal and Expansion Project  
**CALIFORNIA ENVIRONMENTAL QUALITY ACT  
(CEQA) ADDENDUM**

*Prepared for:*

**Coast Seafoods/Pacific Seafood**  
October 2017



**Coast Seafoods Company, Humboldt Bay Shellfish Aquaculture:  
Permit Renewal and Expansion Project  
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)  
ADDENDUM**

Prepared for:

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Eureka, CA 95501  
Attn: Greg Dale

Authored by:

Phil Bloch, Marlene Meaders, and Chris Czieszla

Confluence Environmental Company

October 2017

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- Appendix F: Hunting Avoidance Area
- Appendix G: Cultivation Bed Mapping and Marking Plan

## ACRONYMS AND DEFINITION OF TERMS

Approved Project	The environmentally superior alternative that was selected by the Harbor District through the CEQA process.
culture bed or plot	The area used for shellfish aquaculture activities, including gear, shellfish products, and access locations. The culture bed (also called plot) is the entire acreage for those activities, including space between oyster longlines that do not have any gear or shellfish products.
basket-on-longline	A shellfish aquaculture method that uses SEAPA® baskets that are filled with oysters and placed on a line that is raised above the sediment surface by about 12 inches. The lines are supported by notched polyvinyl chloride (PVC) pipes embedded in rows of 100-foot lines.
CDFW	California Department of Fish and Wildlife
Certified EIR	The Revised R-DEIR and FEIR prepared for the Approved Project that was certified by the Harbor District on February 28, 2017.
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
Coast	Coast Seafoods/Pacific Seafoods Company
Commission	California Coastal Commission
cultch-on-longline	A shellfish aquaculture method that uses pieces of cultch that are installed on a PVC-supported monofilament line, raised above the sediment surface typically by 12 inches, and placed in rows of 100-foot lines.
DEIR	Draft Environmental Impact Report
double-hung	Double-hung refers to two lines for cultch-on-longline hung at different heights (8inches and 16 inches) attached to PVC tubes.
EBMA	East Bay Management Area
existing footprint	The current amount culture that is part of Coast's existing operations.
FEIR	Final Environmental Impact Report
FLUPSY	Floating Upwelling System
ft	foot or feet
Harbor District	Humboldt Bay Harbor, Recreation and Conservation District
NMFS	National Marine Fisheries Service
off-bottom culture	Shellfish aquaculture methods (e.g., cultch-on-longline, basket-on-longline, rack-and-bag) that raises the shellfish products off the sediment surface.
on-bottom culture	Shellfish aquaculture methods that place shellfish directly on the sediment surface and grow them until harvest.
rack-and-bag	A shellfish aquaculture method that uses elevated metal frames that support plastic mesh bags filled with oysters.
R-DEIR	Revised Draft Environmental Impact Report
Revised Project	The Coast proposed project that was approved by the Commission on September 13, 2017.
single-hung	Single-hung refers to a single line of cultch-on-longline attached to PVC tubes.

## EXECUTIVE SUMMARY

The Coast Seafoods Company (Coast), Humboldt Bay Shellfish Aquaculture: Permit Renewal and Expansion Project (Project) has evolved through public and agency feedback. This feedback and evolution has occurred from June 2014 when the original application was submitted to the Humboldt Bay Harbor, Recreation and Conservation District (Harbor District) up until the culmination of the California Coastal Commission (Commission) process in September 2017. This California Environmental Quality Act (CEQA) Addendum evaluates the project proposal approved by the Commission (herein identified as the “Revised Project”), and compares it to the environmentally superior alternative identified in the certified Final Environmental Impact Report (FEIR) and approved by the Harbor District under CEQA (identified herein as the “Approved Project”). The FEIR and Revised Draft Environmental Impact Report (R-DEIR) prepared for the Approved Project are collectively referred to herein as the “Certified EIR.”

In February 2017, the Harbor District certified the FEIR that thoroughly evaluated potential environmental impacts from Coast’s proposed expansion in Arcata Bay at the north end of Humboldt Bay. The Certified EIR concluded that, upon incorporation of identified conservation and mitigation measures, the Approved Project would not result in any significant adverse environmental impacts. The permit is for an approximate 191-acre expansion of Coast’s existing shellfish aquaculture operation, resulting in a total farmed footprint of approximately 490 acres.

The Revised Project reduces Coast’s overall farmed footprint by 21 acres compared to existing footprint, resulting in an approved footprint of approximately 279 acres for intertidal oyster culture. As compared to the Approved Project, the Revised Project would reduce Coast’s farmed footprint by approximately 212 acres. The Revised Project also reconfigures several existing culture beds within the areas owned or leased by Coast to provide greater spacing between oyster longlines, and relocates culture beds from East Bay into areas of Bird Island and Mad River where there are historical impacts from previous shellfish operations that used cultivation methods that have since been discontinued. The Revised Project proposes the same types of cultivation methods as currently used by Coast on its existing farm, which are also the methods analyzed in the Certified EIR. The culture methods and mechanisms of impact to various resources are unchanged from the prior analyses.

This addendum evaluates each environmental impact analyzed in the Certified EIR, and compares the impacts of the Revised Project to those previously evaluated for the Approved Project. In general, environmental impacts that result from the Revised Project are mostly reduced compared to the Approved Project. This reduction of impacts is primarily due to changes to the areas where culture is proposed or reductions in the total area proposed for shellfish aquaculture activities. Further, for many of the environmental impacts evaluated, the areas where cultivation is proposed under the Revised Project involve fewer ecological concerns as compared to certain areas proposed under the Approved Project. For example, the additional areas proposed for cultivation in the Bird Island and Mad River areas, which were not specifically analyzed in the Certified EIR, include fewer eelgrass beds, fewer impacts to shorebirds due to less overlap between potential shorebird habitat and culture beds, and fewer

areas where green sturgeon have been known to forage. For these reasons, and the other reasons contained in this Addendum, the Revised Project would not result in any new significant environmental impacts, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR. Therefore, the Revised Project does not require preparation of a Supplemental or Subsequent EIR.

## 1.0 INTRODUCTION

Coast owns or leases approximately 4,313 acres of intertidal and subtidal habitat in Central and North Bay (Arcata Bay) of the Humboldt Bay estuary. Most of the intertidal habitat in Arcata Bay was historically used by Coast, and predecessor companies, to support shellfish aquaculture since at least the 1950s. From 1997 to 2006, Coast reduced its aquaculture footprint from approximately 500 acres to 300 acres, and converted its operations from on-bottom to off-bottom aquaculture.

In June 2014, Coast applied to the Harbor District requesting renewal and amendment of its shellfish farm permit and lease. The Project proposed to maintain 300 acres of existing operations and expand into 622 acres for a total footprint of 922 acres. The potential environmental impacts associated with the project were described in a DEIR that was circulated by the Harbor District for public review on October 26, 2015.

Based on public comments received on the DEIR, several revisions were made to the project and DEIR analysis, including substantial revisions to the DEIR analysis concerning native eelgrass (*Zostera marina*) and other biological resources, phased project implementation, adoption of a “no net loss” standard as the threshold of significance for eelgrass impacts, proposed adaptive management for eelgrass, and a commitment to in-kind, compensatory mitigation for a reduction in eelgrass density. The Harbor District prepared the R-DEIR that included these changes, which was circulated for public review on July 18, 2016.

Additional revisions were included in the FEIR, which included a new alternative identified as the “East Bay Management Area (EBMA) Avoidance Alternative,” which reduced the overall acreage of the expansion by more than 60% compared to the project presented in the DEIR. The EBMA Avoidance Alternative proposed to expand culture into 256 acres of fallow habitat in Arcata Bay that had been previously cultivated for oysters, and to remove a total of 64.7 acres of existing culture on Sand Island, Indian Island, and Arcata Channel as in-kind mitigation to support movement of green sturgeon (*Acipenser medirostris*), Pacific herring (*Clupea pallasii*) spawning locations, and use of Arcata Bay by black brant (*Branta bernicla*) and other marine birds. The EBMA Avoidance Alternative proposed a total net expansion of approximately 191.3 acres and a total farmed footprint, including Coast’s existing farmed areas, of approximately 491.3 acres. The total acreage is almost equivalent to the amount of area used by oyster aquaculture activities in 1997. On February 28, 2017, the Harbor District selected the EBMA Avoidance Alternative (the Approved Project) as the environmentally superior alternative under CEQA and certified the FEIR.

The project also requires approval from the Commission. On June 7, 2017, the Commission rejected the Approved Project, finding that it did not meet certain Coastal Act requirements.<sup>1</sup> In

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<sup>1</sup>The Commission conducts its own environmental analysis that has been determined to be equivalent to CEQA; however, the Commission’s determination does not affect the validity of the Certified EIR or the Harbor District’s prior evaluation of the Approved Project’s environmental impacts.



response, Coast and Commission staff developed several further revisions to the Approved Project, including reducing the overall size of Coast's farmed footprint and consolidation of Coast's growing areas into three geographic locations of the bay (Revised Project). As opposed to the Approved Project, which proposed an expansion of Coast's farmed footprint, the Revised Project proposed an overall reduction in the size of Coast's farming area. The Commission approved a Coastal Development Permit (CDP) authorizing the Revised Project on September 13, 2017 (Commission 2017).

This document is an addendum to the Certified EIR previously certified by the Harbor District. This addendum evaluates the environmental impacts associated with the Revised Project as compared to the Approved Project, including locations approved by the Commission for shellfish aquaculture activities that were not originally covered by the Certified EIR, and demonstrates that all the potential environmental impacts associated with the proposed changes would be within the envelope of impacts already evaluated in the Certified EIR.

## 1.1 CEQA Authority for Addendum

The CEQA Guidelines provide that an addendum, rather than a supplemental EIR, is appropriate "if some changes are necessary [to the previously certified EIR] but none of the conditions described in Section 15162 . . . have occurred." These circumstances include:

- Substantial changes are proposed in the project which will require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified as complete, shows any of the following:
  - The project will have one or more significant effects not discussed in the Certified EIR;
  - Significant effects previously examined will be substantially more severe than shown in the Certified EIR;
  - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - Mitigation measures or alternatives which are considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant

effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.<sup>2</sup>

## 1.2 Findings and Determination

As demonstrated by the analysis herein, the Revised Project would not result in any new additional significant impacts, nor would it substantially increase the severity of significant impacts previously identified in the Certified EIR. All the impacts associated with the Revised Project are within the envelope of impacts addressed in the Certified EIR, and do not constitute a new or substantially increased significant impact. In fact, as noted below, most of the environmental impacts associated with the Revised Project are less than those associated with the Approved Project. Further, there are no substantial changes to the circumstances under which the Approved Project analyzed in the Certified EIR would have been undertaken, and no new information of substantial importance which was not known when the EIR was certified has been identified. Therefore, the minor changes resulting from the Revised Project do not meet the standards for a Subsequent or Supplemental EIR, pursuant to CEQA Guidelines Section 15162.

## 2.0 PROJECT DESCRIPTION

The following information includes the project location, existing conditions, and a comparison of the Approved Project and Revised Project.

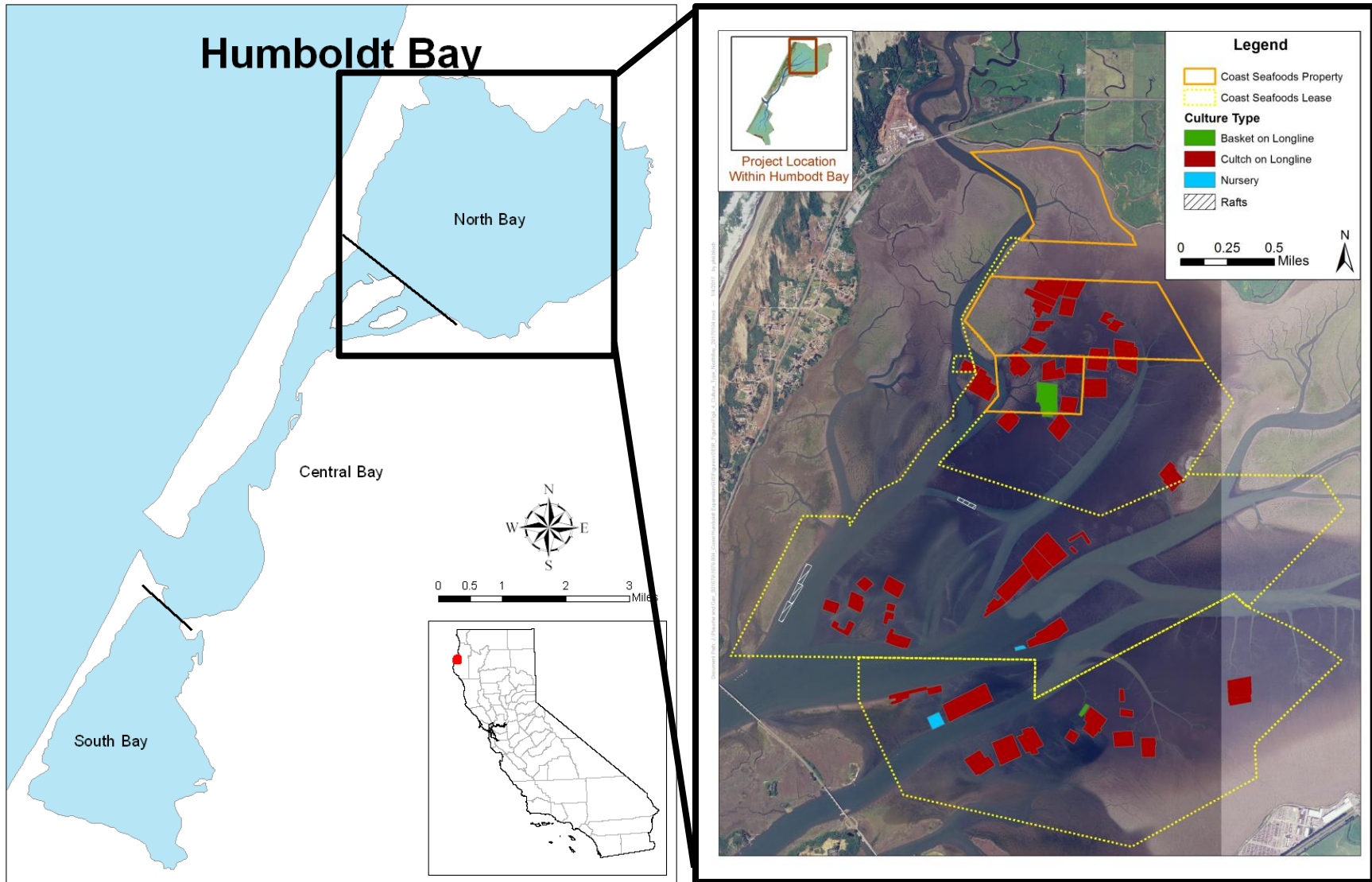
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<sup>2</sup> See Pub. Resources Code § 21166; 14 CCR § 15162.



**Figure 1** Location of Humboldt Bay, California, and Existing Shellfish Aquaculture in North (Arcata) Bay  
*Source:* GIS layers provided by Wagschal, pers. comm., 2015; *Note:* Habitat and shellfish culture areas based on data from NOAA (2012).

In 2006, Coast reduced its operational farm footprint to 300 acres within Arcata Bay and Central Bay using exclusively off-bottom culture methods within intertidal habitat (cultch-on-longline, basket-on-longline, and rack-and-bag) to grow Pacific (*Crassostrea gigas*) and Kumamoto (*C. sikamea*) oysters. Coast also received approvals for clam rafts, a Floating Upwelling System (FLUPSY), intertidal nursery, and wet storage areas. In 2013, Coast amended its permits to convert to basket-on-longline culture in the portion of its existing footprint dedicated to rack-and-bag culture. Coast currently uses approximately 294 acres of its existing beds to cultivate Pacific and Kumamoto oysters using longline culture (cultch-on-longline and basket-on-longline), although Coast's existing footprint will need to be modified to be consistent with the Commission's approval.

The remaining acreage within the existing operational footprint is apportioned as follows: approximately 4.8 acres utilized as a nursery area; approximately 0.04 acres utilized for the FLUPSY; approximately 0.04 acres utilized for wet storage floats; and approximately 0.93 acres utilized for clam rafts. Coast's existing farm operations were thoroughly discussed in the Certified EIR and Coastal Commission (2017) staff report.

