

## **5.0 RESPONSES TO COMMENTS FROM NOAA'S NATIONAL MARINE FISHERIES SERVICE (NMFS)**

### **5.1 1975 MASTER PLAN AS A BASIS FOR BAY MANAGEMENT**

This NMFS comment correctly identifies the continued use of the 1975 Master Plan and District Ordinance No. 7 as the only substantive alternative to the adoption and implementation of the Humboldt Bay Management Plan. The Master Plan created a generalized policy framework for the bay's management and included some relatively specific recommendations for baylands and upland development. The Master Plan did not, however, provide detailed policy guidance to the District's decision-makers with respect to carrying out either the majority of the recommendations in the Master Plan or the legislative directions to the District. In order to provide an implementable policy framework and an accompanying "permit process" for the Master Plan's implementation for District decision-makers, other agencies, and applicants, the District's Board of Commissioners established Ordinance No. 7.<sup>1</sup>

The comment implies that the Draft EIR neglected to identify a conservation policy focus that is present in the 1975 Master Plan that protects salmonids and salmonid habitats, a focus that is apparently perceived to be lacking in the proposed Management Plan. In fact, however, the 1975 Master Plan is substantially less protective of environmental resources throughout the Humboldt Bay ecosystem complex than is the Draft Management Plan, and the continued reliance on the 1975 Master Plan for policy guidance would be substantially less protective of salmonid resources and habitats than will the proposed Management Plan.

The comment incorrectly attributes to the 1975 Master Plan an identification of "large eelgrass beds in the center of the North Bay that needed to be preserved." The 1975 Master Plan quite explicitly directed District decision-makers to support and promote mariculture activities in the portions of the bay designated as "Conservation - Water" (i.e., Arcata Bay), and to expand those activities into Entrance Bay as well.<sup>2</sup>

The comment more generally infers that the adoption and implementation of the Humboldt Bay Management Plan will less adequately protect all of the environmental resources in the Humboldt Bay ecosystem complex than would continued reliance on the very limited policy guidance in the 1975 Master Plan. The District does not agree with this inference, and affirms the many conclusions in the Draft EIR that the specificity identified in the policy framework of the Humboldt Bay Management Plan is significantly more protective of environmental resources in the bay ecosystem than continued reliance on the Master Plan would be.

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1 As an implementing ordinance, Ordinance No. 7 must reflect the policy framework in the Master Plan. The contents of Ordinance No. 7 will be recast (or the ordinance will be replaced) in order to provide the necessary framework within which to implement the Humboldt Bay Management Plan following the Plan's adoption.

2 Master Plan, page IV-14.

## **5.2 SOURCE OF GUIDANCE FOR SHORELINE PROTECTION**

This NMFS comment expresses the opinion that the District currently lacks a comprehensive or consistently applied planning focus for shoreline concerns. The stated intent of the proposed Management Plan is that the District will develop a comprehensive and consistently applied approach to shoreline management. As stated in Chapter 4.0 in the Draft EIR, the District is the local agency in the North Coast that is most directly responsible for shoreline management within Humboldt Bay, and the considerations required by a combination of rising sea level, probable increased storm severity, and generally increased use of the bay's shoreline require that the District adopt an active involvement with shoreline management. A part of this increased focus will be the development of shoreline protection and management standards (e.g., Plan Policies HSM-2 through HSM-7) for Humboldt Bay. It should be noted, however, that the Army Corps and other agencies will still have shoreline management requirements promulgated pursuant to their own responsibilities that are independent of District requirements, and it is also true that the District will continue to be interested in the reviews carried out by these agencies.

## **5.3 ROLE OF STRATEGIC PLAN IN BAY MANAGEMENT**

The role of the Strategic Plan in District decision-making was identified in the Draft Management Plan, in Section 8.0 in the Introduction to the Plan. As stated in footnote 14 (Draft Plan page 25):

“The Strategic Plan, updated by the District at five-year intervals, provides programmatic recommendations for District actions, but the Strategic Plan does not include specific policy directives. The Strategic Plan development process is an internal District planning process, incorporating substantial public involvement, but the recommendations developed in the process are implemented (only) following their incorporation in the Humboldt Bay Management Plan.” (parenthetical word added for clarity)

That is, the policy guidance for managing Humboldt Bay is established by the Humboldt Bay Management Plan, and not by the Strategic Plan. The relationship between the Strategic Plan and the Management Plan is not that the Strategic Plan is subordinate to the Management Plan, however, but that the Strategic Plan is a periodically revised internal working document that assists the District's staff and decision-makers in identifying bay-management concerns and potential approaches that should be considered or addressed when the District implements the Management Plan.

