

Initial Study

Project: **Continued Humboldt Bay Oyster Culture**

Applicant: **Coast Seafoods Company
25 Waterfront Drive
Eureka, CA 95501**

Lead Agency: **Humboldt Bay Harbor, Recreation
and Conservation District
P.O. Box 1030
Eureka, CA 95502-1030
707-443.0801**

January 2007

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Purpose of this Document

This initial study (IS) is a public document that assesses the environmental effects of the proposed Coast Seafoods continued mariculture operations in Humboldt Bay (the project), as required by the California Environmental Quality Act (CEQA) and in compliance with the State CEQA Guidelines (14 Cal. Adm. Code 1400 et seq.). It serves as an informational document to be used in the local planning and decision-making process, and does not recommend approval or denial of the project.

The Humboldt Bay Harbor, Recreation, and Conservation District (the District), the state lead agency under CEQA, must evaluate the environmental impacts of the project when considering whether to approve the project. The District has prepared this IS for the project documenting that all impacts resulting from the project that are considered less-than-significant.

Scope of this Document

This document evaluates the project's potential impacts on the following environmental subject areas:

- *aesthetics,*
- *agricultural resources,*
- *air quality,*
- *biological resources,*
- *cultural resources,*
- *geology and soils,*
- *hazards and hazardous materials,*
- *hydrology and water quality,*
- *land use planning,*

- *mineral resources,*
- *noise,*
- *population and housing,*
- *public services,*
- *recreation,*
- *transportation/traffic*
- *utilities and service systems, and*
- *mandatory findings of significance.*

Impact Terminology

The following terminology is used in this document to describe the levels of significance of impacts that would result from the project:

- *The project is considered to have no impact if the analysis concludes that the project would not affect a particular resource topic.*
- *An impact is considered less than significant if the analysis concludes that the project would cause no substantial adverse change to the environment and that impacts would not require mitigation.*
- *An impact is considered less than significant with mitigation incorporated if the analysis concludes that the proposed project would cause no substantial adverse change to the environment with the inclusion of mitigation measures to which the applicant has agreed.*
- *An impact is considered environmentally significant if the analysis concludes that the proposed project would cause substantial adverse change to the environment that could not be reduced to less-than-significant levels by the inclusion of identified mitigation measures.*

Organization of this Document

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- *Chapter 1, "Introduction," identifies the purpose, scope, and terminology of the document.*
- *Chapter 2, "Project Description," identifies the location, background, and planning objectives of the project; describes the project in detail; identifies the permits and approvals required for the project; and identifies public involvement procedures.*

- *Chapter 3, “Environmental Checklist,” presents the checklist responses for each resource topic. This section includes a brief setting description for each resource topic and identifies the project’s impacts on those resources topics.*
- *Chapter 4, “References Cited,” identifies all printed references and personal communications cited in this report.*

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Chapter 2

Project Description

- 1. Project Title:** Coast Seafoods Application for Continued Mariculture Operations in Humboldt Bay, California

- 2. Lead Agency Name and Address:** Humboldt Bay Harbor, Recreation and Conservation District
P.O. Box 1030
Eureka, CA 95502-1030

- 3. Contact Person and Phone Number:** David Hull, Chief Executive Officer
(707) 443-0801

- 4. Project Location:** Owned and leased tidelands in Arcata Bay, CA

- 5. Project Sponsor's Name and Address:** Coast Seafoods Company
25 Waterfront Drive
Eureka, CA 95501

- 6. General Plan Designation:** "Conservation Water" (1975 Humboldt Bay Master Plan); "Bay Conservation" with "Mariculture" combining (2006 Humboldt Bay Management Plan)

- 7. Zoning:** N/A

- 8. Background:** Coast Seafoods Company (Coast) has been culturing shellfish in Humboldt Bay California since the early 1950s. Coast's predecessors in interest cultured shellfish in Humboldt Bay since the early 1900s. Historically, Coast cultured as much as 1000 acres of tidelands for oyster culture. 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, at the urging of various regulatory agencies, Coast began to transition its operations to off-bottom culture, primarily long line culture, largely as a response to requests from regulatory and

trustee agencies to adopt a culturing process that had fewer adverse environmental effects than bottom-culture.

On December 2, 1999, the District adopted a Mitigated Negative Declaration (MND; SCH No. 99062069) for Coast's operations, following a consideration of the potential environmental effects of the proposed activities. The District's consideration of Coast's proposal was a *de novo* review of Coast's activities, following a change in California regulations that newly assigned regulatory responsibilities for mariculture operations to local agencies. The proposed activity in the application considered by the District included oyster culture operations on approximately 500 acres of Humboldt Bay's bottom, including bottom culturing methods (harvesting oysters with hydraulic dredge and a modified dragline-type dredge) and off-bottom culturing methods using long-line devices (primarily PVC pipe-stakes and rope) and rack-and-bag apparatus.

As part of the CEQA review process for the proposal, the district completed an Initial Study (IS) assessing the environmental effects of Coast's proposed action. The IS concluded that there would be "No Impact" or a "Less than Significant Impact" for the following environmental factors: Population and Housing, Geological Problems, Air Quality, Transportation/Circulation, Energy and Mineral Resources, Hazards, Noise, Public Services, Utility and Services Systems, Aesthetics, Cultural Resources, and Recreation.

The IS also concluded that the project could have "Less than Significant with Mitigation Incorporated" impacts on the following environmental factors: Land Use and Planning, Water, Biological Resources, and Mandatory findings of Significance. The MND described several mitigation measures to be implemented to reduce the identified impacts to a less-than-significant level. Several of the potentially significant impacts were identified as such because of uncertainty with respect to the relationships between Coast's mariculture activities and conditions in Humboldt Bay. Therefore, many of the mitigation measures incorporated interim practices that were applied to Coast's operations as conditions of approval, as well as applied research projects aimed at clarifying the interactions of Coast's activities with the environmental factors. Where a clear relationship existed between culturing activities and the potential impacts, mitigation measures specifically addressed practices to be modified to avoid or reduce the potential impacts. The District concluded that the identified mitigation measures reduced all potential impacts from Coast's operations to less-than-significant levels, given the uncertainty about the culturing practices and the bay's ecology.

Coast's operations were approved by the District under permit number 1998-3. The permit incorporated an initial one-year operating approval, with provisions for review by the District at that time and possible additional one-year renewals of the approval while the research called for in the permit was carried out, for a total period of five years. The permit specified that the District would again consider Coast's proposal at the end of the initial five-year period, as well as the results of the applied research and any other relevant information that became available, together with potential operating conditions that might be appropriate.

This 2007 Initial Study carries forward the previous CEQA analysis and evaluates potential impacts associated with Coast's proposed operations, as called for in the MND adopted by the District in 1999. The District, in approving permit 1998-3 and adopting the MND, did not close the CEQA review process for the original application, and the current review process was specifically identified as the anticipated culmination of the environmental review for Coast's mariculture activities. The District explicitly identified in the MND an intention to use this tiered review to identify possible environmental effects and environmental benefits that the District would incorporate as conditions of approval in authorizing longer-term permits for Coast's mariculture operations. It is therefore important to note, in the context of this assessment, that the "environmental baseline" for impact assessments in this continued CEQA document is the baseline that existed when Coast applied to the

District in 1998.

The current application from Coast includes a substantial number of project elements or modifications to the proposed mariculture operations that were not part of the 1997 application before the District, and the effects of these project elements and modifications were not considered in the CEQA process in 1998. Many of the modifications are based, in part, on the results of the applied research called for in the prior MND. Other modifications in the project have arisen out of various regulatory and permitting processes other than the District's. The incorporation of these elements into the project is intended by Coast, and is herein identified by the District, as a proposal to avoid and reduce potential environmental impacts that may result from the proposed mariculture operations, such that environmental effects that might occur will be avoided, reduced, or offset as a result of incorporating these mitigation measures.

Significant changes in the physical scope of Coast's maricultural operations, which were not specifically identified as mitigation measures in the 1999 MND, will include:

- *Coast will reduce the operational footprint of maricultural operations from 500 acres to 300 acres.*
- *Coast will convert all remaining bottom culture to off-bottom culture. Coast has already terminated all bottom culture operations, and will not initiate any new bottom culture in Humboldt Bay. All previously existing bottom culture beds will lie fallow unless such beds are included within the 300-acre operational footprint discussed above to be used for off-bottom culture.*
- *Coast will not engage in any dredging, hydraulic harvesting, "bed cleaning," or any other activities with a hydraulic harvester.*
- *Coast has removed all bat ray fencing on any of its owned or leased tidelands and will not construct any new bat ray fencing.*

In addition, Coast will incorporate the following operational conditions into its Humboldt Bay mariculture operations:

- *Coast will submit to the District by December 1 of each year an annual report describing the status of each bed within the 300-acre operational footprint discussed above.*
- *To the extent feasible, Coast will avoid long-line harvester vessel contact with the bay bottom. To avoid potential impacts to eelgrass from shading, Coast will not anchor the long-line harvester in such a way as to shade the same area of eelgrass for a period exceeding twelve (12) hours.*
- *Coast will instruct its field personnel regarding operating procedures such that take or harassment (as defined by the Marine Mammal Protection Act) of any marine mammal will be avoided.*
- *All oyster culture activities, for the bed identified in Attachment A as "Sand Island NK" will remain at least 100 meters away from the MHHW line of Sand Island, in order to avoid impacts to Caspian tern nesting.*
- *Coast will not discharge feed, pesticides, or chemicals (including antibiotics and hormones) into*

the bay's waters.