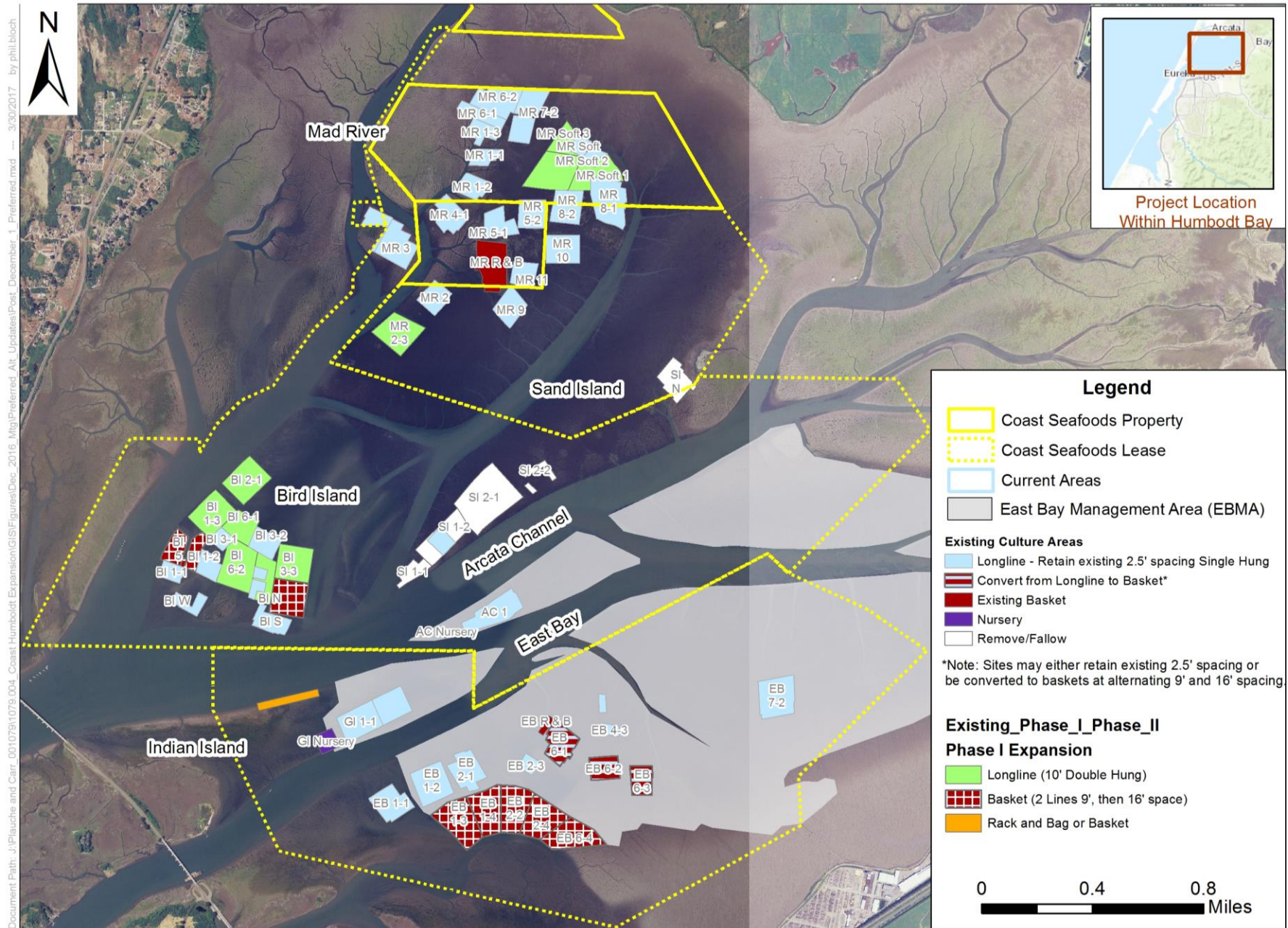
## 2.2 Approved Project

The Approved Project was proposed to occur in two phases over 8 years with a combination of existing culture, expansion of culture, and mitigation activities for each phase. The Approved Project renewed Coast's permit for its existing shellfish culture activities, and approved a 165.2-acre expansion associated with a Phase I operation (Figure 2) and 90.8-acre expansion associated with a Phase II operation (Figure 3). Cumulatively, the Approved Project included a 256-acre expansion of shellfish aquaculture activities in Arcata Bay. The culture methods included the same as those currently employed by Coast.

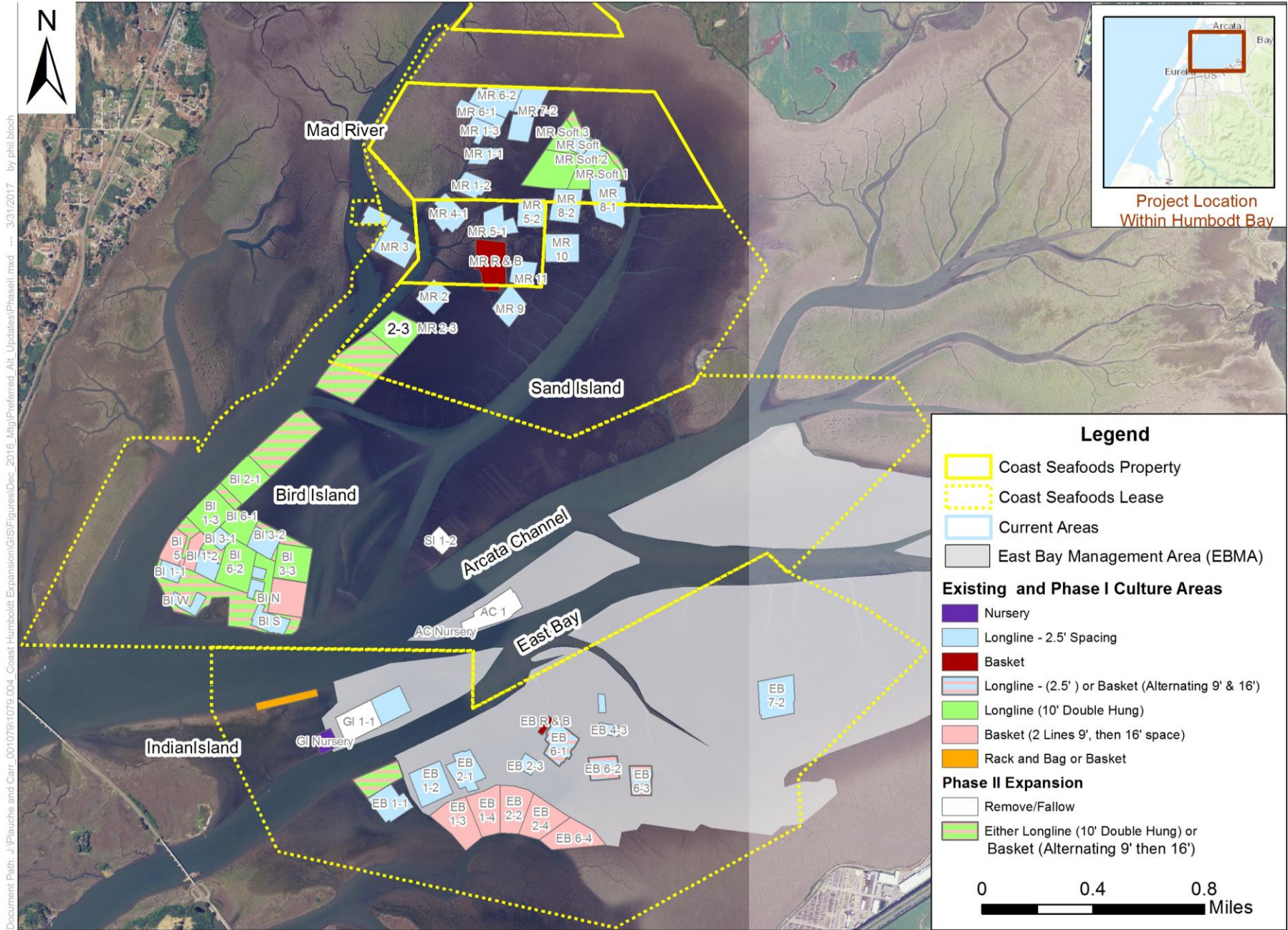
In-kind mitigation, through the removal of existing culture, was prioritized in three areas: Sand Island, Arcata Channel, and Indian Island. Mitigation included total removal of existing culture (fallowing) and was based on a 4:1 ratio of expansion acreage to removed existing culture acreage.

Phase I of the Approved Project included the following expansion and mitigation activities:

- Expansion of up to 4.0 acres of rack-and-bag or basket-on-longline culture in areas outside of native eelgrass beds, including a 25-foot (ft) buffer.
- Expansion of 72 acres of 9-ft spaced basket-on-longline culture with 16-ft boat rows between groups of 2 lines.
- Expansion of 89.2 acres of 10-ft spaced double-hung cultch-on-longline culture.
- Removal of 42.0 acres of 2.5-ft spaced single-hung cultch-on-longline culture on Sand Island.



**Figure 2** Approved Project Phase I Culture and Mitigation Areas



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**Figure 3 Approved Project Phase II Culture and Mitigation Areas**

Phase II of the Approved Project included the following expansion and mitigation activities:

- Expansion of up to 90.8 acres of either 9-ft/16-ft basket-on-longline culture or 10-ft spaced double-hung cultch-on-longline culture.
- Removal of 22.7 acres of 2.5-ft spaced single-hung cultch-on-longline culture on Sand Island, Indian Island, and in Arcata Channel.

The total cumulative Approved Project acreage, including existing culture, removed culture, and expanded culture, was proposed to be 490 acres (11.4%) within the 4,313 acres owned or leased by Coast. As part of the Approved Project, the Harbor District also required Coast to implement an eelgrass monitoring plan and brant monitoring plan to confirm the impact analysis of those impacts described in the Certified EIR.

## 2.3 Revised Project

The Revised Project will reduce the total acreage operated by Coast from 300 acres to 279 acres over a 2.5-year period. This reduction will occur through complete removal of culture activity on Sand Island and consolidation of culture activities into three primary areas: around Bird Island, Mad River, and the southeastern area of Arcata Bay (Figure 4). Consolidation of culture activities will occur in areas previously used that have historical impacts (e.g., areas of historical dredging and shell deposition in the Mad River and Bird Island areas of the bay) described in the Certified EIR. In addition, Coast will increase its overall production levels by using cultivation techniques (i.e., SEAPA<sup>®</sup> baskets) that achieve more production per acre. The operational footprint, including cultivation beds and the location of vessel activity, will be reduced by 1/3 from the current operations.

The Revised Project will include the following activities:

- Remove approximately 63.2 acres of existing oyster longlines (spaced 2.5 ft apart) in the central and eastern areas of Humboldt Bay.
- Replant approximately 42.2 acres into areas of historical dredging and shell deposition in the Mad River and Bird Island areas of the bay. Cultivation beds in these relocation areas will be installed with a wider spacing between cultivation gear of either 10 ft spaces between double-hung cultch-on-longlines or alternating 9 ft and 16 ft spaces between basket-on-longlines.
- Convert approximately 20.6 acres of existing culture from densely spaced longlines to 9-ft- and 16-ft-spaced basket lines.

The remaining 215 acres of existing cultch-on-longline and basket-on-longline cultivation beds, as well as Coast's existing FLUPSYs, rafts, storage floats, and nursery operations, would continue as currently permitted. The total cumulative acreage proposed in the Revised Project (existing, replanted, and converted culture) is approximately 279 acres, or approximately 6.5% of the 4,313 acres owned or leased by Coast. Overall, the Revised Project would result in a net reduction of approximately 21 acres compared to Coast's existing footprint.

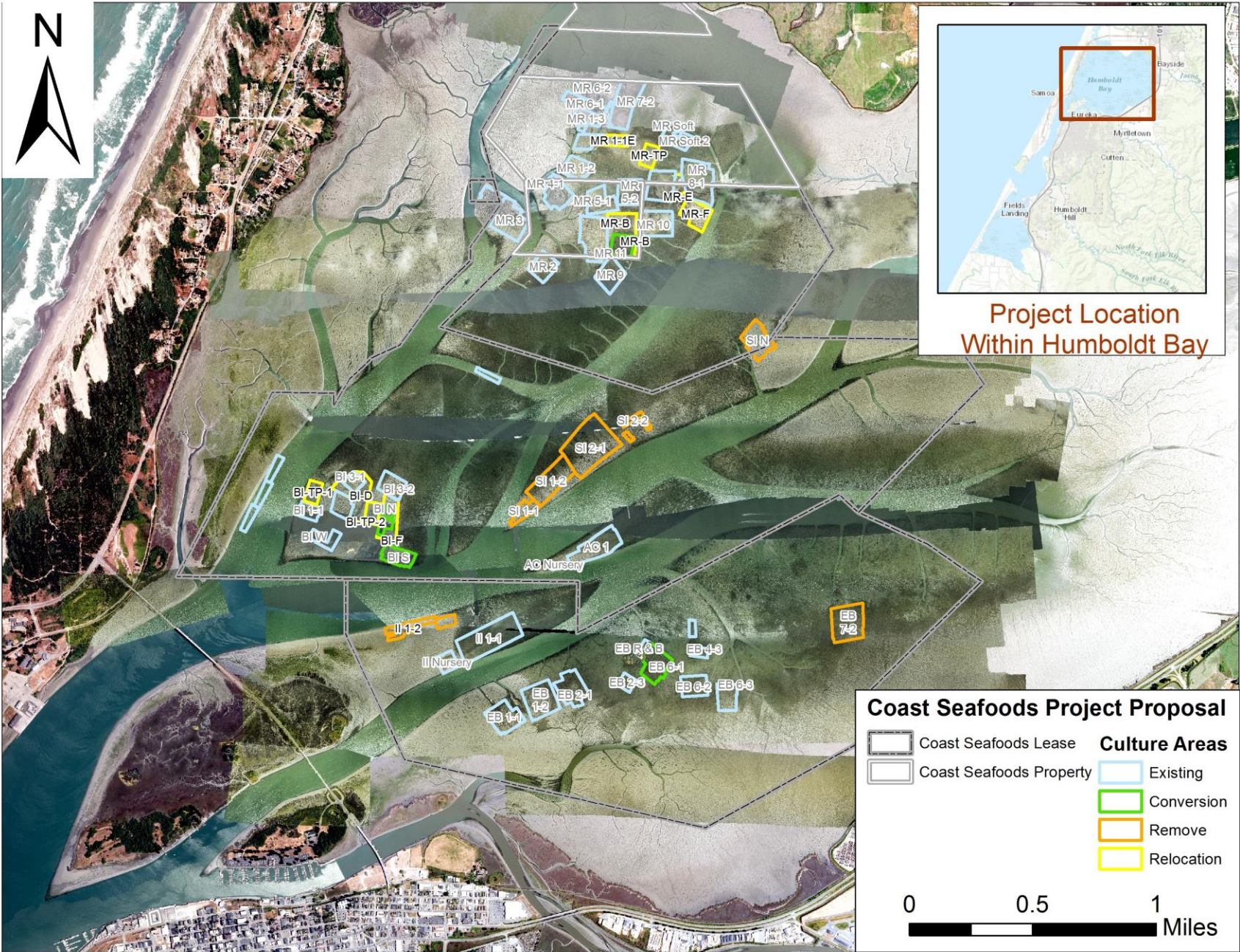


Figure 4 Revised Project Culture and Mitigation Areas



## 2.4 Project Comparison

As stated above, the Revised Project reduces the overall operational footprint as compared to the Approved Project. Table 1 provides a comparison of the intertidal culture acreage between the Approved Project and Revised Project.

**Table 1 Comparison of Intertidal Culture Acreage by Habitat between the Approved Project and Revised Project**

Habitat	Approved Project (acre)	Revised Project (acre)	Difference (acre)
<b>Existing Intertidal Culture Area</b>			
Mudflat	11.7	11.7	No Change
Continuous Eelgrass	25.2	25.2	No Change
Patchy Eelgrass	261.8	261.8	No Change
<b>Total Existing Culture</b>	<b>298.7</b>	<b>298.7</b>	<b>No Change</b>
<b>Proposed Removal</b>			
Removal	-64.7	-63.2	↓ 1.5
<b>Existing Culture to Continue</b>			
Mudflat	11.7	5.3	↓ 6.4
Continuous Eelgrass	25.2	18.1	↓ 7.1
Patchy Eelgrass	197.1	212.2	↑ 15.1
<b>Total Continuing Culture</b>	<b>234.0</b>	<b>235.6</b>	<b>↑ 1.6</b>
<b>New Culture Areas (Expansion or Relocation)</b>			
Mudflat	17.3	2.2	↓ 15.1
Continuous Eelgrass	127.0	8.9	↓ 118.1
Patchy Eelgrass	111.7	31.1	↓ 80.6
<b>Total Expansion</b>	<b>256.0</b>	<b>42.2</b>	<b>↓ 213.8</b>
<b>Total Project</b>	<b>490.0</b>	<b>277.8</b>	<b>↓ 212.2</b>

Other changes between the Approved Project and the Revised Project not identified above include the following:

- The Revised Project no longer proposes 4 acres of rack-and-bag culture near the northern end of Indian Island that was proposed by the Approved Project.
- The Revised Project includes 218.0 acres of cultch-on-longline culture (199.4 acres at existing spacing), compared to 307.2 acres in the Approved Project (218 acres at existing spacing). A reduction of about 29% of the cultch-on-longline culture proposed.
- The Revised Project includes 56.4 acres of basket-on-longline culture (12.1 acres at existing line spacing), compared to 174.0 acres in the Approved Project (12.1 acres at existing spacing). A reduction of about 68% of the basket-on-longline culture proposed.

- The Revised Project results in a reduction in vessel routes used for access of culture areas due to the increased concentration of culture activity into three primary growing areas – East Bay, Mad River, and Bird Island.
- The Revised Project moves the western boundary of Coast culture activities approximately ½ mile to the west due to the removal of culture areas in East Bay and Sand Island.

### **3.0 CONSERVATION AND MITIGATION MEASURES**

Along with the 19 conservation measures provided in the Certified EIR, the Commission (2017) listed 22 special conditions associated with the CDP. The Certified EIR also proposed 13 mitigation measures to ensure that potential impacts under the Approved Project were reduced to a level that was less than significant. A summary of the final list of conservation measures, mitigation measures, and Commission special conditions applicable for each potential impact identified in the Certified EIR is presented in Appendix A.<sup>3</sup> The Revised Project will incorporate all conservation measures and mitigation measures described in the Certified EIR. No additional conservation and mitigation measures are proposed because the Revised Project would generally result in less impacts as compared to the Approved Project.

### **4.0 IMPACT ANALYSIS OF THE REVISED PROJECT**

This section includes potential impacts associated with the Revised Project compared with the analysis and findings within the Certified EIR to determine if such impacts are within the envelope of impacts documented in the Certified EIR, including whether new significant impacts would result from the Revised Project or whether previously identified significant impacts would be substantially more severe. As set forth by the analysis below, the Revised Project would not result in any new significant environmental impacts or a substantial increase in the severity of a significant impact already identified in the Certified EIR.

Overall, the Revised Project proposes a reduction in acreage associated with Coast's farmed footprint rather than an expansion, includes a consolidation of culture in areas that were previously cultured, and proposes overall fewer lines per acre. There are changes in culture methodology for some of the existing areas (i.e., conversion from cultch-on-longline to basket-on-longline methods), and changes in the location where culture is proposed compared to the Certified EIR. These changes are the focus of the impact analysis for the Revised Project.

Table 2 provides a list of the topics covered in the Certified EIR.

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<sup>3</sup> The Commission conditions are provided for informational purposes only. The analysis provided herein does not rely upon the Commission conditions to the extent that they are different than those imposed by the Harbor District in the Certified EIR. While adoption of such conditions is not required to mitigate any identified significant adverse environmental impact, the Addendum notes certain conditions approved by the Commission and accepted by Coast that will further reduce environmental impacts.

**Table 2 Summary of Change in Potential Impacts, Conservation Measures, Mitigation Measures, Special Conditions, and Levels of Significance after Conservation/Mitigation for the Revised Project Description for Topics Discussed in the R-DEIR**

Certified EIR Potential Impact Number	Certified EIR Topic	Level of Significance in Certified EIR	Change of Potential Impact	Additional Analysis
<b>IMPACT CR-1</b>	Placement of equipment	Less than significant after mitigation	Reduced	See Section 4.1
<b>IMPACT CR-2</b>	Impacts to eelgrass as a tribal cultural landscape	Less than significant after mitigation	Reduced	See Section 4.1
<b>IMPACT CR-3</b>	Impacts to other species with cultural significance	Less than significant after mitigation	Reduced	See Section 4.1
<b>IMPACT BIO-1</b>	Impacts associated with overwater structures	Less than significant	No Change	The Revised Project would include the same amount of overwater structures as the Approved Project.
<b>IMPACT BIO-2</b>	Amount of gear to be installed and changes to unstructured habitat from the addition of shellfish aquaculture gear	Less than significant	Reduced	See Section 4.2.1
<b>IMPACT BIO-3</b>	Eelgrass density reduction analysis	Less than significant after mitigation	Reduced	See Section 4.2.2
<b>IMPACT BIO-4</b>	Potential trampling of eelgrass related to access and activities during shellfish aquaculture operations	Less than significant	Reduced	See Section 4.2.3
<b>IMPACT BIO-5</b>	Potential to contribute to habitat fragmentation by placing oyster longline aquaculture within patchy and continuous eelgrass beds and boat use	Less than significant	Reduced	See Section 4.2.4
<b>IMPACT BIO-6</b>	The potential to affect the development of floating eelgrass rafts and wrack within intertidal habitat of North Bay	Less than significant	Reduced	As noted in Section 4.2.2, the Revised Project would result in fewer impacts to eelgrass as compared to the Approved Project. Additionally, the Revised Project increases longline spacing as compared to Coast's existing footprint, which should reduce the potential for floating eelgrass rafts to become entangled on longlines.
<b>IMPACT BIO-7</b>	The potential to change sediment distribution and tidal circulation	Less than significant	Reduced	The Revised Project would reduce the overall number of PVC pipes installed in the sediment as compared to existing conditions and, therefore, would result in less potential for scour. Further, the Revised Project proposes less basket-on-longline culture and significantly less overall culture as compared to the Approved Project, thereby reducing the potential to affect hydrodynamic conditions or sediment deposition patterns. The Revised Project also increases the spacing of approximately 63.2 acres of existing longlines, which is anticipated to improve hydrodynamic conditions.

Certified EIR Potential Impact Number	Certified EIR Topic	Level of Significance in Certified EIR	Change of Potential Impact	Additional Analysis
<b>IMPACT BIO-8</b>	The potential to change water column nutrients and turbidity conditions within intertidal habitat of North Bay	Less than significant	Reduced	Shellfish provide a benefit to the water column in reducing turbidity and removing nutrients from the water column. Because the Revised Project proposes less shellfish cultivation as compared to the Approved Project, beneficial impacts associated with the project would be slightly less.
<b>IMPACT BIO-9</b>	The potential to exceed carrying capacity in Humboldt Bay	Less than significant	Reduced	The Revised Project would result in approximately 212 acres less shellfish cultivation as compared to the Approved Project. Because fewer shellfish would be produced, impacts associated with carrying capacity would be less than projected in the Certified EIR.
<b>IMPACT BIO-10</b>	The potential to change the presence and persistence of contaminants within North Bay	Less than significant	Reduced	The Revised Project is anticipated to require slightly less boat trips to service Coast's cultivation plots as compared to the Approved Project, which would therefore result in a slight reduction in potential accidental discharge of fuel, lubricants, or hydraulic fluid.
<b>IMPACT BIO-11</b>	The potential to change sediment quality underneath shellfish aquaculture gear due to biodeposits from filter-feeding organism	Less than significant	Reduced	The Revised Project would result in less dense cultivation beds and less planted acreage as compared to Coast's existing plots, which would reduce potential impacts associated with biodeposits.
<b>IMPACT BIO-12</b>	The potential to change benthic invertebrate species composition through the addition of nutrients to the sediment or adding structure	Less than significant	Reduced	The Revised Project would result in less dense culture beds and less planted acreage as compared to Coast's existing footprint, which would reduce potential impacts associated with changes to sediment composition. The Revised Project would also result in less structure (PVC pipes) as compared to the Approved Project.
<b>IMPACT BIO-13</b>	The potential to change benthic species composition through trampling during site access for shellfish aquaculture activities (e.g., planting, harvesting, and maintenance)	Less than significant	Reduced	The Revised Project would eliminate rack-and-bag culture, which would have involved the greatest (although still less than significant) potential of trampling. Further, the Revised Project would result in a significant reduction in cultivated acreage as compared to both the Approved Project and Coast's existing footprint, thereby further reducing potential impacts associated with trampling.
<b>IMPACT BIO-14</b>	The potential to introduce non-indigenous species (NIS) to Humboldt Bay from commercial shellfish aquaculture operations	Less than significant	Reduced	Impacts associated with the Revised Project are anticipated to be less than the Approved Project because the Revised Project includes less structure upon which NIS can colonize.
<b>IMPACT BIO-15</b>	The potential to naturalize cultured oysters (that are NIS) into Humboldt Bay	Less than significant	Reduced	The Revised Project reduces the overall amount of proposed oyster cultivation as compared to the Approved Project, thereby reducing the potential for the naturalization of cultured oysters into Humboldt Bay.

Certified EIR Potential Impact Number	Certified EIR Topic	Level of Significance in Certified EIR	Change of Potential Impact	Additional Analysis
<b>IMPACT BIO-16</b>	Potential impacts to Dungeness crab from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.5
<b>IMPACT BIO-17</b>	Potential impacts to Pacific lamprey from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	Impacts associated with the Revised Project are anticipated to be reduced based on the significant reductions in Coast's planted area.
<b>IMPACT BIO-18</b>	Potential impacts to sturgeon from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.6
<b>IMPACT BIO-19</b>	Potential impacts to salmonids from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.7
<b>IMPACT BIO-20</b>	Potential impacts to longfin smelt from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.8
<b>IMPACT BIO-21</b>	Potential impacts to Pacific herring from the expansion of oyster aquaculture in Humboldt Bay	Less than significant after mitigation	Reduced	See Section 4.2.9
<b>IMPACT BIO-22</b>	Potential impacts to groundfish from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	The Revised Project would reduce potential impacts to eelgrass, which is an important habitat for groundfish, as compared to the Approved Project. Further, the Revised Project would have less structured habitat compared to the Approved Project, which could provide a benefit to certain types of groundfish that tend to avoid structure, such as California halibut and bat rays.
<b>IMPACT BIO-23</b>	Potential impacts to marine mammals from the expansion of oyster aquaculture in Humboldt Bay	Less than significant after mitigation	Reduced	While both the Approved Project and Revised Project would remove existing gear near seal haul-out locations on Sand Island and near Arcata Channel, removal would be completed faster with the Revised Project, thereby further reducing potential impacts.
<b>IMPACT BIO-24</b>	Potential impacts to special-status bird species from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	The Revised Project reduces the overall amount of proposed oyster cultivation as compared to the Approved Project, thereby reducing the potential for the impacts to marbled murrelets or western snowy plovers.
<b>IMPACT BIO-25</b>	Potential impacts to black brant foraging from the expansion of oyster aquaculture in Humboldt Bay	Less than significant after mitigation	Reduced	See Section 4.2.10

Certified EIR Potential Impact Number	Certified EIR Topic	Level of Significance in Certified EIR	Change of Potential Impact	Additional Analysis
<b>IMPACT BIO-26</b>	Potential impacts to black brant associated with human disturbance from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.10
<b>IMPACT BIO-27</b>	Potential impacts to black brant associated with loss of grit sites from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	The Certified EIR identified one brant grit site in Arcata Bay, located on Sand Island. Both the Revised Project and Approved Project prioritize removal of Coast's existing culture plot located closest to that grit site to minimize potential impacts.
<b>IMPACT BIO-28</b>	Potential impacts to roosting birds from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	The Revised Project will involve less boat trips as compared to the Approved Project. Further, the Revised Project would include a vessel management plan, in compliance with California Coastal Commission conditions to further reduce potential disturbances or flushing of birds.
<b>IMPACT BIO-29</b>	Potential impacts to nesting birds from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	The Certified EIR identified a nesting colony of Caspian terns and double-crested cormorants located on Sand Island near one of Coast's existing culture areas. Both the Revised Project and Approved Project prioritize removal of Coast's existing culture plot located closest to that nesting site to minimize potential impacts.
<b>IMPACT BIO-30</b>	Potential impacts to birds from artificial lighting	Less than significant	Reduced	The Revised Project reduces the overall amount of proposed oyster cultivation as compared to the Approved Project, thereby reducing the potential for the impacts from artificial lighting used by work boats.
<b>IMPACT BIO-31</b>	Potential impacts to birds from human disturbance	Less than significant	Reduced	Same as IMPACT BIO-28 above.
<b>IMPACT BIO-32</b>	Potential impacts to waterfowl foraging from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.11
<b>IMPACT BIO-33</b>	Potential impacts to shorebird foraging from the expansion of oyster aquaculture in Humboldt Bay	Less than significant	Reduced	See Section 4.2.12
<b>IMPACT AV-1</b>	Effect on scenic vistas and visual character from worker and vessel presence	Less than significant	Reduced	See Section 4.3
<b>IMPACT AV-2</b>	Effect on scenic vistas and visual character from shellfish culture equipment presence	Less than significant	Reduced	See Section 4.3
<b>IMPACT AV-3</b>	Effects of glare and artificial lighting	Less than significant	Reduced	See Section 4.3
<b>IMPACT AQ-1</b>	Contribution to PM <sub>10</sub> levels	Less than significant	Reduced	See Section 4.4
<b>IMPACT GHG-1</b>	Generation of GHGs	Less than significant	No Change	See Section 4.5

Certified EIR Potential Impact Number	Certified EIR Topic	Level of Significance in Certified EIR	Change of Potential Impact	Additional Analysis
<b>IMPACT GHG-2</b>	Conflict with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs	Less than significant	No Change	See Section 4.5
<b>IMPACT WQ-1</b>	Water Quality	Less than significant	No Change	See Section 4.6
<b>IMPACT WQ-2</b>	Sedimentation	Less than significant	Reduced	See Section 4.6
<b>IMPACT HAZ-1</b>	Hazard to people or the environment through the routine transport, use, emission, or release of hazardous materials	Less than significant	Reduced	See Section 4.7
<b>IMPACT HAZ-2</b>	Hazard from the abandonment or loss of marine debris	Less than significant	Reduced	See Section 4.7
<b>IMPACT HAZ-3</b>	Health hazard from bioaccumulation of dioxins in shellfish meat	Less than significant	Reduced	See Section 4.7
<b>IMPACT REC-1</b>	Effects on recreational facilities	Less than significant	No Change	See Section 4.8
<b>IMPACT REC-2</b>	Effects on recreational users of the bay	Less than significant	Reduced	See Section 4.8
<b>IMPACT NOISE-1</b>	Generation of noise levels in excess of established standards	Less than significant	No Change	See Section 4.9
<b>IMPACT TRANS-1</b>	Effects of intertidal culture operations and equipment on watercraft (e.g. boats, kayaks) navigation	Less than significant	Reduced	See Section 4.10

The topics that are not discussed further in this addendum are covered in Table 2 with a summary of potential impacts. These topics result in no changes to the project description presented in the Certified EIR other than either maintaining the same description (i.e., no change in potential impacts) or reducing potential impacts because of the reduction in area used for oyster aquaculture.

#### **4.1 Cultural, Archeological, and Tribal Cultural Resources (IMPACT CR1 to CR-3)**

The Certified EIR concluded that there were no known cultural, archaeological, or tribal cultural resources in the project area, and incorporated mitigation measures to address potential resources found during expansion or operational activities (see Appendix A). The Certified EIR also evaluated impacts to native eelgrass as a tribal cultural landscape and other species, such as Dungeness crab (*Cancer magister*) and black brant, that were identified as important to the Wiyot Tribe. The Certified EIR concluded that these impacts would be less than significant based upon the EIR's analysis of project impacts associated with those species and the adoption of mitigation measures identified in the Certified EIR's biological analysis.