- *Coast will not intentionally deposit shells or any other material on the bay bottom. Inadvertent deposition of shells and other biological materials on the bay bottom as a consequence of culturing activities will be minimized to the maximum extent feasible.*
- *During the months of December, January, and February, Coast will visually survey the beds to be worked on each day prior to harvesting and/or planting, to determine whether herring have spawned on eelgrass, culture materials, or substrate. If herring spawning is observed, Coast will (a) postpone for two weeks harvesting and planting activities on those beds where spawning has occurred, and (b) notify the California Department of Fish and Game's Eureka Marine Region office within 24 hours of the observation of herring spawning.*

Coast will undertake the following actions with regard to studies and surveys in Humboldt Bay:

- *As required in the 1999 MND, Coast has submitted to the District large-scale maps of Coast's 300-acre operational footprint discussed above, including identification of the locations of long-line culture, rack and bag culture, seed nurseries and floating oyster seed nursery ("FLUPSY"). The maps are in hard copy and electronic format (a CD-ROM disk containing digital GIS layers). The full boundaries of all culture beds and nurseries located within the 300-acre operational footprint have been mapped with a GPS unit with a differential correction and an expected horizontal positional error of 3m or less. The GIS data will be geo-referenced and differentially corrected in post-processing, and Coast will submit evidence proving the accuracy of these data, including comparisons with GPS benchmarks, a description of survey instrument and methods, and the instrument's nominal accuracy. These maps will be updated each time Coast makes a material change in any of the areas within its 300-acre operational footprint.*
- *As required by the 1999 MND, Coast provided both financial support and in-kind material assistance to the investigators conducting studies supported by the Western Regional Aquaculture Center (WRAC), which have been completed, and results have been presented to the District.*
- *Coast supported the completion of the Humboldt Bay salmonid study conducted by the U.S. Fish and Wildlife Service, and results have been presented to the District.*
- *Coast will provide in-kind support to the National Marine Fisheries Service as it conducts additional studies of the interactions among oyster culture and eelgrass.*

Coast proposes to protect other tidelands in Arcata Bay from impacts that might result from mariculture operations by undertaking the following additional actions with regard to its owned and leased tidelands in Humboldt Bay:

- *Coast will maintain in place its leases with the District, the City of Eureka, and the Karamu Corporation (approximately 3,645 acres). Copies of these leases are available upon request. Coast will exercise its renewal options, and satisfy its payments and other obligations, in each of the aforementioned leases to ensure that all three leases remain in effect until at least the year 2015. Aside from the 300-acre operational footprint established pursuant to the permit, Coast will not conduct oyster harvesting activities on any of its leased lands. This cessation of activity is intended to offset any perceived environmental impacts of Coast's operations on that 300-acre operational footprint.*

- *Coast will transfer title to fifty (50) acres of the tidelands it owns in Humboldt Bay to the District, or to an environmental conservation organization, subject to the consent of State and local regulatory agencies, to ensure said transferred tidelands are permanently protected from any development. Coast shall work with the California Department of Fish and Game and the District to select an appropriate 50 acres for said transfer.*

9. Description of Project: Coast is applying to the District for a permit to practice off-bottom shellfish culture operations in Humboldt Bay. 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 owns 560.9 acres and leases another 3,384.5 acres, for a total of 3,945.4 acres, all in Arcata Bay (North Bay).

Under this application, Coast will continue its off-bottom culture on 255 acres and complete the conversion of 45 acres from bottom culture to off-bottom culture for a total operational footprint of 300 acres of its owned and leased lands. Off-bottom culture includes both long-line and rack and bag culture methods as described below and in Attachment A (Bed Status Table). Attachment B depicts the location of current beds. As part of this proposal Coast will also continue to utilize its “nursery” area, operate its floating upwelling system (FLUPSY), utilize its wet storage floats and clam rafts. Attachment C provides a graphic depiction of long-line culture, rack and bag culture, FLUPSY, wet storage floats, and clam rafts. A breakdown of the 300 acres that will be used at any one time is as follows:

- *238.08 acres of the total are currently and will continue to be planted with long-line culture of Pacific (*Crassostrea gigas*) and Kumamoto (*Crassostrea sikamea*) oysters identified as “Replanted PLL” (see Attachment A). Portions of this area (approximately 56 acres) have been used for bottom culture for 30+ years. The remaining 182 acres were converted from bottom culture starting in 1997 and are currently entirely used for off-bottom culture. The long-lines are spaced at 2.5 feet and would remain at this spacing for future plantings.*
- *45.49 acres of recently harvested and cleaned-off bottom culture beds will be replanted to long-line culture (see below).*
- *11.23 acres of the total are currently and will continue to be utilized for rack and bag culture of primarily Kumamoto oysters identified as “Rack and Bag” on the bed status table. This area has been converted to off-bottom culture since 1997. Prior to that time, the area was used for bottom culture and shell deposition.*
- *4.81 acres of the total are currently and will continue to be utilized as a nursery area identified as “Nursery” on the bed status table. This area has been used as a nursery since the 1950s.*
- *0.04 acre of the total is currently and will continue to be utilized by a floating upwelling system (FLUPSY) identified as “FLUPSY” on the bed status table.*
- *0.04 acre of the total is currently and will continue to be utilized for wet storage floats identified as “Wet Storage Floats” on the bed status table. This area has been in its current use since the 1950s.*
- *0.31 acre of the total is currently and will continue to be utilized for clam rafts identified as “Clam Rafts” on the bed status table. The clam rafts located in this area were installed under a*

Letter of Permission from the Corps in August of 1997 (File 22036N) and a Coastal Development Permit from the California coastal Commission in June of 1997 (#1-96-69) and amended April of 2002 (#E-02-005-A1).

In December 2006 Coast met with the District’s Mariculture Monitoring Committee (MMC) to discuss the locations of beds for the remaining 45.49 acres of long-line plantings within the total 300-acre operational footprint. The MMC concurred with the replanting of the beds identified in Table 1. These beds are included in the total area identified in Attachments A and B.

Table 1. Remaining Long-line Plantings

Bed Name	Planting Priority	Bed Status	Acres to Plant
MR 2	1	Cleaned off; ready for replant. Proposed PLL.	6.78
EB 7-2	2	Cleaned off; ready for replant. Proposed PLL.	11.5
MR 11	3	Cleaned off; ready for replant. Proposed PLL.	4.42
MR 9	4	Cleaned off; ready for replant. Proposed PLL.	7.02
MR 10	5	Cleaned off; ready for replant. Proposed PLL.	7.88
MR 5-2	6	Cleaned off; ready for replant. Proposed PLL.	3.7
MR 8-2	7	Cleaned off; ready for replant. Proposed PLL.	3.7
		Total	~45.5

In addition, Coast proposes to comply with the operational conditions identified earlier in this document.

Overview of Operations

The process of oyster growing starts at Coast’s Quilcene, Washington oyster hatchery. Oysters first go through the spawning process. Upon fertilization the oyster larvae are mobile for two to three weeks and then settle to the bottom, attaching to a clean surface, with the preferred surface being oyster shells from shucked oysters (oyster shells are opened by hand in a processing plant). The shell is called “cultch”. Coast bags cultch with the attached larvae for seed setting purposes. Once the larvae (<0.5 mm in size) settle on the cultch they cement themselves and remain stationary for the balance of their life cycle. At this stage, they are called “spat”. Cultch with spat attached is called oyster seed. Seed is trucked from Quilcene, Washington to Coast’s Eureka facility. Each year a representative sample of each type of seed is examined by a USDA/APHIS certified veterinarian and the results of this examination are sent to CDFG with an application for import of seed. Once appropriate results are verified, CDFG issues a certification for the import of oyster seed.

Upon arrival of the seed at the Eureka facility, the seed is transported by boat to nursery areas located in Humboldt Bay on mudflats north of Indian Island and along Arcata Channel. At these nursery areas the seed is allowed to grow to a less fragile size and age. This process, called beach hardening, is needed to allow the seed to gain size and strength prior to planting. The seed is allowed to beach harden for 3 to 8 months depending on time of year, growth and condition of the seed.

Proposed Operations

Coast currently employs two types of off-bottom culture: long-lines (Attachment C, Drawing 1) and rack and bag method (Attachment C, Drawing 2). For long-line culture, seed is delivered from the hatchery in Quilcene, Washington to Coast's operations in Humboldt and is placed in the intertidal nursery (Attachment D Photo 1) prior to being attached to lines and planted on the long-line beds. For rack and bag culture, single seed (i.e., seed not on cultch) arrives from the hatchery and is placed in the FLUPSY prior to being moved to the rack and bag areas. Each of these activities are described in detail below. Additionally, Coast operates wet storage floats and clam rafts which are also described below. Further information about historic bottom culture practices are described in the environmental setting section of this application. Coast does not propose any bottom culture activities under this application.

Nursery Activities

Long-line culture utilizes cultch set with spat attached, collectively referred to as seed. Coast transports the seed by truck from Quilcene, Washington, and places the bags of seed in the intertidal nursery on Indian Island. Coast stacks the seed on pallets in order to prevent the bottom of the stack from becoming silted in, which suffocates the seed (Attachment D Photo 2). After a period of time, which varies due to seasonal conditions (usually 2-3 months) the seed is removed from the nursery in small batches daily and is brought to the processing plant. At the plant, individual pieces of cultch are braided into the long-line rope and rebagged. Once the cultch has been braided into the rope and bagged it is put into the bay and placed on either a bed or on the applicant's Arcata Channel nursery to await planting.

Long-Line Oyster Culture

Planting is accomplished by placing the seeded long-line on notched PVC stakes that are arranged in rows on the mudflats. The long-lines are strung through notches on top of the PVC stakes, suspending the oyster seed approximately 1 foot above the bay bottom (Attachment D Photo 3).

Long-line spacing varies from bed to bed but most beds have five long lines spaced 2.5 feet apart, with a ten-foot space between each group of five lines (Attachment D, Photo 4). Some beds have long lines spaced 2.5 feet apart over the entire bed. The proposed project includes the use of long lines at 2.5 foot spacing on all beds with the exception of the multiple spaced beds planted at the request of the MMC or as part of the WRAC study.

A crew of 6 typically plants the long-lines when the tide is low enough to allow the crew to walk on the bed to be planted. On days of sufficiently low tides the planting crew will gather enough bags from the nursery, during the preceding high tide using a skiff and a hook, to plant during the subsequent low tide. An alternate method of getting the long-line bags is to pull the skiff into the nursery by hand when the tide is coming in but the water is only a foot or two deep and manually throw the bags into the skiff. The crew will then take the bags to the bed being planted and place them along the edge of a row of empty long-line pipe. At low tide, the crew will go back out to the bed and cut the long-line out of the bag and pull the line out along side the empty pipe. As they walk back to the next bag they will clip the long-line on the notch of each pipe. They continue this until all bags are planted or the tide forces them off the bed. Due to the infrequency of adequately low tides, the planting crew works every low tide that they can.

There is a monthly inspection of each planted bed. Apart from the inspection, virtually no activity takes place on the bed until harvest. A bed inspection involves one or two people walking on the

bed at low tide to make sure that the lines are in the notches.

Long-line beds are harvested when oysters reach a harvestable size (18 to 36 months) and market conditions are right. Market conditions vary with seasons and other factors controlling consumer demand. Coast currently uses two different methods to harvest long-lines. The first, hand picking, involves placing round 20-bushel tubs on the bed at high tide using an oyster scow. The tubs are then filled at low tide by hand. The picking crew cuts the long-line into manageable single clusters and places them in the picking tub. A floating ball is attached to each tub, and at high tide an oyster scow is used to pull the tub out of the water. The oysters are dumped on the deck of the scow, and the tub is placed back on the bed to be refilled. The oysters are brought to the plant to be either broken into singles to be sold live in shell (Attachment D, Photo 4), or loaded onto a truck for shipment to the applicant's shucking plant in South Bend, Washington.

The second method of harvest, the long-line harvester, involves positioning a scow over the long-line bed at high tide. Individual lines are then pulled onto the floating scow either by hand or by means of a hydraulically operated roller. If the lines are pulled by hand then the lines need to be cut into individual clusters, usually at the plant. If the lines are pulled mechanically they run through a breaker that strips the clusters from the line. Wherever feasible, the long-line harvester does not come in contact with the bay bottom while harvesting long-lines.

Rack and Bag Oyster Culture

Rack and bag culture uses single seed and involves a polyethylene mesh bag that is attached via industrial rubber bands to a rebar rack (Attachment C, Drawing 2). The racks are located in East Bay west of EB 6-1 and in Mad River south of MR 5-1 (Attachment B). Rack and bag oysters are grown for the shellstock market and are more evenly proportioned and attractive to discriminating customers. This is because they are single oysters their entire life which allows them to form deeper cups, and they do not have scars from being broken from a cluster. Rack and bag oysters are generally much smaller than a long-line oysters due to the market demand and the limited space provided in rack and bag culture methods. Coast also uses rack and bag culture to allow oysters damaged in the production process to repair themselves and allow oysters too small for market to increase in size.

For rack and bag culture, single seed is shipped via overnight delivery from Coast's Quilcene, Washington hatchery and placed in Coast's floating upwelling system (FLUPSY; see FLUPSY description below) until it reaches a size large enough (approximately 6mm long) to be placed in bags. The mesh bags have openings of approximately 6mm to allow enough water flow for the seed to survive. As the seed grows in the bag it needs to be graded and thinned. Coast does this with a mechanical grader on the FLUPSY. The seed bags are collected from the racks at low tide and placed in a skiff. The bags are taken to the FLUPSY, opened and dumped in a tub. The seed is run through the grader and is separated by size. The seed is then rebagged in size-appropriate bags and placed back on the racks at low tide. This process occurs 3-4 times per year for a given crop (including the initial stocking of the bag).

It takes one to two years for the seed to grow into oysters of market size in rack and bag culture, at which time the bags of oysters are harvested by hand (lifted from the racks into a skiff) and brought to the processing plant to be graded and packaged for market. All areas used for rack and bag culture were previously used from bottom culture and include the areas where shell deposition historically occurred.

FLUPSY (Floating Upwelling System)

The FLUPSY is located on the west side of the entrance channel south of the Simpson wood chip loading dock in Fairhaven, 200 yards from the shoreline in 20 feet of water (Attachment B). The FLUPSY is tied to the dock at the Eureka Boat yard.

The FLUPSY is constructed of aluminum with poly-encapsulated floats for floatation and has a submerged trough containing a paddle wheel (Attachment C, Drawing 3). This trough is surrounded by 16 open wells containing upwelling bins. The paddle wheel turns and moves the water out of the trough; in order for the trough to fill, the water must pass through the upwelling bins containing oyster seed. The bins are removable for maintenance of the seed.

The seed is about 1.4 mm long when it arrives from the Quilcene hatchery and is nursed to roughly 6 mm before being placed in bags. Activities on the FLUPSY include maintaining the seed by rinsing off bins with water, and grading seed based on size.

Wet Storage Floats

The wet storage floats are located in the “cut across” channel between Bird Island and Mad River (Attachment B). The floats are anchored in approximately 20 feet of water in a series of four 20-foot by 20-foot square wooden frames (Attachment C Drawing 4). Bags of mature oysters recently harvested and ready for distribution to wholesalers are temporarily placed in the floats to maintain the oysters’ fresh condition. Bags of oysters are placed and removed by hand and transported using a skiff.

Clam Rafts

The clam rafts are located along the west side of the entrance to Mad River Slough Channel opposite Bird Island, approximately ½ mile north of the Samoa/Hwy 255 bridges (Attachment B). The rafts are attached to concrete anchors in approximately 20 feet of water and are accessed by skiff. There are 10 floating rafts, each 12 feet wide by 20 feet long (Attachment C, Drawing 5). The rafts are constructed from aluminum and use polyethylene encapsulated Styrofoam for floatation. Each raft has 24 tray wells, which contain seed nursery trays in stacks of about 20 suspended in each well. The rafts only contain seed, which is shipped elsewhere (mostly to Willapa Bay, Washington) for grow-out and harvest. The activities at the clam rafts include placing and removing stacks of trays daily, cleaning and routine maintenance. Twice each year anchors and ground tackle are examined and repaired as necessary by divers using scuba, skiffs and an oyster barge.

The sections above provide a general description of oyster culture activities. Minor variations in operations occur during any given portion of aquaculture operations. The analysis in the subsequent sections of this checklist have accounted for this variability.

- 10. Surrounding Land Uses and Setting:** Coast’s mariculture operations are located on owned and leased intertidal lands of Arcata Bay. Arcata Bay is the northern segment of the larger Humboldt Bay estuary in Northern California. The areas surrounding Coast’s operations are dominated by tidal flats, tidal channels and open water. A more detailed description of the surrounding land uses and setting can be found in the Environmental Baseline section of the attached Biological Assessment (Attachment E; pages 26-41). This referenced section is also appropriate for consideration as the Environmental Setting from which to evaluate potential impacts from the

project. Oyster culture has been an ongoing use of the Bay since the early 1900s with Coast's ownership of its mariculture operations beginning in the 1950s. There are several other growers who culture shellfish in the bay as well.

11. Other Public Agencies whose Approval Is Required:

Agency – United States Army Corps of Engineers:

Type - Individual Permit Approval – (Section 404 Clean Water Act, Section 10 Rivers and Harbors Act)

Identification Number – Public Notice Number 26912N

Date Applied – 24 September 2004

Date Approved – 23 January 2006

Agency – North Coast Regional Water Quality Control Board:

Type Approval – Water Quality Certification (Section 401 Clean Water Act)

Identification Number – WIDID No. 1B01140WNDN

Date Applied – 12 December 2001

Date Approved – 25 April 2002

Agency – California Coastal Commission:

Type Approval – Coastal Development Permit and Coastal Zone Management Consistency Determination.

Identification Number – E-06-003

Date Applied – 31 January 2006

Date Approved – 11 May 2006

Chapter 3

Environmental Checklist and Discussions

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

Determination:

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is “potentially significant” or “potentially significant unless mitigated” but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature

Date

Printed Name

For

Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - (a) Earlier Analysis Used. Identify and state where earlier analyses are available for review.
 - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
 - (a) the significance criteria or threshold, if any, used to evaluate each question; and
 - (b) the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Reponses:

Item I.a: Scenic Resources Impacts. Coast's proposed operations are, and will continue to be, visible from the margin of Arcata Bay. Coast's change from bottom culture to off-bottom culture entails placing longline and rack and bag structures onto the intertidal area. In the case of long-lines, these structures consist of 8-inch to 12-inch PVC pipe sections placed into the substrate from which the oyster lines are suspended. The rack and bag structures are wooden racks approximately 3 feet by 12 feet; raised 14 inches above the substrate.

Both long-lines and rack and bag structures have been used historically in Humboldt Bay in various locations. In areas where Coast is transitioning from bottom culture to long-line or rack and bag, Coast has removed bat ray exclusion fences that had a similar aesthetic impact. Therefore the current proposal does not represent a substantial change in visual effect with respect to structures within the bay, and the potential effects on scenic vistas (item I.a) are identified as less-than-significant.