The Revised Project would further reduce potential impacts to cultural, archeological, and tribal cultural resources. Based upon further consultation with the Wiyot Tribe, the Revised Project would eliminate 4 acres of rack-and-bag cultivation proposed to be located on Indian Island as part of the Approved Project, and removes 6.6 acres of existing culture on Indian Island near the village of Tuluwat. This location was identified by the Wiyot Tribe as being important to its cultural practices. Consolidating culture activities into areas that were previously disturbed by historical culture activities would further reduce the potential to impact culturally important resources. Further, as described in greater detail below, the Revised Project would result in reduced impacts to eelgrass, Dungeness crab, black brant, and other species that are important to the Wiyot Tribe's cultural practices. Therefore, the Revised Project would not result in any new significant impacts associated with cultural, archaeological, and tribal cultural resources, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2 Biological Resources (IMPACT BIO-1 through BIO-33)**

The Certified EIR analyzed 33 different impact categories associated with biological resources. It concluded that all but four impacts (BIO-3, BIO-21, BIO-23, and BIO-25) would be less than significant without mitigation. The remaining four impacts were determined to be less than significant upon implementation of mitigation measures and that the Approved Project would result in no significant and unavoidable biological impacts. Several of the biological impacts, where there is little or no change to the Certified EIR analysis, are discussed above in Table 2.

Generally, as described in Table 2, the overall biological impacts associated with the Revised Project are anticipated to be less than those described for the Approved Project, because: (1) the Revised Project would reduce Coast's overall farmed footprint, as opposed to the expansion proposed in the Approved Project; (2) the Revised Project would consolidate proposed



operations in the western half of Arcata Bay and avoid portions of the EBMA identified as important to herring and other species; (3) the Revised Project proposes a reduction of nearly 199 acres of cultivation in areas with eelgrass, including approximately 118 fewer acres of cultivation in continuous eelgrass; and (4) the Revised Project converts approximately 62.8 acres of existing longline culture from 2.5-ft spacing to wider spacing. These changes are anticipated to reduce the biological impacts identified below.

#### 4.2.1 Changes to Unstructured Habitat (IMPACT BIO-2)

The Certified EIR discussed impacts associated with changes to unstructured habitat, primarily due to the addition of PVC support posts and aquaculture gear associated with proposed longlines, rack-and-bag, and basket-on-longline culture methods. The Approved Project would result in an additional 0.03 acres of PVC pipes, after mitigation, to unstructured habitat and would occupy approximately 0.8% of the unstructured habitat available in Arcata Bay. Further, the additional gear would not significantly change the habitat type or species use of Arcata Bay because the amount of gear added represented a small proportion of the culture bed itself. The Certified EIR determined that this proposed change is small as compared to the amount of available unstructured habitat in Arcata Bay, and that the Approved Project may provide a minor benefit through increasing food resources within culture areas. Therefore, this impact was considered less than significant.

While the Approved Project would increase the total amount of PVC pipe and aquaculture gear in specific areas of the bay, the Revised Project would decrease the amount of gear overall compared to existing conditions. As shown in Table 3, the number of lines used will be reduced by 29% in the Revised Project compared to Approved Project through a combination of acreage reduction and conversion to different culture methods or wider spaces. The Revised Project also proposes approximately 15 acres less of culture in unstructured mudflats as compared to the Approved Project (see Table 1). The amount of gear, as measured by lines, will also decrease when compared to the existing conditions. The number of potential lines in existing growing areas is 36,850, of which 650 are basket lines. As shown in Table 3, this total will decrease by approximately 10% (3,700 lines). The decrease is due to approximately 5,300 fewer cultch-on-longlines lines. This reduction is partially offset by an increase of 1,600 basket-on-longline lines.

**Table 3 Culture Area and Number of Lines by Culture Method between the Approved Project and Revised Project**

Culture Method	Approved Project		Revised Project		Difference	
	Culture Area (acre)	Number of Lines	Culture Area (acre)	Number of Lines	Culture Area (acre)	Number of Lines
2.5-ft/5-ft single-hung	218	31,900	199.4	29,200	-18.6	-2700
10-ft double-hung	89.2	7,900	18.7	1,700	-70.5	-6200
3-ft baskets	12.1	650	12.1	650	0	0
9-ft/16-ft baskets	162.8	5,900	44.4	1600	-118.4	-4300
<b>Total Culture</b>	<b>481.2</b>	<b>46,350</b>	<b>274.6</b>	<b>33,150</b>	<b>-206.6</b>	<b>-13,200</b>

Overall, the Revised Project will still result in more unstructured habitat available for use by species in Arcata Bay as compared to existing conditions. Further, consolidation of culture gear near areas already utilized by Coast for aquaculture will result in more areas where shellfish gear is not present in Arcata Bay overall. Most importantly, even though these areas have an increase in shellfish aquaculture gear, that does not mean that species are restricted from these areas, as discussed below. Therefore, the Revised Project would not result in any new significant impacts associated with changes to unstructured habitat, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.2 Eelgrass Density Reduction (IMPACT BIO-3)**

The Certified EIR discussed impacts associated with reductions in eelgrass density, primarily due to stranding, physical abrasion, trampling (discussed more below), and shading. Based on ground observations and aerial photography within shellfish aquaculture beds in Arcata Bay, eelgrass is present within the longline plots but there is a reduction in the density of eelgrass when longlines are present. The Approved Project was calculated to result in a density reduction between 1.6% and 19% within the culture bed. The reduction in eelgrass density, which is thought to reduce potential ecological functions associated with eelgrass beds (NMFS 2014), was mitigated through removal of existing culture gear on Sand Island, Indian Island, and near Arcata Channel (see Appendix A). This would result in complete removal (or fallowing) of existing culture and existing activity, which would eliminate potential sources of eelgrass suppression. Therefore, eelgrass density reduction impacts were considered less than significant after mitigation.

Generally, the Revised Project would result in less impacts to eelgrass as compared to both the Approved Project and existing conditions. As shown in Table 1, the Revised Project would reduce Coast's overall planted footprint by approximately 21 acres as compared to existing conditions and would result in nearly 199 acres less overlap with eelgrass habitat compared to the Approved Project. Furthermore, the Revised Project reduces the overlap between culture and eelgrass habitat (continuous and patchy) compared to the existing footprint by approximately 16.3 acres (from 286.9 acres of overlap to 270.3 acres of overlap). That said, the Revised Project would involve some changes not analyzed in the Certified EIR, including: (1) consolidation of culture activities around Bird Island, Mad River, and the southeastern area of Arcata Bay, and (2) the increase in basket-on-longline culture methods compared to existing conditions.

The consolidation of culture activities is intended to reduce the potential overlap between shellfish aquaculture activities and eelgrass habitat. The areas proposed for consolidation of culture gear in the Revised Project are primarily located in the Bird Island and Mad River areas, adjacent to areas already used for shellfish cultivation. These areas have exhibited less eelgrass growth than other areas, such as the EBMA, which may be due to historical dredge scarring and shell deposition from previous shellfish culture practices that have not been used by Coast since at least 2006. Further, the Revised Project proposes to increase longline spacing for 62.8 acres of

existing 2.5-ft spaced longline culture, to either 10-ft cultch-on-longline spacing or to basket-on-longline culture with 9-ft and 16-ft spaces between lines (including culture bed EB 6-1 that is surrounded by a continuous eelgrass bed). Additional benefits to eelgrass, as compared to both existing conditions and the Approved Project, are expected due to removal of existing culture bed East Bay 7-2 (11.7 acres) that is located within a continuous eelgrass bed in the EBMA. Therefore, there is less potential for interactions between eelgrass habitat and shellfish aquaculture based on the Revised Project even with the consolidation of culture gear.

In terms of the increased use of basket-on-longline culture methods compared to existing operations, there is a potential to increase the area of potential shading (i.e., 0.3 ft to 0.8 ft for different sizes of cultch vs. 0.8 ft for baskets). However, the area proposed for baskets is a conversion from a higher density of cultch-on-longline methods at lines spaced 2.5-ft apart to wider spaced lines at alternating 9-ft and 16-ft lines. This results in an overall decrease in the amount of potential shading in the culture bed from 26% to 7% of the bed. Further, as compared to the Approved Project, the Revised Project proposes 117.6 acres less of basket-on-longline culture.

Finally, Coast has submitted an eelgrass monitoring plan that will quantify the loss of eelgrass density or percent vegetated cover within three relocated culture beds over a 5-year monitoring term (Appendix B). The results of the eelgrass monitoring plan will provide information on whether the assumptions of eelgrass density reduction in the Certified EIR are accurate. This will then provide an accounting of eelgrass impacts associated with the Revised Project. Therefore, the Revised Project would not result in any new significant impacts associated with eelgrass, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.3 Eelgrass Trampling (IMPACT BIO-4)**

In addition to the general discussion of impacts to eelgrass density discussed in Section 4.2.2, the Certified EIR also included an analysis of impacts specifically associated with trampling. The potential for trampling impacts is related to the frequency of activities within a culture plot. The Certified EIR determined that cultch-on-longline requires approximately 1 day per month for each 10-acre area to monitor and repair lines, and 2 days per acre every 18 to 36 months to plant and harvest. Basket-on-longline culture is visited more frequently than cultch-on-longline. This culture method is visited on an almost daily basis, but crews are not in the same parts of the bed each day; instead, they work through a bed such that an individual line is visited on average once every 4 months (average rate of 12 days per acre). In addition, maintenance and harvest activities can be done by boat, including approximately 44% of cultch-on-longline operations and 80% for basket-on-longline operations. The Certified EIR determined that, at the proposed density of longline planting and frequency of activity associated with each plot, in general the disturbances from the Approved Project would be infrequent and would allow eelgrass to recover quickly from any trampling effects. Therefore, eelgrass trampling impacts were considered less than significant.

Trampling impacts from the Revised Project are likely reduced as compared to the Approved Project. As described in Table 1, the amount of existing culture in continuous eelgrass would be reduced by 7.1 acres in the Revised Project, and the amount of proposed new or relocated culture in continuous or patchy eelgrass are reduced by 118.1 and 80.6 acres, respectively. These reductions create a reduced potential for eelgrass trampling. The consolidation of culture beds proposed by the Revised Project focused on areas with low eelgrass densities, which further limits the potential for trampling. While the Revised Project includes more proposed basket-on-longlines as compared to existing conditions, it still would represent a significant reduction in the amount of basket-on-longline plots as compared to the Approved Project. Therefore, the Revised Project would not result in any new significant impacts associated with eelgrass trampling, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.4 Habitat Fragmentation (IMPACT BIO-5)**

The Certified EIR discussed impacts to habitat fragmentation from the addition of oyster longlines into new habitats, especially areas with native eelgrass. The Certified EIR found that placement of longline aquaculture (i.e., basket-on-longlines and cultch-on-longlines) within patchy and continuous eelgrass beds was not expected to contribute to habitat fragmentation or affect epifaunal species richness, total epifauna density or diversity. The three mechanisms that may contribute to habitat fragmentation that were reviewed in the Certified EIR (trampling eelgrass through site access and egress by staff on foot, boat moorage in eelgrass areas, and shading or physical disruption of eelgrass habitat by longline culture gear) were all determined to be minor impacts because of the conservation and mitigation measures used by Coast to reduce or avoid these impacts. Finally, the proposed removal of culture activities on Sand Island, Indian Island, and around Arcata Bay were proposed to allow a larger span of open habitat that could support movement and use by green sturgeon, black brant, Pacific herring, and other important resources. Therefore, habitat fragmentation impacts were considered less than significant.

Potential habitat fragmentation impacts from the Revised Project are likely reduced compared to the Approved Project. As described in Table 1, the total amount of continuous eelgrass habitat overlapping with proposed expanded or relocated aquaculture would be decreased by 118.1 acres (i.e., from 127 acres to 8.9 acres). The amount of patchy eelgrass habitat overlapping with proposed aquaculture would also be decreased by 80.6 acres (i.e., from 111.7 acres to 31.1 acres). These decreases in eelgrass habitat area would decrease the potential for habitat fragmentation. Furthermore, the distribution of proposed culture beds shown in Figure 4 reflects an increased consolidation of culture areas, leaving large portions of Central and Eastern Arcata Bay with no culture activity. The removal of culture bed EB 7-2 creates a large area of continuous eelgrass in the western portion of East Bay where no culture activity will occur. Similar benefits occur on Sand Island where removal existing culture activity, similar to the Approved Project, will open additional undisturbed habitat areas. Therefore, the Revised Project would not result in any new significant impacts associated with habitat fragmentation, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

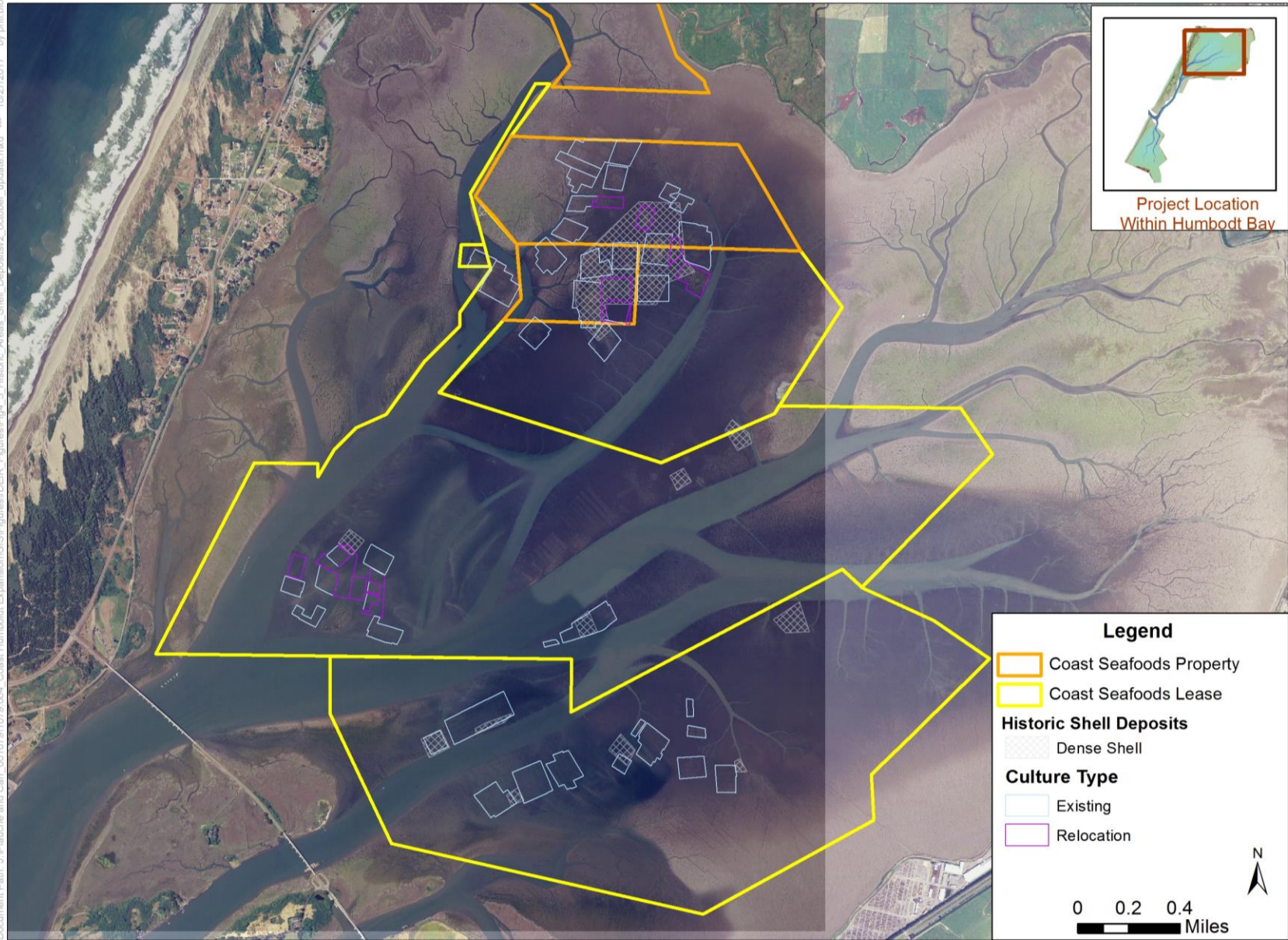
#### **4.2.5 Dungeness Crab (IMPACT BIO-16)**

The Certified EIR discussed impacts to Dungeness crab from the potential loss of habitat and generation of marine debris. Because of the conclusion, through mitigation, that there would be a no net loss of eelgrass habitat from the Approved Project, potential impacts to Dungeness crab habitat were considered minor. Further, the legacy shell deposition that is present throughout the bay in areas of historical aquaculture activity was considered a benefit to juvenile crab survival (Dumbauld et al. 1993, 2000). While there is potential to disturb these areas during access to the longlines, such disturbances are infrequent. Finally, entanglement or interaction with marine debris was not a concern because Coast's aquaculture gear is not designed with the intention of trapping organisms as compared to fishing gear or crab pots. In addition, Coast would adhere to gear maintenance that would reduce and cleanup potential derelict gear (see Appendix A and Section 4.7). Therefore, impacts to Dungeness crab were considered less than significant.

The Revised Project would potentially result in less impacts to Dungeness crab as compared to both the Approved Project and existing conditions due to the smaller operational footprint. Comparatively, recent studies have reported that Dungeness crab are found in higher abundance associated with oyster longlines compared to the surrounding habitat, including areas in Arcata Bay (Hudson 2016, Dumbauld, pers. comm., 2017), which means that the potential benefits from the presence of longlines would not be provided to the same extent in the Revised Project. Either way, culture operations for the Revised Project are located away from preferred habitat for Dungeness crabs, which is the transition area between subtidal and intertidal habitat adjacent to channels. Overall, the Revised Project results in a 1.8% overlap of North Bay intertidal habitats within 75 m of a main channel, which is a reduction from the 5.3% overlap evaluated in the Approved Project.

In terms of consolidation of culture beds primarily in areas with shell deposition or other areas historically disturbed near Mad River and Bird Island, there would be an increased potential to disturb areas that are important juvenile rearing locations for Dungeness crabs. Consolidation results in more culture in these locations (Figure 5). However, the reduced overlap with channel transition areas, the small percentage of access during the year, and the potential to increase Dungeness crab abundance from the presence of longlines all combine to result in a minor change to Dungeness crab from the Revised Project. In fact, the presence of structured habitat in areas that support juvenile nursery habitat may provide a benefit to Dungeness crab overall. Therefore, the Revised Project would not result in any new significant impacts associated with Dungeness crab, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

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**Figure 5** Overlap of Shell Deposition Areas from the Consolidated Culture Beds under the Revised Project

#### **4.2.6 Sturgeon (IMPACT BIO-18)**

The Certified EIR discussed impacts to sturgeon from exclusion of feeding areas, disruption to migration, and potential for entanglement in culture gear. The available evidence suggested that sturgeon will encounter, and may feed, in areas containing oyster longline gear, particularly near Sand Island. To account for potential impacts to sturgeon, the Approved Project proposed to remove 45.4 acres of culture beds on Sand Island. Based upon the lack of evidence that oyster longlines impact sturgeon behavior and the reduction of shellfish operations on Sand Island, the Certified EIR concluded that the Approved Project resulted in impacts to sturgeon that were less than significant.

The Revised Project goes even farther at reducing potential impacts to sturgeon by reducing overall acreage and the total number of longlines compared to both the existing culture and the Approved Project. In addition, the Revised Project would convert 62.8 acres with 2.5-ft spaced cultch-on-longline to provide corridors that are at least 10 ft wide that would improve access to these larger fish. Finally, culture would be consolidated into “areas of Arcata Bay that support a lower diversity and abundance of sensitive habitats and wildlife species” (Commission 2017), including areas that are lower quality for sturgeon foraging because of the presence of shell deposition from historical culture operations. Similar to the Approved Project, the Revised Project would remove all existing culture from areas of Sand Island that have been identified as important to sturgeon foraging activity. Therefore, the Revised Project would not result in any new significant impacts associated with sturgeon, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.7 Salmonids (IMPACT BIO-19)**

The Certified EIR discussed impacts to salmonids from loss of habitat, change in prey resources, and reduction in potential cover habitat (e.g., eelgrass floating mats). Overall, the information reviewed suggested that the ecological functions provided by oyster longlines (e.g., prey resources) show similarities to those of eelgrass, and studies show that juvenile salmonids do not substantially avoid, and are not affected by, the presence of shellfish aquaculture gear. Because of the conclusion, through mitigation, that there would be a no net loss of eelgrass habitat from the Approved Project, potential impacts to salmonid habitat were considered minor. The evidence that salmonids use floating eelgrass mats in Humboldt Bay was minimal, based on a 2% to 9% reported use from tagged coho (*Oncorhynchus kisutch*) salmon smolts (Pinnix et al. 2013), but use of channel margins was more prevalent. As discussed above, the Approved Project incorporated a buffer from channel edges and there was little overlap between the Approved Project’s proposed cultivation areas and near-channel habitat. Most culture activities were proposed at higher elevations. The Approved Project also included removal of culture on Sand Island, Indian Island, and near Arcata Channel near salmonid migration routes as they leave the major freshwater sources for Arcata Bay (e.g., Jacoby Creek, McDaniel Slough, Eureka Slough).

The Revised Project would potentially result in less impacts to salmonids as compared to both the Approved Project and existing conditions due to the smaller operational footprint. The reduction of culture, approximately 212 acres less, would result in a reduction of potential impacts to salmonid habitat. On the other hand, shellfish culture gear can potentially increase the amount of prey available for salmonids (Rumrill and Poulton 2004, Hosack et al. 2006, Ferraro and Cole 2007, 2011, 2012), which would be reduced under the Revised Project. The consolidation of culture in the northern and western half of Arcata Bay is outside of typical migration routes for salmonids based on tagging studies for coho salmon (Pinnix et al. 2013), and considered to be of lower quality for sensitive habitats and wildlife species. Therefore, the Revised Project would not result in any new significant impacts associated with salmonids, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.8 Longfin Smelt (IMPACT BIO-20)**

The Certified EIR discussed impacts to longfin smelt from human disturbance, migration area, and prey resources. Human disturbance would increase in areas with longfin smelt under the Approved Project, but disturbance events were limited to access considerations. When oyster plots are accessed during a low tide event, fish would not be present in the area. When oyster plots are accessed during high tides, fish would be able to easily avoid locations where Coast employees are present. According to data provided by the California Department of Fish and Wildlife (CDFW) to Greg Dale (Dale, pers. comm., 2015), longfin smelt were captured primarily from Freshwater Creek, Eureka Slough, East Bay Channel, and North Bay Main Channel. The proposed culture under the Approved Project both avoided these areas and proposed to remove culture from Sand Island near North Bay Main Channel where longfin smelt were observed. Finally, the potential to impact prey resources was analyzed in the carrying capacity analysis (Harbor District and SHN 2015), which concluded that filtration pressure from cultured shellfish would result in a negligible reduction in the carbon fixed by phytoplankton in Arcata Bay, which is unlikely to significantly affect the prey available to longfin smelt. Therefore, impacts to longfin smelt were considered less than significant.

The Revised Project would potentially result in less impacts to longfin smelt as compared to both the Approved Project and existing conditions due to the smaller operational footprint and consolidating culture into areas not frequented by longfin smelt. Coast has also agreed to additional conditions that further protect longfin smelt, including incorporating fish screens for its wash system associated with its FLUPSY and rafts that have been approved by the National Marine Fisheries Service to be adequately protective of juvenile longfin smelt. Therefore, the Revised Project would not result in any new significant impacts associated with longfin smelt, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.



#### **4.2.9 Pacific Herring (IMPACT BIO-21)**

The Certified EIR discussed impacts to Pacific herring from potential disruption in pre-spawning holding areas from boat traffic, removal of gear or harvest activities during spawning when eggs may be present on the gear or surrounding habitat, and survival of eggs on shellfish aquaculture gear and products. Potential disturbance to herring in channels from the Approved Project was anticipated to be minor, given the small increase of approximately 17 boat trips per week (currently at 57 trips per week) throughout the entire bay and no increase in terms of the standard number of hours of human activity in the bay. In addition, boat traffic in East Bay and Arcata channels, where herring are most likely to seasonally occur, was projected to decrease because of removal of culture areas.

Potential interactions with herring was also avoided by the Approved Project by both avoiding core spawning locations in the EBMA and prohibiting the removal of gear or products when herring eggs are present (see Appendix A). The survival of eggs on gear was difficult to predict, but was potentially increased by gear being exposed during low tides compared to natural conditions. This increase in exposure resulted in a weighted average of 13% for Phase I and up to 18% for Phase II for the year, although a fraction of that would be when herring eggs are present (i.e., December to March). Because of the importance of Pacific herring as a prey resource, and the unknowns associated with egg survival on culture gear and products, Coast committed to close coordination with CDFW during the herring spawning season to monitor their culture beds for eggs (Appendix C). Finally, the overall amount of habitat that shellfish aquaculture operations would overlap under the Approved Project was considered a minor portion (3.7%) of the available core spawning habitat in Arcata Bay. Given the low amount of space used by culture activities, and the understanding that only a fraction of the available 1,500 acres in the EMBA is typically used (~10%) during any one spawning event, this overlap did not represent a significant risk to spawning area for Pacific herring. Therefore, impacts to Pacific herring were considered less than significant.

The Revised Project would result in an overall reduction in potential impacts to Pacific herring compared to either the existing operations or Approved Project. In terms of potential disturbance from boat traffic, there would be a slight reduction of trips as compared to the Approved Project. Further, because the Revised Project would result in less cultivation in East Bay, fewer boat trips would occur in Arcata Channel, which was identified in the Certified EIR as a location for pre-spawning holding activities.

The Revised Project would also minimize or avoid potential impacts to Pacific herring core spawning areas in the EBMA through the removal and relocation of existing culture beds. The Revised Project would remove approximately 63.2 acres of existing culture, including culture bed EB 7-2, of which 42 acres of culture beds would be relocated to less sensitive habitat. Culture bed EB 6-1 (approximately 7.8 acres) that is surrounded by dense eelgrass would be converted from dense 2.5-ft spaced cultch-on-longlines to basket-on-longlines spaced 9 ft and 16 ft apart. An additional 12.8 acres of existing culture beds spaced at 2.5 ft apart will increase to wider spacing. The additional space between longlines will provide more eelgrass habitat that

may improve herring egg survival. The remaining amount of existing culture in core herring spawning areas under the Revised Project represents approximately 5.6% of the core spawning area, which is an increase from 3.7% of overlap for the Approved Project. Both the approved and revised project are a reduction from the existing footprint's 5.9% overlap with core spawning areas. This is because Coast is removing less existing culture in herring core spawning habitat, but there is no indication that the existing culture is impacting herring populations. Neither the Approved nor the Revised Project include any expansion or relocation beds in core herring spawning habitat or the East Bay Management Area.

In terms of the potential to disturb eggs after they have adhered to culture gear, products, or the surrounding habitat, Coast would continue to use the same mitigation measure identified in the Certified EIR (see Appendix A). Finally, the Revised Project would result in a weighted average of 19% exposure of gear during the year (Table 4), which is similar to the amount of exposure for the existing culture and an increase in exposure compared to the Approved Project. This is because culture was intentionally consolidated to higher elevations to avoid eelgrass habitat and in areas that had impacts from historical culture operations. However, as stated above, the Commission (2017) and others have identified these areas as supporting a "lower diversity and abundance of sensitive habitats and wildlife species," including Pacific herring habitat. Overall, the Revised Project would not result in any new significant impacts associated with Pacific herring, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

**Table 4 Amount of Exposure for Culture Gear Based on Tidal Height and Gear Height.**

Project	Culture Method	Culture Height above Bottom (ft)	Average Height of Culture Area (ft MLLW)	Percent of Time Out of Water
Existing Culture	Cultch-on-longline (single-hung)	1.33	0.53	19%
	Basket-on-longline	1.25	0.37	16%
	<b>Weighted Average for Existing Culture</b>	<b>1.33</b>	<b>0.53</b>	<b>19%</b>
Revised Project	Cultch-on-longline (single-hung)	1.33	0.59	20%
	Cultch-on-longline (double-hung; bottom line)	1.00	0.49	15%
	Cultch-on-longline (double-hung; bottom line)	1.67	0.49	22%
	Basket-on-longline	1.25	0.43	17%
	<b>Weighted Average for Revised Project</b>	<b>1.32</b>	<b>0.59</b>	<b>19%</b>

#### **4.2.10 Black Brant (IMPACT BIO-25 and IMPACT BIO-26)**

The Certified EIR discussed impacts to black brant that included loss of foraging opportunity due to reductions in eelgrass density and exclusion of brant from eelgrass beds due to the avoidance of culture gear. With the implementation of eelgrass mitigation and achieving a no net loss standard for eelgrass bed ecological function, the Approved Project was calculated to result in a bay-wide reduction of less than 3% in eelgrass available for brant foraging. In addition, brant were observed to forage on shoots taller than the longlines and other structures

when tide height allowed (Demers 2015). It was also observed that brant do not avoid aquaculture structures, even at the narrow 2.5-ft spacing, except when the structures are exposed during a low tide. As reported above, this was a weighted average between 13% and 18% over the year in the Approved Project expansion areas. While effects may occur from the Approved Project to brant or their foraging habitat, the change was considered unlikely to result in additional energetic constraints such that daily mass gain is reduced or stopover duration is increased. A black brant monitoring plan was proposed as part of the Approved Project to verify the conclusion that shellfish aquaculture gear does not impact black brant or their foraging habitat. Finally, removal of culture on Sand Island would support black brant use of the area for foraging, loafing, or at a preferred gritting site. Therefore, impacts to black brant were considered less than significant.

The Revised Project would result in an overall reduction in potential impacts to black brant compared to either the existing operations or Approved Project. Reducing the overlap with eelgrass habitat, the removal of culture on Sand Island, relocation of culture from areas surrounding the EBMA to areas with less eelgrass, and converting 62.8 acres of existing longlines to wider spacing would all minimize or avoid potential impacts to black brant foraging habitat. In addition, relocating culture activities and consolidating culture beds would reduce vessel transit and potential disturbance of birds in high use areas. The Revised Project will result in slightly less boat trips as compared to the Approved Project. A vessel management plan (Appendix D) would be used to ensure that Coast employees use consistent routes to reduce potential flushing or disturbance of birds.

Bird Island, Mad River, and the southeastern area of Arcata Bay, were identified by several groups (e.g., environmental organizations, state and federal agencies, waterfowl experts, local members of the public) as locations that are likely to support limited brant use; therefore, consolidation in these areas is not expected to result in additional impacts to brant. Similar to the Approved Project, the culture areas would be monitored to verify this assumption (Appendix E). The monitoring plan will implement the use of remote wildlife cameras to document brant foraging and use patterns within and outside of culture beds. Therefore, the Revised Project would not result in any new significant impacts associated with black brant, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.11 Waterfowl (IMPACT BIO-32)**

The Certified EIR identified potential impacts to waterfowl foraging from oyster aquaculture in Humboldt Bay. Potential impacts to waterfowl foraging were associated with potential loss of eelgrass habitat and potential avoidance of shellfish culture sites due to the presence of aquaculture gear. In terms of potential loss of eelgrass habitat, these effects would be controlled through conservation and mitigation measures identified above to result in a no net loss of eelgrass habitat (see Appendix A). In terms of avoidance of culture gear, both brant (Demers 2015) and widgeon (Higerloh et al. 2001) have been observed accessing food resources within, and immediately adjacent to, culture gear when the tide is sufficiently high to allow them to

float over the structures. Both reports indicated that there was no “buffer effect” observed, which indicates that the birds are not avoiding the culture gear within a certain distance. It was anticipated that the greater distance between longlines associated with the expansion areas in the Approved Project may facilitate increased use of these habitats by waterfowl. In addition, removal of culture from Sand Island, Indian Island, and around Arcata Channel was intended to provide more open habitat for waterfowl and other species that use these areas more frequently than other locations in Arcata Bay. Therefore, impacts to waterfowl were considered less than significant.

As described above, the Revised Project would result in reduced impacts to eelgrass. As described in Table 1, the total amount of overlap between proposed new culture areas within eelgrass, as compared to the Approved Project, would be reduced by nearly 199 acres). This reduced overlap between culture gear and eelgrass would result in increased availability of eelgrass habitat for foraging waterfowl. In addition, the Revised Project would convert approximately 62.8 acres of existing longlines to wider spacing. The relocated longlines would be placed in habitat that is considered less suitable for sensitive habitat and wildlife. The Revised Project would also remove existing culture from areas like Sand Island, similar to the Approved Project, where waterfowl forage. These changes would provide increased availability of eelgrass habitat without culture gear present and decrease the total area where culture gear and human activity occur within areas of Arcata Bay that are more frequently used by waterfowl (e.g., East Bay). Therefore, the Revised Project would not result in any new significant impacts associated with waterfowl, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.2.12 Shorebird Foraging (IMPACT BIO-33)**

The Certified EIR identified potential impacts to shorebird foraging from oyster aquaculture in Humboldt Bay. Potential impacts were associated with potential reductions in phytoplankton food availability due to competition between shellfish and shorebirds for food resources, affects to habitat accessibility due to the presence of culture gear for feeding, and disturbance to foraging or loafing shorebirds by staff accessing culture sites. Availability of phytoplankton food resources is assessed in IMPACT BIO-9, which was determined to be a less than significant impact under the Approved Project. Shorebird foraging is primarily at higher elevations than oyster aquaculture where tidal flats are exposed for longer periods of time. The most relevant study in assessing whether shorebirds forage in aquaculture longline plots was conducted by Connolly and Colwell (2005) in North Bay. Connolly and Colwell’s results indicate greater shorebird species diversity on cultch-on-longline oyster plots than on the tidal flats without oyster culture (i.e., control plots), although there was variation in species use of longline and control plots. Incidental observations during the black brant monitoring effort in North Bay (Demers 2015) also suggest that shorebirds readily forage under aquaculture longlines. Finally, removal of culture from Sand Island, Indian Island, and around Arcata Channel was intended to provide more open habitat for shorebird foraging. Therefore, impacts to shorebird foraging were considered less than significant.