Item I.c: Visual Character. Activities associated with the proposed project will remain visible from both Highway 101 and Highway 255. The distance between the activities and observers in relation to the scale of Arcata Bay will be such that the mariculture activities will appear to be a minor use of the Bay. The reduction of the operational footprint from its maximum of 1,000 acres, more recently to 500 acres and now, under this proposal to 300 acres, would represent a further minimization of any perceived impact on aesthetics. The District concludes that the proposed project's effects on the bay's visual character (item I.c) will be less-than-significant.

Item I.d: Light or Glare. The proposed project is expected to have less effect as a consequence of light or glare than previous bottom culture operations, which sometimes included the use of bright night-time lighting by the dredge. The current proposal does include occasional late evening or early morning activities, but these activities don't include the use of bright "flood-lighting," and the proposed project's potential effects on light and glare (item I.d) are considered to be less-than-significant.

The 1999 MND concluded that aesthetic effects that would result from proposed mariculture operations would not cross a threshold of environmental significance. The District affirms that conclusion in this

assessment. While the mariculture operations will be visible to residents and visitors to the Humboldt Bay region, the aesthetic concerns are judged not to cross a threshold of environmental significance. Moreover, the current proposal would use less area on the bay bottom (300 acres instead of the originally proposed 500 acres), and the potential visual effects from the current proposal will be less than those considered in the 1999 MND.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
II. AGRICULTURAL RESOURCES. In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that the proposed project would have no effects on agricultural resources. The District affirms that conclusion.

It should be noted that mariculture is defined as “agriculture” pursuant to § 30100.2 of the Coastal Act (Public Resources Code, Division 20): “Aquaculture means a form of agriculture as defined in Section 17 of the Fish and Game Code. Aquaculture products are agricultural products, and aquaculture facilities and land uses shall be treated as agricultural facilities and land uses in all planning a permit-issuing decisions governed by this division.”

In addition, Coastal Act § 30411(d) directs that “(a)ny agency of the state owning or managing land in the coastal zone for public purposes shall be an active participant in the selection of suitable sites for aquaculture facilities and shall make the land available for use in aquaculture when feasible and consistent with other policies of this division and other provision of law.”

While the District is not authorized to use the Coastal Act’s definitions for local decision-making, the compatibility of mariculture with the Coastal Act is a useful test of potential compatibility of the activity with coastal planning procedures under state law.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
III. AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

Items III.b and III.c: Compliance with Air Quality Standards and Cumulative Planning Concerns. The 1999 MND concluded that the proposed project would have a less-than-significant effect on air quality. Since the preliminary environmental review for the proposed project was completed, the “attainment” status of the North Coast Air Basin has not changed, but the degree of regulatory oversight provided by the North Coast Unified Air Quality Management District (AQMD) has been increased, particularly with respect to particulate matter smaller than 10 micrometers (PM₁₀), for which the air basin is in “nonattainment” status under California regulations. The North Coast Air Basin is currently in attainment of all state and Federal ambient air quality standards, with the exception of the state standard for PM₁₀.

Vessels associated with Coast’s mariculture operations have combustion engines which generate particulate matter; however, combustion engines used by Coast are stated by the applicant to comply with all applicable emissions regulations. Coast has upgraded, and continues to upgrade, most of its vessel engines (primarily outboard motors) to modern four-stroke engines, reducing emissions. Given that Coast uses a limited number of vessels and is not proposing to increase the number of vessels, emissions of particulate matter because of the applicant’s operations are not expected to increase substantially, and may decrease, during the term of any operations carried out pursuant to a District approval.

The emissions that result from the applicant’s proposed activities could constitute a portion of an ongoing “nonattainment” of required state standards, which would be, in CEQA terms, a portion of a significant

cumulative environmental effect (items III.b and III.c). The District lacks direct jurisdiction over air quality, and thus lacks direct authority to require mitigation for potential air quality impacts. The North Coast Unified Air Quality Management District does regulate vessel engine emissions pursuant to several air quality plans. The District is entitled to rely on the air quality management efforts of the planning efforts of the AQMD with respect to mitigating environmental effects of the applicant's proposed activities.

Potential Effect III-1: Contribution to Air Quality Nonattainment Status

Engines on vessels used in the applicant's mariculture operations in Humboldt Bay will release particulates. Because the North Coast Air Basin is "nonattainment" pursuant to state regulations, the release of these particulates would contribute to an environmental impact that is cumulatively significant by definition.

CEQA addresses circumstances such as this through reliance by lead agencies on the regulatory oversight of relevant agencies carrying out statewide policy. CEQA Guidelines § 15064 (h) establishes a procedure that allows lead agencies, including the District, to rely on environmental standards promulgated by other regulatory agencies, such as the AQMD, with respect to pollutant regulation. The AQMD has adopted several air quality management plan elements, specifically including a "PM₁₀ Plan." The District finds that Coast Seafoods would not contribute to a cumulatively significant air quality impact to the extent that Coast Seafoods complied with the PM₁₀ Plan adopted by the AQMD and all attendant regulations established thereto. This conclusion is incorporated into the following mitigation measure:

Mitigation Measure III-1 (Air Quality)

The applicant shall consult with the North Coast Unified Air Quality Management District with respect to the requirements of adopted AQMD regulatory plans. The applicant shall comply with the requirements of all adopted air quality plans at all time, including plans covering particulate emissions, and shall implement all actions required by the AQMD for the applicant's mariculture operations.

The applicant has agreed to consult with the North Coast Unified Air Quality Management District with respect to the requirements of adopted AQMD regulatory plans, and will comply with the requirements of all adopted air quality plans at all time, including plans covering particulate emissions, and will implement all actions required by the AQMD for Coast's mariculture operations. The District finds that the applicant's implementation of this measure will reduce potential air quality impacts to less-than-significant levels.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

Based on information that was available in 1998, the District’s 1999 MND concluded that the level of knowledge about the impacts of Coast Seafoods’ operations did not permit informed judgements about the real impacts of the proposal in several subject areas, and that this was particularly a concern for biological subjects. However, the District recognized that the applicant would need to continue its mariculture operations in order to allow the development of information about the effects of those operations on the bay’s biological resources. The District determined that monitoring the effects of mariculture on biological resources would provide the information needed if the District were to carry out

an assessment of the impacts of those operations (i.e., ground culture on about 500 acres of bay bottom). In the interim the preliminary assessment identified potentially significant effects, specifically with respect to potential impacts to:

- Federally listed species (salmonids and birds, including habitat elements)
- Sensitive natural communities [particularly eelgrass (*Zostera marina*)]
- Migration corridors

The District concluded that the application of a number of mitigation measures would reduce the potentially significant effects to less-than-significant levels while the necessary studies were carried out. The mitigation measures included additional studies to be completed by the Western Regional Aquaculture Center (WRAC) and by Coast Seafoods. The results of those studies, and other studies that were not expressly identified in the preliminary MND, are now available and have been incorporated into the current assessment. The assessment of the applicant's proposal on biological resources also incorporates the content of several documents that are not generally available and which are therefore attached to this assessment: (1) the applicant's Biological Assessment (BA) (Attachment E, particularly pages 41-66), (2) a February 17, 2005, letter from Jones & Stokes to NOAA Fisheries (National Marine Fisheries Service [NMFS]; included in Attachment E), and (3) a November 8, 2006, Technical Memorandum from Jones & Stokes to the District comparing historic (baseline) operations to proposed operations (Attachment F).

The assessment of potential impacts resulting from the applicant's proposed actions is based on the conditions and practices in effect in 1995/1996, including culturing of shellfish on the bay bottom, hydraulic dredging, shell deposition, bat ray removal, and other practices that are no longer included in the applicant's activities within Humboldt Bay. The applicant's adoption of off-bottom culture as a practice to avoid or reduce impacts to the bay's resources was directly related to the identification of bottom culture impacts, and the District identifies this change in practices as a primary mitigating element in this assessment.

The District believes that it is germane for this assessment to summarize comments from a number of regulatory and trustee agencies urging the District and/or the applicant to adopt off-bottom culture in order to reduce or avoid impacts:

- *A March 12, 1998, letter from the California Fish and Game Commission:* "It is the Department and Commission's position that moving to an off-bottom culture technique for oyster culture in Humboldt Bay will have far less impact to eelgrass beds and wildlife in general than the current bottom culture techniques."
- *A February 6, 1998, letter from Bruce G. Halstead, United States Department of the Interior, Fish and Wildlife Service, to Lt. Colonel Richard G. Thompson, District Engineer, United States Army Corps of Engineers:* "We also appreciate Coast Seafoods' stated commitment to change their operations over the next three years to largely off-bottom culture techniques. We believe that the conversion to off-bottom methods coupled with changes in culture locations are the primary means of avoiding and minimizing project impacts to fish and wildlife resources in Humboldt Bay." ... "The Service, along with the California Department of Fish and Game (CDFG), and others, encouraged Coast Seafoods to change their culture methods from bottom to off-bottom techniques."
- *A January 21, 1998, letter from James Bybee, United States Department of Commerce, National Oceanic and Atmospheric Administration to Lt. Colonel Richard G. Thompson, District Engineer, United States Army Corps of Engineers:* "The National Marine Fisheries Service recommends

increased use of off-bottom culture to further reduce the impacts to southern Oregon/northern California coastal coho salmon and northern California steelhead trout.”