The Revised Project would result in either similar or a reduction in potential impacts to shorebird foraging compared to either the existing operations or Approved Project. As shown in Table 4, the Revised Project's area weighted tidal elevation is slightly higher at 0.59 ft MLLW versus 0.53 ft MLLW for the Approved Project. This difference in average elevation is due to reduced acreage at lower elevations and is not a reflection of adding new, higher elevation sites. Therefore, there is no or negligible difference in tidal elevation associated with the Revised Project. Further, the Revised Project would reduce overlap with mudflat habitat by approximately 21 acres as compared to the Approved Project. There is also an approximately 80.6-acre reduction in overlap with patchy eelgrass habitat. Overall, the Revised Project would result in a reduction in overlap of Coast's farmed footprint and potential habitat as compared to existing conditions. These reductions suggest that there will be less potential overlap between culture gear and potential foraging habitat for shorebirds. The Revised Project also concentrates culture areas in three geographic areas of Arcata Bay, which would reduce dispersion of culture areas and create larger areas with no culture gear or staff access. Therefore, the Revised Project would not result in any new significant impacts associated with shorebird foraging, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

### **4.3 Aesthetics and Visual Resources (IMPACT AV-1 to AV-3)**

The Certified EIR identified potential impacts to aesthetics and visual resources, including effects from the presence of additional workers, vessels, and shellfish culture equipment, and the effects of glare and artificial lighting. In terms of activity, the frequency of site visits to any one culture bed for planting, harvesting, and maintenance activities was considered low (i.e., approximately 12 days/acre every 4 months vs. 2 days/acre every 18 to 36 months). The expansion into new areas would increase activities in specific areas, but the number of labor hours over the year would not increase. In addition, the proposed expansion areas were proposed at least 0.5 miles from the nearest transportation corridor/public viewshed, and the appearance of workers, vessels, or culture equipment would all be subordinate to the extensive saltmarshes, mudflats, and water between observers and subjects. Further, the presence of shellfish operations is consistent with what already occurs and is expected in Arcata Bay. The amount of light/glare during nighttime operations would also be negligible compared to the lights from the bridges, houses, and cars traveling on Highway 101. Finally, the Approved Project included a conservation measure to avoid use of reflective materials and relevant biological mitigation measures to further reduce potential impacts (see Appendix A). Therefore, impacts to aesthetics and visual resources were considered less than significant.

The Revised Project reduces the amount of gear and overall cultivated acreage as compared to both existing conditions and Approved Project. The consolidation of activity and gear for the Revised Project around Bird Island, Mad River, and the southeastern area of Arcata Bay would not result in a significant change to aesthetics and visual resources. The closest culture beds to a transportation corridor/public viewshed are approximately 0.6 miles away, which is further than the distance proposed under the Approved Project. In addition, culture gear is only

present during a tide low enough to expose the gear, which is estimated to occur approximately 19% of the year (see Section 4.2.9 above). Although this is a slight increase compared to the Approved Project, it still represents a minor portion of the year when gear is visible, and significantly overestimates the effect because this estimate includes low tides that occur at night. Finally, the amount of light/glare during nighttime operations would not significantly change compared to the existing operations, although certain areas will be visited more frequently in consolidated culture areas. Therefore, the Revised Project would not result in any new significant impacts associated with aesthetics and visual resources, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.4 Air Quality (IMPACT AQ-1)**

The Certified EIR identified one potential impact to air quality associated with the generation of particulate matter from combustion engines. The Approved Project proposed to use two additional small boats (one scow and one skiff), and increased use of the harvest vessels (the Mary Elizabeth and Elusive). In total, the Approved Project would result in 17 additional boat trips throughout the bay per week. There would be a minor net increase in emissions of particulate matter from the increased number and use of vessel engines. In addition, with an increase in potential employees (60-70 personnel), there would also be an increase in particulate matter from additional driving. With the adherence to the suggested mitigation measure for air quality compliance (see Appendix A), the additional contribution of particulate matter was considered negligible. Therefore, impacts to air quality were considered less than significant.

The Revised Project would result in a slight reduction to the proposed vessel activity compared to the Approved Project, although the number of vessels is the same. Eight small vessels (i.e., skiffs and skows) will predominantly be used, which is an increase of 2 vessels compared to existing conditions. Therefore, the Revised Project would not result in any new significant impacts associated with air quality, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.5 Greenhouse Gas Emissions (IMPACT GHG-1 to GHG-2)**

The Certified EIR identified one potential impact to greenhouse gas emissions associated with burning gasoline and other fuels from the use of vessels, small generators, and vehicular traffic. The amount of greenhouse gases produced from the proposed increase in operations and employees under the Approved Project was considered negligible, particularly relative to the amount of food produced and compared other the intensive activities in the region. Therefore, impacts to greenhouse gas emissions were considered less than significant.

The Revised Project would result in the same amount of vessel and small generator use, and a potential decrease in the amount of vehicular traffic. This potential impact remains negligible compared to the surrounding activity in the region. Therefore, the Revised Project would not result in any new significant impacts associated with greenhouse gas emissions, and it would

not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.6 Hydrology and Water Quality (IMPACT WQ-1 to WQ-2)**

The Certified EIR identified potential impacts to hydrology and water quality associated with water quality changes from filter feeding activities by shellfish, and temporary mobilization of sediment during planting, gear removal, or vessel contact with the seabed. Hydrology was also reviewed under IMPACT BIO-7 in relation to potential sediment distribution around the shellfish aquaculture structures. Changes to water quality from filter feeding would be limited. Humboldt Bay is not characterized as a eutrophic system. Similarly, temporary disturbance of the seabed would not contribute significantly to changes in hydrology or water quality compared to natural storm events. The degree of the effects of culture gear on hydrodynamics and sediment transport is dependent on the porosity of the structures and, therefore, the physical dimensions and spacing of the structures (e.g., height and density). In general, the distance from the seabed (typically 12 inches) would not influence sediment transport, and effects are monitored on a regular basis by Coast to determine if sediment is accumulating or scouring around the structures. These changes are corrected by changing the orientation of the culture beds. Studies in Humboldt Bay and other estuaries with off-bottom culture gear lead to a conclusion that there is limited influence on these structures to sediment transport (Rumrill and Poulton 2004, Forrest et al. 2009). Therefore, impacts to hydrology and water quality were considered less than significant.

In general, the potential impacts discussed for hydrology and water quality remain unchanged between the Approved Project and the Revised Project. Potential changes would be due to the increase in basket-on-longline culture and consolidation of culture areas. Basket-on-longline gear are much less porous than cultch-on-longline gear, and are expected to have the greatest potential disruption to hydrodynamics. However, baskets tend to be located near the upper portion of the bottom boundary layer when fully submerged, which is not likely to cause erosion underneath the structures, but rather deposition adjacent to the structures from flow dampening. As indicated above for the Approved Project, corrective measures can be taken to shift the direction of the structures in a manner than results in insignificant changes to seabed topography. Further, the Revised Project proposes an overall reduction in basket-on-longline cultivation as compared to the Approved Project.

In terms of consolidation of culture operations under the Revised Project, culture gear would be more concentrated in the western portion of Arcata Bay. Sediment transport processes on the west side of Arcata Bay (short fetch) are most affected by tidal currents combined with short waves during low water. In general, current speed is lowest at the seabed, speed increases exponentially with distance away from the bed in the first 1 ft to 2 ft above the bed, and the rate at which the speed increases gradually lessens 1 ft to 2 ft above the bed. Because the majority of culture gear is placed 12 inches from the seabed, with a smaller portion at 8 inches, even a higher concentration of gear will not significantly change the hydrodynamics and sediment transport in these areas. Therefore, the Revised Project would not result in any new significant

impacts associated with hydrology and water quality, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.7 Hazards and Hazardous Materials (IMPACT HAZ-1 to HAZ-3)**

The Certified EIR identified potential impacts to hazards and hazardous materials, including potential exposure to fuel and lubricants from boats, generators, and other mechanical equipment, hazards from marine debris, or potential exposure from toxin bioaccumulation in shellfish meat. The Approved Project incorporated conservation and mitigation measures to address these concerns (see Appendix A). In terms of the potential for dioxin to bioaccumulate, dioxin levels in shellfish were well below levels considered by the USFDA and USEPA to be a human health risk. There is no indication that dioxins have increased or changed since 2002 when studies were completed that looked at dioxin levels in shellfish tissue, and have likely decreased since the cessation of dioxin-producing pulp mill activities.

While the Certified EIR identified a potentially significant impact associated with marine debris, the Approved Project incorporated conservation and mitigation measures to address these impacts, including monitoring for loose or escaped gear and regular cleanup events to control any debris in Arcata Bay. Therefore, impacts to hazards and hazardous materials were considered less than significant.

The Revised Project would result in a reduced potential to general hazards or hazardous materials due to a reduction of its operational footprint by approximately 1/3. Further, as noted in Section 4.2.1 above, the Revised Project would result in fewer longlines compared to the Approved Project or the existing footprint. While the Revised Project would increase the total amount of basket-on-longlines as compared to existing conditions, it would result in approximately 117.6 acres less basket-on-longlines cultivation as compared to the Approved Project, which would reduce potential marine debris impacts as compared to the impacts evaluated in the Certified EIR.

In addition to the mitigation measures described in the Certified EIR, Coast agreed to additional measures as part of its CDP permit, identified in Appendix A, to further reduce potential impacts, including: (1) working with the Commission staff to implement enhanced marine debris reduction and recovery efforts, and (2) working with the manufacturer of SEAPA baskets to improve the design of the plastic clasp used to attach baskets to the longlines.

In terms of consolidation of culture around Bird Island, Mad River, and the southeastern area of Arcata Bay, the culture areas will be more frequently monitored due to the increase in visits to the same area, which will improve the efficiency of Coast's monitoring efforts. Overall, the Revised Project would not result in any new significant impacts associated with hazards and hazardous materials, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.



#### **4.8 Recreation (IMPACT REC-1 to REC-2)**

The Certified EIR identified potential impacts to recreation, including effects on recreational facilities and effects on recreational users of the bay. Although the Approved Project would expand infrastructure in tidal areas and increase boat traffic and worker presence associated with expanded culture activities, it would not result in physical impacts to recreational facilities or require additional demand on existing facilities. The size of the existing shellfish aquaculture operation is small compared to the area available for recreation in Arcata Bay (300 acres compared to 8,481 acres in Arcata Bay during mean high water). The addition of the expansion of oyster aquaculture activities would create a potential conflict within areas of East Bay that are valued higher for hunters. For example, subtidal channels and deeper intertidal areas are used for access by scullers, and off-bottom culture gear can present a navigation hazard to these smaller boats. Coast agreed to not conduct operations in an identified Hunting Avoidance Area incorporated into the Certified EIR, and presented here in Appendix F, during certain specified hunting times. To address navigational concerns, Coast proposed conservation measures that avoided locations and times when hunting was a predominant activity in Arcata Bay (see Appendix A). In addition, Coast proposed to map each culture bed and post the map on the Harbor District website to improve navigation by recreational users (Appendix G). Therefore, impacts to recreation were considered less than significant.

The Revised Project would result in a reduced potential conflict with recreational users of Arcata Bay. The reduction in overall acreage of the existing operations and consolidation of operations would improve potential navigation by boat-based recreational users during low tides when the longlines are exposed (weighted average of 19% of the year; see Table 4). Consolidation of culture activities is in areas determined by the Commission (2017) and others to be lower quality habitat for sensitive resources and wildlife. The remaining areas where culture is removed provides open access by recreational users for most of the western portion of East Bay, and in areas determined by hunters to be of higher value. Therefore, the Revised Project would not result in any new significant impacts associated with recreation, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.9 Noise (IMPACT NOISE-1)**

The Certified EIR identified potential impacts to noise related to use of outboard motors, water pumps, bow thrusters, and mechanical harvesters. Although the Approved Project proposed to increase the number of boats used, the total hours of operation were not proposed to increase above existing conditions. In addition, the types of boats and equipment used was not proposed to change, and noise measurements for the existing operations do not exceed applicable standards for noise restrictions. The noise generating activities in the Approved Project, both during longline installation and normal operating conditions, are consistent with the types of noise commonly experienced on Humboldt Bay and are generally not near sensitive receptors. Therefore, impacts to noise were considered less than significant.

The Revised Project would not result in an increase in potential noise generating activities beyond what was analyzed in the Approved Project. The amount of vessel traffic will increase above existing culture conditions, but not above what was previously analyzed in the Certified EIR. Therefore, the Revised Project would not result in any new significant impacts associated with noise, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

#### **4.10 Transportation/Traffic (IMPACT TRANS-1)**

The Certified EIR identified potential impacts to transportation/traffic related to the effects of intertidal culture operations and equipment on watercraft (e.g., vessel, kayaks) navigation. The intertidal areas proposed for expansion of oyster culture under the Approved Project were located outside of the main navigation channels, which are designated water trail routes for recreational vessels. However, culture gear, including PVC pipes used to suspend longlines, and the longlines themselves, may interfere with the movement of shallow draft vessels (e.g., kayaks, canoes, stand-up paddle boards, and skullers) at certain points in the tidal cycle. Shallow boat traffic would be impeded only during tides low enough to exposure culture gear, which ranged from 13% of the year up to 18% of the year, and at the lower range in areas associated with higher use, such as East Bay. The main measures to address this potential impact was to create a cultivation bed mapping and marking plan (Appendix G) and a vessel management plan (Appendix D). Finally, the Approved Project proposed to remove existing culture beds from areas of high recreational use, including Sand Island, Indian Island, and portions along Arcata Channel. Therefore, the impacts to transportation/traffic were considered less than significant.

As described above for impacts to recreation, the Revised Project would result in a reduced potential conflict with watercraft on Arcata Bay. The reduction in overall acreage of the existing operations and consolidation of operations would improve potential navigation by boats. Although the potential amount of time that culture gear is exposed would increase under the Revised Project (weighted average of 19% of the year; see Table 4), the areas where culture would be consolidated is considered of less utilized for recreational purposes. Therefore, the Revised Project would not result in any new significant impacts associated with transportation/traffic, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

### **5.0 CUMULATIVE IMPACTS**

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed where they are significant. As discussed in the Certified EIR, there are other aquaculture companies that farm in Humboldt Bay. The total of other existing shellfish aquaculture activity is approximately 15 acres of intertidal habitat and 56 rafts in subtidal habitat. In addition, there are two proposed projects that are significant in size: (1) a proposal by Mr. Jerry Yeung, and (2) the Pre-Permitting Project by the Harbor District. Note that the Certified EIR combined these two projects, but since January 2017 Mr. Yeung separated the proposal from the Pre-Permitting

Project. The proposed projects have a combined total of approximately 329 acres of intertidal shellfish aquaculture in Arcata Bay. The cumulative amount of shellfish aquaculture activities analyzed in the Certified EIR included 1,202 acres of intertidal culture, 91 rafts, and 3.1 acres of subtidal culture.

The Certified EIR determined that the Approved Project would not result in any cumulative impacts because the location of culture activities provided enough spatial separation. In addition, the frequency of culture activities is distributed throughout the year so that effects would not accumulate in any one area. These effects were compared to locations where cumulative impacts have been observed, which includes locations in France that have culture densities that are magnitudes higher (e.g., Leguerrier et al. 2004, Bouchet and Sauriau 2008) compared to that proposed in Humboldt Bay.

The cumulative impacts associated with the Revised Project would be further reduced from the levels analyzed in the certified EIR. As opposed to the Approved Project, would expand Coast's proposed footprint, the Revised Project would reduce Coast's footprint as compared to its existing operation.

The carrying capacity analysis provided in the Certified EIR analyzed up to 1,516 acres of shellfish aquaculture activity in Arcata Bay (Harbor District and SHN 2015). The carrying capacity analysis concluded that shellfish aquaculture operations accounted for a clearing efficiency of up to 0.46, which is well below the 1.0 value that indicates cultured shellfish are filtering the bay's waters more quickly than they can be flushed and replaced. Further, this value is a conservative estimate, and a shorter amount of replacement time is likely more accurate. In addition, shellfish provide nutrients to the system that can trigger phytoplankton growth. Overall, the cumulative acreage of shellfish aquaculture proposed in Arcata Bay does not appear to be close to a concern for carrying capacity, and the smaller amount of proposed acreage under the Revised Project makes this conclusion even stronger.

In terms of species effects from the proposed 623 acres of shellfish aquaculture in Humboldt Bay, many of the same concerns addressed above would be relevant. The proposals from Mr. Yeung and the Harbor District are in higher elevations compared to the Revised Project, which will avoid some potential for cumulative impacts to the same species (e.g., eelgrass, salmonids, Pacific herring, sturgeon, black brant). Figures 6 and 7 illustrate the relationship between existing and proposed culture activities and mapped observations of green sturgeon and coho salmon, respectively. Further, the amount of acreage and types of activities are significantly lower than that analyzed in the Certified EIR. Therefore, the Revised Project would not result in any new significant impacts associated with cumulative impacts, and it would not substantially increase the severity of any significant impacts previously identified in the Certified EIR.

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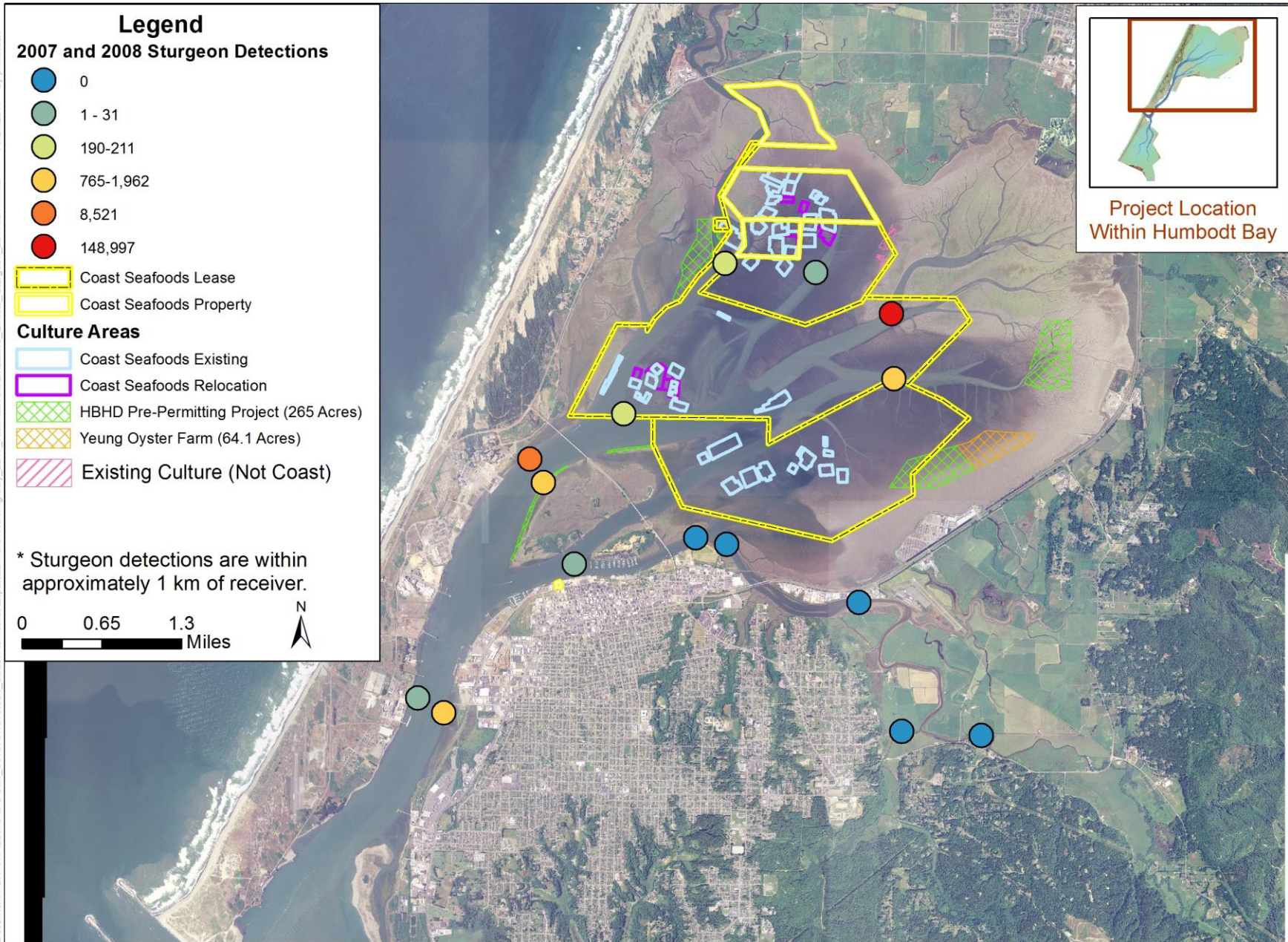
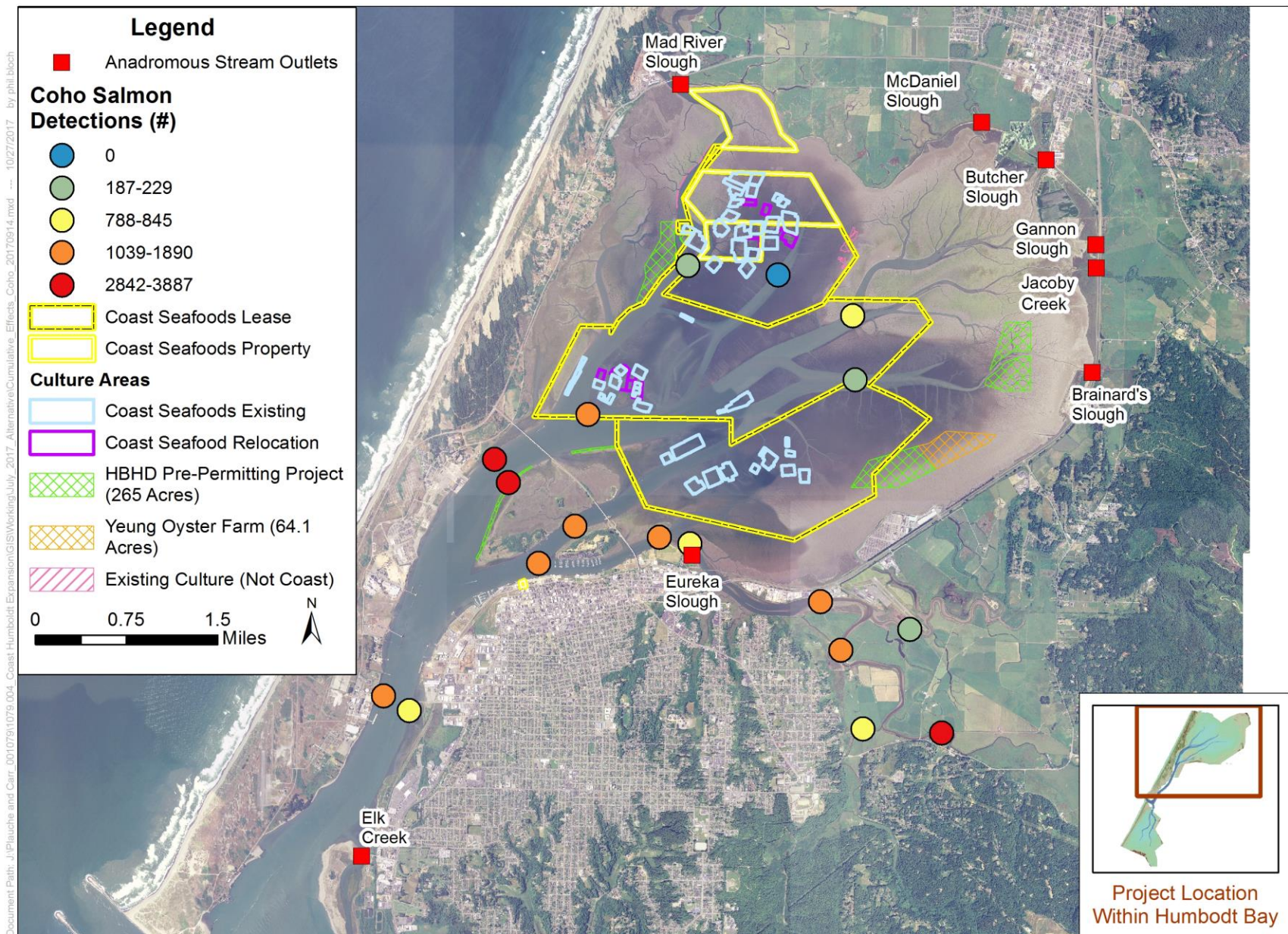


Figure 6 Cumulative Impacts of Existing and Proposed Culture Activity to Green Sturgeon



**Figure 7 Cumulative Impacts of Existing and Proposed Culture Activity to Coho Salmon**

## 6.0 CONCLUSIONS

The Revised Project reduces the overall acreage of the existing culture operations, eliminates the expansion of culture into fallow areas of Arcata Bay used for shellfish aquaculture over the last 60 years, consolidates 2/3 of the culture operations into the western portion of Arcata Bay, prioritizes areas of historical impacts for consolidation of culture operations, and moves culture activities into areas of Arcata Bay that are considered less sensitive for fish and wildlife resources. Overall, while the Certified EIR identified no significant and unavoidable adverse impacts associated with the Approved Project, the Revised Project would result in further reductions to most environmental impacts as compared to those analyzed in the Certified EIR.

## 7.0 REFERENCES

- Bouchet, M.V.P., and P.G. Sauriau. 2008. Influence of oyster culture practices and environmental conditions on the ecological status of intertidal mudflats in the Pertuis Charentais (SW France): a multi-index approach. *Marine Pollution Bulletin* 56, 1898–1912.
- Commission (California Coastal Commission). 2017. Staff Report: Carry out off-bottom oyster aquaculture operations on approximately 279 acres of tidal flats and maintain and use 30 existing floating shellfish cultivation rafts. Application No. 9-17-0646. August 14, 2017.
- Connolly, L.M. and M.A. Colwell. 2005. Comparative use of longline oyster beds and adjacent tidal flats by waterbirds. *Bird Conservation International* 15:237-255.
- Dale, G. 2015. Personal communication regarding Coast Seafoods operations in Humboldt Bay. Coast Seafoods Company. August 2014. GDale@coastseafoods.com
- Demers, S. 2015. Memorandum: Black brant surveys for the Humboldt Bay shellfish culture permit renewal and expansion project. H.T. Harvey & Associates. Prepared for Greg Dale, Coast Seafoods Company. June 23, 2015.
- Dumbauld, B.R., D.A. Armstrong, and T.L. McDonald. 1993. Use of oyster shell to enhance intertidal habitat and mitigate loss of Dungeness crab (*Cancer magister*) caused by dredging. *Canadian Journal of Fisheries and Aquatic Sciences* 50(2):381-390.
- Dumbauld, B.R., E.P. Visser, D.A. Armstrong, L. Cole-Warner, K.L. Feldman, and B.E. Kauffman. 2000. Use of oyster shell to create habitat for juvenile Dungeness crab in Washington coastal estuaries: status and prospects. *Journal of Shellfish Research* 19, 379–386.
- Dumbauld, B. R. 2017. Personal communication regarding treatment of data and exploration of impacts associated with the Coast Seafoods existing culture and expansion project. U.S.

- Department of Agriculture – Agricultural Research Service. August 2017.  
Brett.dumbauld@ars.usda.gov
- Ferraro, S.P. and F.A. Cole. 2007. Benthic macrofauna – habitat associations in Willapa Bay, Washington, USA. *Estuarine, Coastal and Shelf Science* 71:491-507.
- Ferraro, S.P. and F.A. Cole. 2011. Ecological periodic tables for benthic macrofaunal usage of estuarine habitats in the US Pacific Northwest. *Estuarine, Coast and Shelf Science* 94:36-47.
- Ferraro, S.P. and F.A. Cole. 2012. Ecological period tables for benthic macrofaunal usage of estuarine habitats: Insights from a case study in Tillamook Bay, Oregon, USA. *Estuarine, Coast and Shelf Science* 102-103:70-83.
- Forrest, B.M., N.B. Keeley, G.A. Hopkins, S.C. Webb, and D.M. Clement. 2009. Bivalve aquaculture in estuaries: Review and synthesis of oyster cultivation effects. *Aquaculture* 298:1-15.
- Harbor District and SHN (Humboldt Bay Harbor, Recreation and Conservation District and SHN Consulting Engineers and Geologists). 2015. Humboldt Bay mariculture carrying capacity analysis. Prepared for the Coast Seafoods Company, Humboldt Bay Shellfish Aquaculture: Permit Renewal and Expansion Project. October 21, 2015.
- Higerloh, G., J. O'Halloran, T. C. Kelly, and G. M. Burnell. 2001. A preliminary study on the effects of oyster culturing structures on birds in a sheltered Irish estuary. *Hydrobiologia* 465:175–180.
- Hosack, G.R., B.R. Dumbauld, J.L. Ruesink, and D.A. Armstrong. 2006. Habitat associations of estuarine species: comparisons of intertidal mudflat, seagrass (*Zostera marina*), and oyster (*Crassostrea gigas*) habitats. *Estuaries and Coasts* 29:1150-1160.
- Hudson, B. 2016. Seagrass and shellfish: Measuring habitat use in West Coast estuaries. Presented at Pacific Coast Shellfish Growers Association (PCSGA) Conference, Chelan, Washington. October 11-14, 2016.
- Leguerrier, D., N. Niquil, A. Petiau, and A. Bodoy. 2004. Modeling the impact of oyster culture on a mudflat food web in Marennes-Oléron Bay (France). *Marine Ecology Progress Series* 273, 147–162.
- NOAA (National Oceanic and Atmospheric Administration). 2012. 2009 Humboldt Bay, California habitat spatial data. NOAA, Digital Coast, Office for Coastal Management URL: <http://www.csc.noaa.gov/digitalcoast/data/benthiccover> (accessed 15 August 2012).

Pinnix, W.D., P.A. Nelson, G. Stutzer, K.A. Wright. 2013. Residence time and habitat use of coho salmon in Humboldt Bay, California: an acoustic telemetry study. *Environ. Biol. Fish.* 96:315-323.

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

Wagschal, A. 2015. Personal communication regarding shellfish aquaculture in Humboldt Bay, Coast Seafoods operations and maps for the technical report. H.T. Harvey & Associates. August 2015. [awagschal@harveyecology.com](mailto:awagschal@harveyecology.com)



**HUMBOLDT BAY HARBOR, RECREATION  
AND CONSERVATION DISTRICT**

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**RESOLUTION NO. 2017-13**

**A RESOLUTION ADOPTING CEQA ADDENDUM TO THE PREVIOUSLY CERTIFIED  
ENVIRONMENTAL IMPACT REPORT (SCH#2015082051)  
FOR THE  
COAST SEAFOODS COMPANY HUMBOLDT BAY SHELLFISH AQUACULTURE  
PERMIT RENEWAL AND EXPANSION PROJECT**

**WHEREAS**, the Board of Commissioners of the Humboldt Bay Harbor, Recreation, and Conservation District is empowered by Appendix II of the Harbors and Navigation Code, and its own ordinances and resolutions, to grant permits, leases, rights, and privileges; and,

**WHEREAS**, Coast Seafoods Company (Coast) submitted a permit application for a comprehensive management plan for Coast's owned and leased area and shellfish farm expansion in Humboldt Bay. The Project involved: (1) extending regulatory approvals for Coast's existing approximately 300 acres of shellfish culture; (2) increasing shellfish culture within an already permitted floating upwelling system by adding eight culture bins; (3) authorizing culture of Pacific and Kumamoto oysters within Coast's existing clam rafts; (4) relocating approximately 5 acres of existing cultch-on-longline culture; and (5) permitting 622 acres of additional intertidal culture in two phases.