- *A June 16, 1997, letter from Bruce G. Halstead, United States Department of the Interior, Fish and Wildlife Service, to Lt. Colonel Richard G. Thompson, District Engineer, United States Army Corps of Engineers: “We believe that the use of off-bottom culture techniques, which have been successfully employed in other locations, may be the answer to many of these issues and would greatly reduce or eliminate the impacts of oyster culture that we are concerned about.”*
- *A June 25, 1997, letter from James Bybee, United States Department of Commerce, National Oceanic and Atmospheric Administration to Lt. Colonel Richard G. Thompson, District Engineer, United States Army Corps of Engineers: “We encourage you to require the applicant [Coast] to begin the process of converting present culture methods, even if it is phased over time.”*

These comments were delivered within the same time frame in which the District was initiating studies identified in the 1998 Mitigated Negative Declaration (MND). The District (as well as the applicant) understood the comments to indicate that converting oyster culturing operations from bottom culture to off-bottom culture constituted a mitigation measure that substantially reduced the environmental consequences of the culturing operations on the bay ecosystem. The District affirms that conclusion in this assessment: *the conversion of the applicant’s operations to off-bottom culture constitutes a primary mitigation measure (a change in practices) that avoids and/or reduces impacts that resulted from culturing practices in effect at the time the applicant’s proposal was initially considered.*

The District also finds that the reduction in operational footprint from 500 acres to 300 acres is a primary mitigation measure for the potential adverse impacts to biological resources that were identified in the 1998 MND.

Item IV.a: Sensitive Species and their Habitats

Listed Salmonids. The 1999 MND identified Humboldt Bay as an element in the habitat of several salmonid species (now identified as “Evolutionarily Significant Units” or ESUs) that were already considered “sensitive” by both the California Department of Fish and Game and the National Marine Fisheries Service (NMFS):¹ chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss*). The MND identified a concern about potential effects of the oyster culturing operations in eelgrass beds on the Arcata Bay bottom as a potentially significant CEQA concern because of these potential effects on listed fish species, and the MND identified a number of focused research questions that should be addressed in order to allow the District to reach informed judgements about the significance of the effects.

In the period during which the District’s annual review and approval process was in effect, the status of the three ESUs in coastal northern California was modified, and all three ESUs are formally listed pursuant to both the federal Endangered Species Act (ESA) and the California Endangered Species Act. In addition, Humboldt Bay and its tributaries have been identified pursuant to the federal ESA as “critical habitat” for all three ESUs. The federal “critical habitat” designation does not directly affect District reviews (responsibilities pursuant to the designation exist for federal agency approval processes), but the District takes cognizance of the federal designations in the CEQA process because of this checklist item.

¹ NMFS is the federal agency charged with federal Endangered Species Act oversight responsibility for salmonids; in this respect NMFS assumes the role identified for the U.S. Fish and Wildlife Service in the checklist.

Potential Effect IV-1: The Proposed Project May Adversely Affect Listed Salmonid Species or their Habitat

The proposed project is located within areas that are known to be used by adults and juveniles of three salmonid ESUs listed pursuant to federal and state Endangered Species Acts, and the proposed project could adversely affect one or more of these species or their habitats

The proposed project's potential effects on these ESUs and the associated habitat were addressed in a Biological Opinion (BO) issued by the National Marine Fisheries Service (NMFS) in conjunction with a Clean Water Act section 404 permit application considered by the U. S. Army Corps of Engineers (NMFS 2005). The NMFS BO, and a separate opinion submitted to the Corps by the U.S. Fish and Wildlife Service (USFWS 2005), concluded that the project was “not likely to adversely effect” listed species and not likely to destroy or adversely modify designated critical habitat². A determination of “not likely to adversely effect” is effectively synonymous with an insignificant and discountable effect on these species. (Endangered Species Consultation Handbook, page 3-12; NMFS and USFWS 1998). NMFS has involved CDFG throughout the ESA consultation process, and the NMFS opinion is deemed in this assessment to reflect the concerns of the CDFG.

The conclusion that the proposed project will not adversely affect the listed species or their designated critical habitat is explicitly based on the incorporation into the proposed project of all of the mitigation measures that are identified in this assessment (summarized explicitly below). Based upon the assessment carried out by the appropriate federal agency, the District finds that the effects of the proposed project on these listed ESUs or their habitat will be mitigated by the proposed measures to a level that is less-than-significant.³

Other Listed Species. In other contexts the District has considered fish, wildlife, and plant species that have been identified as “sensitive” by a number of different agencies and private groups (HBHRCD 2006); that assessment is incorporated by reference as if fully set forth. Few of the formally designated species identified in that assessment appear likely to be directly affected by the proposed project.

Two bird species that nest in Arcata Bay, which have been identified as “sensitive” by the U.S Fish and Wildlife Service or the California Department of Fish and Game, could be subject to nesting-related impacts because of the proposed operations: (1) Caspian tern (*Sterna caspia*), and (2) double-crested cormorant (*Phalacrocorax auritus*). However, the applicant has already agreed to incorporate a mitigation measure that is expected to obviate potential impacts to Caspian terns, and there is no current evidence that supports a conclusion that the proposed project would affect the cormorant nesting colony in the ruins of the old Arcata Wharf. The District finds that the potential effects of the proposed project

2 It should be noted that in its Biological Opinion, NMFS used a baseline that included speculation on “future anticipated base conditions”. This speculative approach resulted in certain conditions which currently exist to be inappropriately characterized as effects of the project. The approach used by NMFS with respect to existing baseline conditions is not valid under CEQA. See CEQA Guidelines, § 15125(a) (environmental setting constitutes the baseline physical conditions “as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced”); *Bloom v. McGurk*, 26 Cal.App.4th (1994) 1307, 1315 n.3 (potential impacts must be examined in light of the existing physical environment at the time project is approved)(citing *City of Carmel-by-the-Sea v. Board of Supervisors* (1986) 183 Cal.App.3d 229, 246). See also *EPIC v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354 (assessment must be of the “actual environment” or existing physical conditions).

3 This topic is covered extensively in the Environmental Impact Report prepared by the District for the recently adopted Humboldt Bay Management Plan (HBHRCD 2006).

on these species will be less-than-significant with the implementation of the mitigation measures agreed to by the applicant.

Item IV.b: Sensitive Natural Communities

Humboldt Bay as a whole can be considered to be a “sensitive natural community” in some senses, but identifying the entire bay as “environmentally sensitive” is essentially the same thing as saying that the Pacific Ocean is environmentally sensitive; this classification must be applied in much narrower terms to be useful in an environmental review context. Local, state, and/or federal responsible or trustee agencies (including the cities of Arcata and Eureka, the California Department of Fish and Game and the California Coastal Commission, and the National Marine Fisheries Service) have identified eelgrass (*Zostera marina*) meadows (also identified in some contexts as “seagrass meadows” or eelgrass/seagrass “beds”) as a sensitive community type that occurs within the bay. The District has similarly found that eelgrass beds in Humboldt Bay are an environmentally sensitive community type (HBHRCD 2006, Chapter 10). Therefore, a potentially significant effect on eelgrass meadows would be an environmentally significant impact to a “sensitive community type” pursuant to the requirements of CEQA, an effect that crosses an identified threshold of significance.

Potential Effect IV-2: Potential Reduction in Eelgrass Coverage and Density

The proposed mariculture project could result in reduced density or areal coverage in eelgrass, an environmentally sensitive habitat type for Humboldt Bay.

The District’s staff and decision-makers are knowledgeable about the existing scientific information about the effects of long-line oyster mariculture on eelgrass. This subject is currently attracting active interest from scientific and applied research programs. However, despite the research carried out in Humboldt Bay and elsewhere since the 1999 MND was adopted, a clear relationship between mariculture practices and a variety of parameters relating to eelgrass’s ecological characteristics remains elusive. Further, the “best management practices” that the District (and the Western Regional Aquaculture Center) had anticipated as a result of the studies that were conducted in Humboldt Bay and elsewhere were not forthcoming.

In the Humboldt Bay Management Plan EIR (HBHRCD 2006), the District identified a potentially significant effect on eelgrass from all of the activities that occur in Humboldt Bay. That conclusion was essentially an assessment of the cumulative effects of bay management; and was not a consideration of the effects of this proposed project. The consideration of the effects of the proposed project that the District must make is included in this assessment.

A detailed analysis on the proposed project’s potential effects to eelgrass is presented in the applicant’s BA, on pages 54-58; in the February 17, 2005, letter to NMFS (both in Attachment E); and again in the November 8, 2006, Technical Memorandum (Attachment F). These analyses indicate that the project will not reduce eelgrass when compared to the 1997 baseline conditions. The District has carefully weighed the assessments presented by the applicant, those included in the 2005 NMFS Biological Opinion, the conclusions in the WRAC study (Rumrill and Poulton 2004), and other scientific and agency management studies in reaching the conclusions indicated in this assessment.

A recent study (Dealteris et. al. 2004) found that aquaculture apparatus (e.g., the long-lines and the supports) provides robust habitat value for numerous aquatic species, particularly with respect to habitat values in eelgrass and in non-vegetated areas. The study indicated that aquaculture gear provides habitat value for a variety of aquatic species throughout the year. Habitat values in eelgrass were high during some seasons but not as high in all seasons as those associated with culture apparatus. Species abundance

and richness were higher in the culturing apparatus during all times of the year, compared to those in eelgrass; species diversity was also higher (but not significantly so) in aquaculture gear as compared to eelgrass. Habitat value for both aquaculture gear and eelgrass were significantly higher than for non-vegetated areas. The Dealteris et al. (2004) study concluded that “shellfish aquaculture gear has substantially greater habitat value than a shallow non-vegetated seabed, and has habitat value at least equal to and possibly superior to submerged aquatic vegetation.”