**WHEREAS**, the Environmental Impact Report (EIR) (SCH #2015082051) consisting of the Recirculated Draft EIR and Final EIR was prepared pursuant to the California Environmental Quality Act (CEQA; *Public Resources Code* § 21000 *et seq.*) to analyze the environmental effects of the project; and

**WHEREAS**, on February 28, 2017, the Harbor District certified the EIR, identified the East Bay Management Area ("EBMA") Avoidance Alternative as the environmentally superior alternative under CEQA, and approved the EBMA Avoidance Alternative pursuant to Permit No. 14-03 (the "Approved Project"); and

**WHEREAS**, the Approved Project reduced the overall acreage of Coast's proposed expansion by more than 60% as compared to the initially proposed project, permitted a total phased expansion of 256 acres and required removal of a total of 64.7 acres of existing culture on Sand Island, Indian Island, and Arcata Channel as in-kind mitigation; and

**WHEREAS**, on September 13, 2017, the California Coastal Commission approved the project subject to a number of additional changes and conditions, including reducing Coast's overall farmed footprint by approximately 21 acres as opposed to existing conditions; and requiring relocation of existing longlines and increased longline spacing for a portion of Coast's existing farmed footprint (the "Revised Project"); and

**WHEREAS**, Permit No. 14-03, Condition 2, requires that Coast's operations be subject to conditions of approval imposed by the California Coastal Commission; and

**WHEREAS**, the Board of Commissioners has reviewed the addendum to the EIR prepared for the Revised Project (the "Addendum"), the staff report pertaining to the Addendum, and evidence received by the Harbor District, all of which documents and evidence are hereby incorporated by reference into this Resolution; and

**WHEREAS**, the EIR properly and completely evaluated the impacts associated with the Approved Project; however, an Addendum was required to evaluate environmental impacts associated with the Revised Project, including different cultivation sites, not previously analyzed in the EIR; and

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District as follows:

1. The Board of Commissioners has reviewed and considered the information contained in the Final EIR and Addendum prior to acting on the Revised Project.
2. The Board of Commissioners certifies that the Addendum was presented to the Board, that the Addendum was completed in full compliance with State law and CEQA Guidelines, that it has considered all comments on the Addendum, that the Addendum adequately discusses all significant environmental issues, and that the Addendum reflects the independent judgement of the Harbor District.
3. After considering the Addendum and in conjunction with making these findings, the Board of Commissioners hereby finds that pursuant to Public Resources Code Section 21166 and Section 15162 of the CEQA Guidelines, the Revised Project would not result in any new significant environmental impacts, nor would it substantially increase the severity of significant impacts previously identified in the EIR. All the impacts associated with the Revised Project are within the envelope of impacts addressed in the EIR previously certified by the Harbor District.
4. The Board of Commissioners finds that there are no substantial changes to the circumstances under which the Approved Project analyzed in the EIR would have been undertaken, and no new information of substantial importance which was not known when the EIR was certified has been identified.
5. The Board of Commissioners hereby finds that the minor changes resulting from the Revised Project do not meet the standards for a Subsequent or Supplemental EIR, and approves the Addendum in accordance with the requirements of CEQA.
6. The Revised Project does not require any additional mitigation measures or conservation measures beyond those previously required in the EIR, because the Revised Project would generally result in less impacts as compared to the Approved Project.

**PASSED AND ADOPTED** by the Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District at a duly called meeting held on the 15th day of November 2017, by the following polled vote:

**AYES:**

**NOES:**

**ABSENT:**

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**Richard Marks, President  
Board of Commissioners**

**ATTEST:**

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**Pat Higgins, Secretary  
Board of Commissioners**

**CERTIFICATE OF SECRETARY**

The undersigned, duly qualified and acting Secretary of the HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, does hereby certify that the attached Resolution is a true and correct copy of RESOLUTION NO. 2017-13 entitled,

**A RESOLUTION ADOPTING CEQA ADDENDUM TO THE PREVIOUSLY CERTIFIED ENVIRONMENTAL IMPACT REPORT (SCH#2015082051)  
FOR THE  
COAST SEAFOODS COMPANY HUMBOLDT BAY SHELLFISH AQUACULTURE PERMIT RENEWAL AND EXPANSION PROJECT**

As regularly adopted at a legally convened meeting of the Board of Commissioners of the HUMBOLDTBAY HARBOR, RECREATION AND CONSERVATION DISTRICT, duly held on the 15th day of November 2017; and further, that such Resolution has been fully recorded in the Journal of Proceedings in my office, and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this 15th day of November 2017.

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Pat Higgins, Secretary  
Board of Commissioners

**HUMBOLDT BAY HARBOR, RECREATION  
AND CONSERVATION DISTRICT**

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**RESOLUTION NO. 2017-03**

**A RESOLUTION ESTABLISHING FINDINGS RELATIVE TO THE APPLICATION BY  
COAST SEAFOODS COMPANY FOR HUMBOLDT BAY SHELLFISH AQUACULTURE  
PERMIT RENEWAL AND EXPANSION PROJECT**

**WHEREAS**, the Board of Commissioners of the Humboldt Bay Harbor, Recreation, and Conservation District is empowered by Appendix II of the Harbors and Navigation Code, and its own ordinances and resolutions, to grant permits, leases, rights, and privileges; and,

**WHEREAS**, no permits, rights, leases, and privileges may be granted without first having considered certain potential impacts and without first having made findings relative to said impacts; and,

**WHEREAS**, the Board of Commissioners of the Humboldt Bay Harbor, Recreation, and Conservation District has been presented with certain evidence that the Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project will be conducted in a manner consistent with applicable County, State and Federal rules and regulations; and

**WHEREAS**, Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project will not be detrimental to the air, land, environment, and ecology of the land under the jurisdiction of the Humboldt Bay Harbor, Recreation, and Conservation District.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District as follows:

The Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District has found the following to be true and adopts the following findings with respect to the proposed use contemplated by Coast Seafoods Company in Application 14-03 and supplements and amendments thereto:

1. The use proposed by Coast Seafoods Company is necessary to promote the safety, health, comfort, and convenience of the public;
2. The proposed use, as conditioned, is consistent with the California Environmental Quality Act and there is no substantial evidence the project will have a significant effect on the environment upon incorporation of the mitigation measures further described in the Final Environmental Impact Report prepared for the project;
3. The proposed use is consistent with the Humboldt Bay Management Plan with particular relevance to policies HFA-4, HFA-5, HFA-6, HFA-8, HFA-9, ROP-3, RFA-3, RFA-11, CEP-1, CEP-5, CEP-6 and CEP-11;
4. The proposed use is reasonably required to promote growth, and to meet area demands, and does not adversely effect the environment or ecology of the area to any substantial degree;
5. The proposed use is required by the public convenience and necessity; and
6. The proposed use will not produce an unreasonable burden on the natural resources and aesthetics of the area, on the public health and safety, and air and water quality in the vicinity of

Humboldt Bay, or on the parks, recreation and scenic area, historic sites and buildings, or archeological sites in the area.

**PASSED AND ADOPTED** by the Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District at a duly called meeting held on the 28th day of February 2017, by the following polled vote:

**AYES:** MARKS, HIGGINS, DOSS, KULLMANN

**NOES:**

**ABSENT:** DALE



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**Richard Marks, President  
Board of Commissioners**

**ATTEST:**



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**Pat Higgins, Secretary  
Board of Commissioners**

**CERTIFICATE OF SECRETARY**

The undersigned, duly qualified and acting Secretary Pro Tem of the HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, does hereby certify that the attached Resolution is a true and correct copy of RESOLUTION NO. 2017-03 entitled,

**A RESOLUTION ESTABLISHING FINDINGS RELATIVE TO THE APPLICATION BY  
COAST SEAFOODS COMPANY FOR HUMBOLDT BAY SHELLFISH AQUACULTURE  
PERMIT RENEWAL AND EXPANSION PROJECT**

As regularly adopted at a legally convened meeting of the Board of Commissioners of the HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, duly held on the 28th day of February 2017; and further, that such Resolution has been fully recorded in the Journal of Proceedings in my office, and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of February 2017.



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Pat Higgins, Secretary  
Board of Commissioners

**HUMBOLDT BAY HARBOR, RECREATION  
AND CONSERVATION DISTRICT**

**PERMIT**

**Permit No. 14-03 Modification  
(November 2017)**

**601 Startare Drive  
Woodley Island Marina  
P O Box 1030  
Eureka, CA 95502-1030**

**Permittee:**

**COAST SEAFOODS COMPANY  
25 Waterfront Drive  
Eureka, CA 95501**

The Board of Commissioners of the **Humboldt Bay Harbor, Recreation and Conservation District** hereinafter referred to as "**District**", having approved permit number 14-03, for **Coast Seafoods Company, 25 Waterfront Drive, Eureka, California 95501**, hereinafter referred to as "**Permittee**", and the Humboldt Bay Harbor, Recreation and Conservation District as the lead agency, pursuant to the California Environmental Quality Act of 1970, as amended, having made a determination certifying the Environmental Impact Report (SCH #2015082051) (Resolution No. 2017-02) and the Board of Commissioners of the **District** having on February 28, 2017, passed Resolution No. 2017-03 establishing findings relative to the Application by **Permittee** for the Coast Seafoods Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project, the **Permittee** was authorized to perform the work of improvement, as more particularly described under the East Bay Management Area (EBMA) Avoidance Alternative (Environmentally Superior Alternative) in the Environmental Impact Report referred to above.

A Permit Modification request and Revised Project Description has been filed to be consistent with the California Coastal Commission's approval of a Coastal Development Permit (CDP) associated with Coast's shellfish farm approved by the Coastal Commission on September 13, 2017. The overall size of Coast's existing farm is proposed to be reduced by approximately 21 acres, for an overall farmed footprint of approximately 279 acres, as described in the adopted CEQA Addendum to the Certified EIR (Resolution No. 2017-13).

You are hereby authorized to conduct that activity described in the Permit Application of **Permittee**, as modified, consisting of:

Continued aquaculture operations in Humboldt Bay, California as more particularly described as the Revised Project in the CEQA Addendum referred to above.

That the location of the proposed activity shall be in Humboldt Bay, Humboldt County, California.

**SUBJECT TO THE TERMS AND CONDITIONS LISTED BELOW:**

1. If the plan and scope of the activity materially changes, it will be necessary to submit a new application or request an application and plans revision.
2. That all activities authorized by this Permit shall further be subject to the conditions of approval of the following public agencies:
  - A. United States Army Corps of Engineers San Francisco District
  - B. State of California Coastal Commission
  - C. State of California Regional Water Quality Control Board, North Coast Region
3. That there shall be no unreasonable interference with navigation by the work herein authorized.
4. That no attempt shall be made by the **Permittee** to interfere or forbid the full and free use by the public of all navigable waters at or adjacent to the work.
5. That this Permit, if not previously revoked or specifically extended, shall cease and be null and void and terminate on the 28th day of February 2027. This permit may be extended at the discretion of the **District**.
6. That Permittee shall fully comply with and perform all of the conservation and mitigation measures described in the Project's adopted Mitigation Monitoring and Reporting Program (MMRP), which are made conditions of this permit by reference.
7. That the **District**, its Commissioners, or any officer or employee of the **District** shall in no case be liable for any damages or injury of the work herein authorized which may be caused by or result from future operations undertaken by the **District** for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.
8. That neither the **District**, nor its Board of Commissioners, nor any officer of the **District** shall be liable to any extent for any such injury or damage to any person or property or for the death of any person arising out of or connected with the work authorized by this Permit.
9. That the Board of Commissioners of the **District** may revoke this Permit at any time upon a finding by the **District** of a violation by the **Permittee** of any condition of this Permit.
10. That the **Permittee** shall comply with any regulations, condition, or instructions affecting the work hereby authorized if and when issued by the Federal Water Pollution Control Administration and/or the State of California Water Resources Control Agency having jurisdiction to abate or prevent water pollution. Such regulations, conditions, or instruction in effect or prescribed by Federal or State Agencies are hereby made a condition of this Permit.



11. That neither the **District**, nor its Board of Commissioners, nor any officer of the **District** shall be liable to any extent for the injury or damage to any person or property or for the work authorized by this Permit, and the **Permittee** shall indemnify and hold harmless the **District**, its Commissioners and officers free and harmless from any liability for any such injury, death or damage.
12. That **Permittee** shall furnish to the **District** a written annual progress report and upon completion, a written completion report describing the completion of the project. **Permittee** shall at all times notify the **District** in writing of all locations, including new locations, in Humboldt Bay, that **Permittee** proposes to install the uses permitted herein, prior to said installation.
13. That as a condition to the issuance of this Permit, **Permittee** agrees to indemnify and hold harmless **District** from an against any and all liability, loss, or damage **District** may suffer from claims and demands for attorneys' fees, costs of suit, and costs of administrative records made against **District** by any and all third parties as a result of third party environmental actions against **District** arising out of the subject matter of this Permit, including, but not limited to attorneys' fees, costs of suit, and costs of administrative records pursuant to the California Code of Civil Procedure §1021.5 or any other applicable local, state or federal laws, whether such attorneys' fees, costs of suit, and costs of administrative records are direct or indirect, or incurred in the compromise, attempted compromise, trial appeal or arbitration of claims for attorneys' fees, costs of suit, and costs of administrative records in connection with the subject matter of this Permit.
14. That this Permit was valid as of the 28<sup>th</sup> day of February 2017, and made subject to the **Permittee** approving and agreeing to the conditions above set forth and executing said approval, as modified by this action, as hereinafter provided.
15. Upon execution this Permit, the District shall create a limited ad hoc Advisory Review Committee to review reports associated with Coast's Eelgrass Monitoring Plan (Mitigation Measure BIO-1), Brant Monitoring Plan (Conservation Measure BIO-13), and Herring Monitoring Plan (Mitigation Measure BIO-2). In addition, the Advisory Review Committee shall also review new research on invertebrates and other species performed by Confluence Environmental pursuant to a federal grant, or other government-funded research pertaining to Project-related ecological impacts in Humboldt Bay. The Advisory Review Committee will be advisory to the District's Board of Commissioners. The Committee's duties are limited to review of the monitoring plans and research to evaluate compliance with the monitoring plan requirements described in the Final EIR and determine whether the monitoring plan and research results establish Project impacts greater than those identified in the Final

EIR. In the event that the Committee determines that the results show significant adverse impacts beyond those identified in the Final EIR, it shall provide recommendations regarding additional mitigation measures or Project alterations to reduce such additional significant adverse impacts to less than significant levels. The Advisory Review Committee shall be composed of one representative each from the Wiyot Tribe, Coast, California Coastal Commission, National Marine Fisheries Service, one shellfish company (unaffiliated with Coast or Pacific Seafood), and two interested community stakeholders. Final approval of the Advisory Review Committee membership and designation of a Committee chair shall be approved by the Board of Commissioners based on recommendations from the respective agencies listed above. Such agencies may also designate alternate representatives in the event that a representative cannot attend an Advisory Review Committee meeting. Meetings shall be held on an as-needed basis to carry out the Committee duties and assignments described in this condition. The Advisory Review Committee shall exist and remain in place during the entire term of this Permit.

EXECUTED on this 15<sup>th</sup> day of November 2017, by authority of the Board of Commissioners of the **Humboldt Bay Harbor, Recreation and Conservation District**.

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**Richard Marks, President  
Board of Commissioners  
Humboldt Bay Harbor, Recreation and  
Conservation District**

**Coast Seafoods Company, Permittee**, in the above Permit, hereby accepts and agrees to all of the conditions hereinabove set forth. **Permittee** shall indemnify and hold harmless the **District**, its Board of Commissioners, officers and employees from any and all claims of any nature arising from the performance of and work of improvement contained in the Application for injury, death or damage to any person or property.

**Coast Seafoods Company, Permittee**, in the above Permit, agrees to indemnify and hold harmless **District**, its Board of Commissioners, officers and employees from and against any and all liability, loss or damage **District** may suffer from claims and demands from attorneys' fees; costs of suit and costs of administrative records made against **District** by any and all third parties as a result of third party environmental actions against **District** arising out of the subject matter of this Permit including, but not limited to, attorneys' fees, costs of suit and costs of administrative records pursuant to the California Code of Civil Procedure §1021.5 or any other applicable local, state or federal laws, whether such attorneys fees, costs of suit and costs of administrative records are direct or indirect, or incurred in the compromise, attempted compromise, trial, appeal or arbitration of claims for attorneys' fees, costs of suit and costs of administrative records in connection with the subject matter of this Permit.

Dated: \_\_\_\_\_

\_\_\_\_\_  
COAST SEAFOODS COMPANY