Another recently completed study, carried out by the USFWS’s Arcata office, evaluated fish communities in eelgrass meadows in Humboldt Bay, in long-line oyster culture, and in mudflats in Arcata Bay (Pinnix et al. 2005). The study concluded that catches differed significantly among habitats, with greater catches in oyster culture than in mudflat or in eelgrass habitat. The study found virtually no evidence that the federally and state-listed salmonids made extensive use of the bay’s eelgrass beds.⁴

On balance, the District has concluded that the proposed project, as mitigated, will not result in significant impacts to eelgrass within the analytical framework that this assessment uses. This conclusion is based on the legally defined baseline for this assessment as the conditions and practices in effect at the time that the District assumed permit authority for mariculture in Humboldt Bay.

The District further finds that the proposed project, as mitigated by the measures identified below, substantially reduces the effects that would have resulted from the project as originally proposed to the District. The mitigation measures are expected to result in a net increase in the extent of eelgrass coverage and density within the locations where mariculture is practiced, compared to the conditions that would have resulted from continuing the practices included in the original 1996 application.

Item IV.c: Federally Protected Wetlands

Humboldt Bay is a marine embayment and is subject to federal regulation pursuant to Section 404 of the Clean Water Act. The applicant has received approval for essentially the same project covered by this assessment from the U.S. Army Corps of Engineers. The Corps approval incorporated most of the same practices that are identified in this assessment as mitigation measures. Therefore the District finds that the proposed project, as mitigated with the measures to which the applicant has agreed, will not result in significant impacts to federally protected wetlands.

Item IV.d: Movement and Migratory Corridors.

Several studies have been completed evaluating the potential impacts of oyster culture operations, specifically long lines, on fish and wildlife movement and fish and wildlife migratory corridors and nursery areas.

In the HBMP EIR (HBHRCD 2006) the District identified Humboldt Bay as providing important habitat values for a group of bird species that utilize the bay’s habitats as part of internationally important ecological context. These birds include Pacific brant (*Branta bernicla nigricans*) and a group of shorebird species that use the bay’s habitats extensively during migration. Pacific brant, as a species, has a known association with eelgrass, including eelgrass in Arcata Bay, and the considerations regarding

⁴ As summarized in the HBMP EIR, other studies coordinated by Department of Fish and Game biologists have found that salmonids in the Humboldt Bay region make extensive use of the truly estuarine reaches of streams that are tributary to the bay. As summarized in the EIR, the District has interpreted these science findings to indicate that the emphasis on eelgrass as salmonid habit is misplaced. However, additional research results are required in order to formally validate that scientific model.

impacts to eelgrass in this section apply to Pacific brant as well. Pursuant to measures identified in the 1999 MND, the District and the applicant jointly sponsored studies of the potential impacts of long-line mariculture on shorebirds. Based on the results reported in those studies (Moore 2001), the District concludes that long-line mariculture is unlikely to create significant adverse impacts for shorebirds.

The applicant has, in addition, agreed to implement mitigation measures that are expected by the District to avoid causing adverse effects on harbor seals (*Phoca vitulina*) and other marine mammals, a subject considered in the 1999 MND to represent a greater degree of environmental effect than the District now believes to be the appropriate, based on monitoring data obtained from the applicant since that MND was adopted.

As noted above, recent studies have demonstrated that oyster culture apparatus provides habitat value for many marine organisms, offsetting habitat value reductions that may result from this project. In general the District cannot absolutely state that the habitat value for the wide range of species that occur in Arcata Bay are fully compensated, owing to a lack of scientific study, although the District has concluded that there is no inherent reason to believe that habitat values provided by culture apparatus are lower than those in the same bay regions without the apparatus. It remains a potential conclusion that oyster culture apparatus actually provides important subtidal structures for juvenile rockfish and other desirable species within the bay, and that the oyster culture apparatus is a desirable habitat feature that provides more habitat value than the bay-bottom habitat that it replaces. The existing data are inadequate to address these possibilities.

Much of the discussion about “fish migration” in Humboldt Bay is focused on salmonids. As summarized in the applicant’s BA, habitat distribution and use studies in other regions indicate that juvenile salmonids tend to occupy deeper water after reaching a size of ~50 mm (Fresh et al 2004, Haas et al 2002, Miller and Sadro 2003, Simenstad and Cordell 2000, Toft et al. 2004). In Humboldt Bay these deeper water areas are generally only found in the main navigation channels and larger tidal channels. The majority of oyster culture operations occur in intertidal (shallow water) areas. The study results reported by Pinnix et al. (2005) are fully consistent with this hypothesis, because juvenile salmonids essentially avoided the sampled eelgrass beds and mariculture areas in Arcata Bay.

The use of eelgrass beds by salmonids in Humboldt Bay was discussed extensively in the Humboldt Bay Management Plan EIR (HBHRCD 2006); that discussion is incorporated by reference. Summarizing the results generally, the existing evidence indicates that the role of eelgrass in the marine environment that is Humboldt Bay has been misinterpreted, and that the “estuarine environment” that is known to be important for rearing juvenile salmonids occurs in the Humboldt Bay region within the lower, estuarine reaches of the rivers in which the salmonids spawn, rather than in the marine conditions in eelgrass meadows and tidal flat habitats in the bay.

Herring (*Clupea harengus*) are known to spawn within Humboldt Bay, typically on eelgrass. The primary locations where herring spawn in Arcata Bay are distributed throughout an area known as East Bay near the mouths of Jacoby and Freshwater Creeks. A portion of this area (23 acres) is proposed for off-bottom oyster culture. The existing data on herring spawning in Humboldt Bay do not support the argument that oyster culture negatively affects herring spawning. CDFG data (2004) indicated that herring spawning was highly variable but that the long-term trend in herring spawning in the area of east Arcata Bay used for mariculture demonstrates a decrease in herring spawning as the area used for oyster aquaculture decreased, a parallel effect opposite what would be expected if oyster culture operations were negatively affecting herring spawning. CDFG herring spawning protocols and data include areas with oyster culture because herring are known to spawn on and around aquaculture structures (CDFG 2005).

The applicant has adopted a mitigating practice of not harvesting oysters where herring have spawned for a two-week period after spawning has occurred, thereby further reducing any potential for impacts to herring spawn from oyster culture operations. The 23 acres of East Bay beds that are proposed for planting are also generally above the elevations where herring spawning typically has been observed. The District finds that this measure reduces potential impacts to herring to a level that is less-than-significant.

Item IV.e: Conflicts with Local Policies and Ordinances.

The proposed project is consistent with the District's adopted Humboldt Bay Management Plan. The District finds that the proposed project results in a "no impact" finding for this topic.

Item IV.f: Conflicts with Adopted Natural Community Conservation or Habitat Conservation Plans.

The applicant's proposed operations do not conflict with any approved or adopted natural community conservation plan or habitat conservation plan. Therefore the District concludes that the appropriate checklist response for this topic is "no impact."

Mitigation Measure Identification

The following mitigation measure is a summary of the measures identified by the District and agreed to by the applicant.

Mitigation Measure IV-1 (Biological Resources). The applicant shall implement all of the following elements in order to assure that the proposed project's effects on biological resources are reduced to less-than-significant levels.

The District has identified a number of measures that will reduce the impact of the proposed project on biological resources in the Humboldt Bay ecosystem, and the applicant has agreed to implement those measures. The measures include:

- *The operational footprint will be reduced from 500 acres to 300 acres.*
- *The applicant will not initiate any new bottom culture in Humboldt Bay. All previously existing bottom culture beds shall lie fallow unless such beds are included within the 300-acre operational footprint discussed above to be used for long line off-bottom culture.*
- *The applicant will not engage in any dredging, hydraulic harvesting, "bed cleaning," or any other activities with a hydraulic harvester within Humboldt Bay.*
- *The applicant will not construct or use bat ray fencing within Humboldt Bay.*
- *The applicant will submit to the District by December 1 of each year an annual report describing the status of each bed within its 300-acre operational footprint.*
- *Where feasible, the applicant will avoid long line harvester vessel contact with the bay bottom. To avoid potential impacts to eelgrass from shading, the applicant will not anchor long line harvesters in such a way as to shade the same area of eelgrass for a period exceeding twelve (12) hours.*

- *No take or harassment (as defined by the Marine Mammal Protection Act) of any marine mammal will be allowed.*
- *All oyster culture activities, for the bed identified in Attachment A as “Sand Island NK” will remain at least 100 meters away from the MHHW line of Sand Island.*
- *The applicant will not discharge feed, pesticides, or chemicals (including antibiotics and hormones) into marine waters.*
- *The applicant will not intentionally deposit shells or any other material on the sea floor. Natural deposition of shells and other materials will be minimized to the maximum extent feasible.*
- *During the months of December, January, and February, the applicant will visually survey those beds to be worked on each day prior to harvesting and/or planting, to determine whether herring has spawned on eelgrass, culture materials, or substrate. If herring spawning is observed, the applicant will (a) postpone for two weeks harvesting and planting activities on those beds where spawning has occurred, and (b) notify the California Department of Fish and Game’s Eureka Marine Region office within 24 hours of observation of herring spawning.*
- *The applicant will provide in-kind support to the National Marine Fisheries Service as it conducts additional studies of the interactions among oyster culture and eelgrass.*
- *The applicant will maintain in place its leases with the District, the City of Eureka, and the Karamu Corporation (approximately 3,645 acres). Copies of these leases are available upon request. The applicant will exercise its renewal options, and satisfy its payments and other obligations, in each of the aforementioned leases to ensure that all three leases remain in effect until at least the year 2015. Aside from the 300-acre operational footprint established pursuant to the permit, Coast will not conduct oyster harvesting activities on any of its leased lands. This cessation of activity is intended to offset any perceived environmental impacts of Coast’s operations on that 300-acre operational footprint.*
- *The applicant will transfer fifty (50) acres of the tidelands it owns in Humboldt Bay to the District or an environmental conservation organization subject to the consent of State and local regulatory agencies, to ensure said transferred tidelands are permanently protected from any development. The applicant shall consult with the California Department of Fish and Game and the District to select an appropriate 50 acres for said transfer.*

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that mariculture operations in Arcata Bay would have no effect on cultural resources. In the absence of any evidence indicating a different conclusion, the District affirms the prior judgement.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	[]	[]	[X]	[]
2. Strong seismic groundshaking?	[]	[]	[]	[X]
3. Seismic-related ground failure, including liquefaction?	[]	[]	[X]	[]
4. Landslides?	[]	[]	[]	[X]
b. Result in substantial soil erosion or the loss of topsoil?	[]	[]	[]	[X]
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	[]	[]	[]	[X]
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	[]	[]	[]	[X]
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	[]	[]	[]	[X]

Discussion of Checklist Responses:

Item VI.a.3: Liquefaction. The 1999 MND concluded that geological and soils concerns from Coast’s operations would not cross thresholds of environmental significance, a conclusion affirmed herein. For the greatest part, the proposed mariculture project is not associated with potential geological or soil-related effects. However, there is a minor potential that the project could be associated with risks to the applicant’s personnel because of liquefaction.

The Humboldt Bay region is subject to strong ground shaking from earthquakes that may occur along a number of regionally significant faults. The applicant's mariculture operations that are the subject of the current application do not involve structures that may fail during seismic shaking (item VI.a.1), and this potential effect is judged not to cross a threshold of significance (tsunami concerns are considered in Section VIII). There is a minor concern that strong seismic shaking could partially liquefy bay-bottom sediments in Arcata Bay in a way that could affect Coast Seafoods' field personnel (item VI.a.3). This Initial Study judges the potential that liquefaction will be directly hazardous to the applicant's personnel to be highly improbable (that is, to have a very low, although non-zero, probability of occurrence during any given short interval, such as a day), and therefore to be less-than-significant for CEQA assessment purposes; mitigation is not required. The proposed activities of the project are judged not to affect any of the other geological or soils-related concerns.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS.					
	Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

Item VII.b: Hazardous Materials. The proposed project, like all activities involving motorized equipment such as boats, is associated with a potential for fuel spills or leaks (item VII.b). This Initial Study identifies this as a potentially significant effect.

Potential Effect VII-1: Releases of Fuels, Lubricants, and other Toxic Materials Resulting from Mariculture Activities

The proposed mariculture operations in Arcata Bay include elements that may be associated with the release of fuels, lubricants, and other hazardous materials into the bay's waters as a possible consequence of accidents or other unplanned events.

Coast Seafoods has strong incentives to avoid fuel or lubricant leaks or spills due to the sensitivity of shellfish to any exposure to such materials, and Coast has therefore developed and implemented a number of company procedures and policies to prevent leaks or spills. To limit the potential for accidental release of hazardous materials into the environment, the District has identified, and the applicant has agreed to implement, the following mitigation measure:

Mitigation Measure VII-1 (Hazardous Materials)

The applicant shall develop and implement an equipment maintenance program for all vessels that are used in its mariculture activities, and shall consider the likelihood of release of fuels, lubricants, paints, solvents, or other potentially toxic materials that may be associated with these vessels as a result of accident, upset, or other unplanned events. The applicant shall prepare an annual summary statement that identifies the maintenance status of each vessel, and shall present this statement to the District for review; the applicant shall address any vessel maintenance concerns identified by the District.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
j.	Contribute to inundation by seiche, tsunami, or mudflow?	[]	[]	[]	[X]

Discussion of Checklist Responses:

Item VIII.c: Sedimentation. The District's 1999 MND identified potential environmental concerns about the effects of the long-line structures on water circulation, which were considered to potentially result in increased siltation, thereby potentially altering benthic community structure. This concern is identified in the Environmental Checklist in item VIII.c. The MND identified a mitigation measure to address this concern in the form of additional studies to be completed by the Western Regional Aquaculture Center (WRAC) with assistance from the applicant.

The resulting studies found that sedimentation associated with long-line culture structures was dynamic (i.e., both sediment deposition and sediment erosion occurred in the same locations at different times), with no long-term changes in sediment elevations in the areas of the bay occupied by mariculture structures. Consequently this Initial Study reaches the judgement, with respect to item VIII.c, that potential effects of the proposed long-line operations on sediment deposition or erosion are not environmentally significant, and no mitigation is required for this possible effect.

Item VIII.f: Water Quality. The potential effects of the proposed project on water quality (item VIII.f) result primarily from the actions of the applicant's equipment and personnel within the bay's tidelands. The operation of small watercraft is potentially associated with possible releases of fuel, lubricants, and other chemicals.

There are therefore a number of potential water-quality concerns that arise as potential project consequences, and the District identifies this effect as potentially significant.

Potential Effect VIII-1: Water Quality Impacts Resulting from Mariculture Activities

The proposed mariculture operations in Arcata Bay include elements that may be associated with significant effects on water quality because of: (a) the release of hazardous materials, including fuels and lubricants (an effect addressed in Section VII); and (b) sediment, which is associated both with a number of pollutants and with direct and indirect impacts on aquatic species and communities.

As noted in Chapter 2 of this assessment, the applicant has proposed a number of project features that function to reduce potential effects from their operations. Several of the project features or components address potential water quality concerns, and are identified here as mitigation elements for the proposal's potential water quality impacts.

Mitigation Measure VIII-1 (Water Quality)

The applicant shall adopt all of the following practices as elements in its mariculture operations:

- *The applicant shall develop and implement an equipment maintenance program for all vessels that are used in its mariculture activities, as described in Section VII.*

- *The applicant shall not engage in any dredging, hydraulic harvesting, “bed cleaning,” or any other activities with a hydraulic harvester.*
- *To the extent feasible, the applicant shall avoid long-line harvester vessel contact with the bay bottom. The applicant shall similarly minimize the extent or degree of sediment mobilization associated with all of its other mariculture activities in the bay.*
- *The applicant shall not discharge feed, pesticides, or chemicals (including antibiotics and hormones) into the bay’s waters.*

The District concludes that the inclusion of these measures reduces potential water quality impacts from the applicant’s operations to levels that are less-than significant.

The physical practices used in culturing oysters include sediment-disturbing activities, and the mobilized sediment could be considered to reduce water quality because of its potential effects on benthic communities. However, when evaluated in the environmental setting of Humboldt Bay, the District finds that the amount of sediment mobilized during mariculture operations is well within the range of sediment that is mobilized during natural events such as storms and days with strong northwest winds. Therefore the District does not identify sediment mobilization resulting from mariculture activities as an environmentally significant effect.

The District notes that the applicant is actively involved with the cities of Eureka and Arcata, Humboldt County, the North Coast Regional Water Quality Control Board, the California Department of Health Services, and other agencies in addressing potential point-source and nonpoint source water quality impacts with the bay. This process is formalized through the Humboldt Bay Shellfish Technical Advisory Committee (STAC) as stipulated in the Shellfish Protection Act of 1993. As a STAC member, Coast Seafoods has participated in identifying and addressing several water quality issues for Humboldt Bay. The District expects that Coast Seafoods will continue to participate in this endeavor, primarily because maintaining high water quality in Humboldt Bay is beneficial to the applicant’s interests. The District generally expects that the operations of Coast Seafoods in Humboldt Bay will continue to have beneficial effects on water quality in the bay.

Items VIII.i and VIII.j: Flooding and Tsunami Risk. For the most part the proposed project does not expose people or structures to any significantly increased risks from possible meteorologically or seismically related flooding, because the proposal does not include structures or uses that are associated with large numbers of people. However, the proposed project involves having a few people on the bay’s tidal flats, a location that is associated with potentially increased risks of exposure to flooding from locally generated tsunami events. These events will eventually occur in the Humboldt Bay region, because they are associated with the Cascadia Subduction Zone.

The District has considered the tsunami-exposure risks inherent in the project, and has judged that the potential tsunami risk to a small number of applicant personnel is statistically minor (that is, there is a very low, although non-zero, probability of tsunami occurrence during any given short interval, such as a day), and therefore the risk is less-than-significant for CEQA assessment purposes, and mitigation is not required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IX. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

As noted in the 1999 MND, Humboldt Bay uses are subject to District regulation pursuant to the District's own plans, as well as being subject to the Coastal Act and other state and federal laws. In addition, some areas of tidelands in the bay are subject to the jurisdiction of the City of Arcata and the City of Eureka, which have their own adopted "land use" plans. Because of the location of the proposed activities, they will not affect any upland land uses (item IX.a), and no Habitat Conservation Plan or Natural Community Conservation Plan currently in effect in the region covers the waters of Arcata Bay (item IX.c); no impacts will result from these concerns. However, there is a potential that mariculture uses in Arcata Bay could affect other uses of Arcata Bay that are identified in District planning documents and other coastal plans and land uses plans, including the designation of Humboldt Bay for conservation and recreational uses in addition to commercial uses that include mariculture.

Item IX.b: Planning Consistency. The District's recently adopted Humboldt Bay Management Plan (HBMP) identifies Arcata Bay as a region in which the "preferred" uses are related to conservation, and for which mariculture operations that are compatible with the conservation of environmental and recreational resources are also appropriate. Based upon the analyses carried out for this assessment, the District finds that the proposed project is compatible with the designations and management policies identified in the HBMP; that is, the proposed project is consistent with the use designations in the HBMP, and the proposed project does not cross a threshold of significance for plan-consistency evaluation.

In the 1999 MND the District concluded that Coast's operations would not significantly affect land use and planning concerns as expressed in the plans of other agencies (item IX.b). That MND identified potential impacts to land use and planning concerns that were related to possible effects on water quality and biological resources. For example, if Coast's operations were to have significant impacts to water quality or biological resources, then Coast's operations would also conflict with applicable land use plans. As discussed elsewhere in this document, mitigation measures will be implemented that will assure that Coast's current application will not lead to significant impacts to water quality, and the District concludes that no significant policy conflict exists with respect to water quality.

As discussed in Section IV, it is unclear that all potential effects of the proposed project on biological resources can be avoided completely, but mitigation measures will be implemented that reduce potential biological effects to levels that have been deemed (by the Coastal Commission) to be consistent with the requirements of the Coastal Act, and the District will conclude that the project therefore also does not represent a direct, significant conflict with other local coastal planning documents or policies pertaining to biological resources.

Circumstances regarding the planning context in the Humboldt Bay region have changed in the period since the prior CEQA review was conducted, and conservation concerns are more focused on the Bay ecosystem than was the case in 1998/1999. As noted in Section IV, however, the appropriate baseline for environmental assessment is the setting at the time the prior application was accepted, because the District explicitly identified the CEQA process associated with this application as a continuation of the review process begun in 1998. As is further noted in Section IV, there are a number of mitigation measures that the District requires of the applicant that reduce potential biological and/or conservation effects, and the District judges that these *biological and/or conservation concerns* remain below a threshold of significance *with respect to planning consistency*.

The 1999 MND also identified potential recreational conflicts with Coast's proposal, and identified mitigation measures for possible recreational conflicts. In the intervening period recreational uses of Humboldt Bay have become a more substantive management concern than previously (see Section XIV, below), and possible recreational conflicts are therefore also a planning issue. Nonetheless, the District has not identified specific, significant planning consistency conflicts between the Coast operation and any existing planning documents for Humboldt Bay. Virtually all adopted planning documents identify *both* mariculture and recreation as uses that should occur within Arcata Bay, and the current mariculture proposal does not prevent or significantly curtail recreational uses in most of Arcata Bay (although a potential for user conflicts does exist). Thus the mariculture uses are not a significant impact *with respect to planning consistency*.

Overall, the District finds that the proposed continuation of mariculture in Arcata Bay does not create a *planning* concern for the District or other local governments that crosses a threshold of environmental significance, and mitigation measures are not required that address any planning issues.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
X.	MINERAL RESOURCES. Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that mariculture operations would not have any effect on mineral resources. No evidence has arisen to indicate a contrary result, and the District affirms the prior conclusion.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XI. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that sound from Coast's operations would be audible to residents and visitors to the Humboldt Bay vicinity, but concluded that the effect would not cross a threshold of environmental significance. Coast's operations include the use of several small watercraft which generate sound that is similar to, and typical of, other recreational and commercial watercraft in common use on the bay. Furthermore, the use of newer engines on many of Coast's watercraft will result in a further reduction in sound levels as compared to baseline conditions. Therefore the District affirms the prior conclusion that project-related sound levels (item XI.d) will not cross a threshold of environmental significance.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XII. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that the project would have no effect on population and housing. No evidence that would indicate a different conclusion has arisen since 1998/1999, and the District affirms the prior conclusion.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
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XIII. PUBLIC SERVICES. Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	[]	[]	[]	[X]
Police protection?	[]	[]	[]	[X]
Schools?	[]	[]	[]	[X]
Parks?	[]	[]	[]	[X]
Other public facilities?	[]	[]	[]	[X]

Discussion of Checklist Responses:

The District’s 1999 MND concluded that the proposed project would not produce significant effects on public services. The MND concluded that the Coast Seafoods project would result in a less-than-significant increase in oversight time allocated to the project by District staff. The expectation has been met, and additional staff time has been allocated to overseeing the District’s management of Coast’s activities; however, the District concludes that such an allocation of staff time is the District’s obligation and that such a result in not an adverse effect. The District affirms the prior conclusion, and finds that the proposed mariculture project will not result in significant effects for public services.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIV. RECREATION.	Would the project:				
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that there would be a “Less than Significant Impact” on recreation as a result of Coast’s operations. It was evident that the Coast Seafoods project would not have any effect on neighborhood parks or the kinds of recreational facilities normally associated with land development projects. The finding that there would be any effect at all on recreation was dependent on the existing and anticipated future recreational uses of Humboldt Bay by boaters, wind-surfers, hunters, clam-diggers, and similar practitioners of dispersed recreation. The District required an interim mitigation measure that directed Coast to monitor and report the presence and activity of recreational users within or near the mariculture operations in Arcata Bay. The monitoring efforts resulting from the measure have not identified any impacts to recreational users of the bay or any significant conflicts between mariculture facilities and possible recreational uses.

As noted previously in Section IX, planning policies and adopted planning documents for Humboldt Bay, including the District’s plans and the planning documents adopted by the County of Humboldt and the cities of Arcata and Eureka, require that recreational opportunities be “balanced” with other legitimate uses, including mariculture. This concern is a “management concern” for the District and other governments, and requires that the District and the other governments acknowledge the multiple rights to use bay waters and the underlying bottom. However, absent an indication that the mariculture activities are affecting recreational uses or opportunities, the District would not find the mere presence of mariculture uses to be an adverse effect on recreation.

Because there is no evidence of recreational user conflicts or a reduction in recreational opportunity because of the mariculture facilities, the District finds in this extended Initial Study that the continued use of Arcata Bay tidelands for mariculture does not constitute an adverse impact on recreational uses or opportunities in Arcata Bay. Additional mitigation is not required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC. Would the project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The 1999 MND concluded that the potential effects of the proposed mariculture operations would be associated with a minor potential for interference with waterborne access to parts of Arcata Bay for recreational users, but that the effects would not be environmentally significant. As noted in the preceding section, there is no evidence that the mariculture facilities and operations have affected boater access to the North Bay. Therefore the District concludes that the appropriate checklist responses should be that the continued project does not have an effect on transportation and/or circulation concerns.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses:

The District's 1999 MND concluded that the mariculture proposal would have no potentially significant impact on utilities and service systems. No evidence has arisen that indicates a contrary condition, and the District affirms the prior conclusion.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses:

Mandatory Findings of Significance, if they exist for a proposal, are effects that require that an Environmental Impact Report be prepared unless mitigation measures are available that reduce the effects to less-than-significant levels. For the Coast Seafoods proposal, there is no indication that the proposal would cause direct, substantial adverse impacts to people (item XVII.c), and this item needs no further consideration. However, the District finds that the proposed implementation of the project might be associated with potential effects on the ranges of “rare or endangered” species (item XVII.a) and effects that could be part of “cumulatively considerable” environmental impacts (item XVII.b). Other aspects of these checklist items do not appear to be affected by the proposed project.

Item XVII.a: Effects on “Rare or Endangered Species.”

Since the time of the 1998/1999 MND the District has understood that Coast’s operations in Humboldt Bay could be associated with habitat losses or direct impacts on individuals of one or more of the three federally and state-listed salmonid species that pass through the bay [chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss*)] (see Section IV). Between the completion of the preliminary MND and the preparation of this assessment, the bay’s waters have been designated as being included among the “critical habitat” elements for these species. The bay’s waters have been identified as providing one or more “Primary Constituent Elements” (PCEs) for the affected

salmonids. These relationships are described in the Biological Assessment (pp 41-66; Attachment E) prepared by the applicant, and in the Environmental Impact Report prepared by the District for the Humboldt Bay Management Plan (HBHRCD 2006).

As noted further in Section IV, the proposed project incorporates a number of mitigation measures that reduce the proposed project's effects on salmonids substantially below the levels that occurred prior to the conversion of the applicant's operations to off-bottom culture. Moreover, the District has previously found that existing evidence does not support a conclusion that mariculture operations in Arcata Bay are associated with significant impacts on the three listed salmonid ESUs (HBHRCD 2006). This checklist reaches the same conclusion, based upon the prior assessment, which is incorporated by reference.

Item XVII.b: Cumulative Effects.

The management of Humboldt Bay is associated with a great variety of activities (HBHRCD 2006). In an Environmental Impact Report prepared for the District's Humboldt Bay Management Plan, the District identified a potential significant cumulative effect on eelgrass as a consequence of the combination of activities that would result from the Plan. An assessment regarding the proposed project's potential effects on eelgrass is included under Section IV, above. To the extent that the proposed project contributed to a significant impact on eelgrass, then the proposed project would contribute to the significant cumulative effect.

The activities proposed for this project represent a significant reduction in the scale of mariculture activity, from an historical peak of operations on more than 1000 acres to 500 acres, and now to 300 acres. Furthermore, the proposed project completes the conversion from bottom culture to off-bottom culture as recommended by several resource agencies (see discussion in Section IV above) to reduce impacts from bottom culture harvesting methods to the Bay. Coast has also agreed to enact numerous mitigation measures to avoid, minimize, or offset any impacts associated with its activities (see Chapter 2). The District finds that the combined effect of all of these incorporated mitigation measures is a net "offset" reduction in impacts to eelgrass on a bay-wide scale, when considered with respect to the cumulative baseline conditions for this assessment. That is, the overall effect of the mitigation measures incorporated into the proposed project represents a net decrease in potential impacts to eelgrass, compared to the 1996-1997 baseline. Based on the net reduction in total impact, the District finds that the project's contribution to the cumulative impact is less-than-significant.

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Chapter 4

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