A similar relationship exists for the Management Plan and the “Harbor Revitalization Plan,” described in Section 2.4 of Chapter 2.0, Section II, of the Management Plan. The “Revitalization Plan” was a technical study prepared by a consultant for the District, the City of Eureka, and the County of Humboldt. The study recommended a number of actions that would improve the potential for Humboldt Bay to secure advantageous consideration in West Coast and Pacific Rim port-related discussions, but the study was not a policy document. The Draft Humboldt Bay Management Plan incorporated several of the recommendations from the revitalization study as proposed Management Plan policies (e.g., Policies HLU-3 and HLU-4); the adoption of the Management Plan would lead to the implementation of those recommendations. Other suggestions from the

revitalization study would not be implemented until they were proposed, and adopted, as elements of appropriate management plans by the District, the City of Eureka, and/or the County of Humboldt.

## **5.4 SALMONIDS, SALMONID HABITAT, AND BAY MANAGEMENT**

The NMFS comment letter includes a number of comments that are all related to the importance of Humboldt Bay ecosystem elements for salmonids. Because the comments are interrelated, they are covered as subsections within this section. In addition, because the comments about salmonids clearly are a significant management-related issue for Humboldt Bay, the responses in this section include substantially more clarifying discussion than would otherwise be necessary in CEQA responses to the NMFS comments.

### **5.4.1 Salmonid Use Patterns in the Humboldt Bay Ecosystem Complex**

This comment suggests that the District should make determinations about, and adopt management approaches for, the importance of ecosystem elements in the Humboldt Bay region for salmonids that are based on what may be inferred about salmonids in the Humboldt Bay region as interpreted from studies that were conducted elsewhere. The comment states that existing information derived from studies in a variety of ecosystems in the Pacific Northwest is sufficiently coherent that the District should be able to “infer the likely usage patterns of the salmonids in the Humboldt Bay” and identify the probable significance of habitat elements in the Humboldt Bay region.

The District agrees, in general, with the NMFS suggestion that the implications of fisheries-related research projects throughout the Pacific Northwest produce a picture from which supportable inferences may be drawn about the importance of Humboldt Bay’s habitats for salmonids. The District has concluded, however, that the Pacific Northwest “regional” model indicates a result that differs from the substance of the suggested comment. The comment does correctly paraphrase the Draft EIR’s conclusion (from page 11-30 of the Draft EIR) that the roles of a variety of ecosystem elements in salmonid ecology are not sufficiently clear to draw definitive conclusions about the effects of the Management Plan’s policies on salmonids, although the District has concluded that a general portrayal can be provided for this Final EIR.

The District’s understanding of the use of the Humboldt Bay ecosystem by salmonids is summarized in the following excerpt from Section 11.1.2.2 of the Draft EIR:

“The relationships of the four salmonid species/ESUs with the physical environment in the region differ, in terms of seasonal timing or desired water characteristics that are needed for use by fry, yearlings, smolts, and migratory adults. In general the scientific understanding of the evolutionary and ecological relationships among salmonid ESUs in the river basins of the Pacific coast continues to change to accommodate both differences among the ESUs and differences among the river basins [see Fresh and others (2005), Bottom and others (2005)].<sup>3</sup> As a general

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3 “The EIR’s authors note that the portrayal in the cited reports represents a fundamental reassessment of the ecological and evolutionary patterns represented by the numerous ESUs in the Columbia River basin. To the extent that the “model” underlying the assessment in the Columbia basin is valid, then it is likely that a similar reassessment of the relationships among ESUs and the

summary, the evolutionary selection pressures to which each ESU is exposed will favor specific traits of each ESU's life history. Sometimes the selection pressures will favor remaining longer in the fish's natal stream, sometimes selection will favor a lengthy residence in estuarine conditions, and sometimes selection may favor an early migration to the ocean. The overall pattern exhibited by the collection of salmonid ESUs in a particular region likely will resemble patterns in other regions, but the species that exhibit particular adaptive traits (e.g., long-term freshwater residency as juveniles) may differ among the regions.

"In the Humboldt Bay area it is inaccurate to conclude that the life histories of salmonid species are well understood. Fragmentary local data provide a sketchy profile of some fish remaining in the major tributaries to Humboldt Bay, but relatively extensive sampling within the bay itself has found no evidence of salmonids (Pinnix and others 2005). ... This EIR concludes that the usage patterns of the salmonids in the Humboldt Bay watershed are not known well enough to allow an adequate characterization of impacts that could result from many of the Draft Plan's policies."

In other words, the District has concluded, after considering the studies cited in the excerpt, that a portrait is emerging of significant inter-ESU variability among river basins, which contrasts with a generally "expected" perception that has been held by some fisheries scientists that there is relatively little genetic or phenotypic plasticity among salmon ESUs.

The Draft EIR did not conclude that Humboldt Bay's habitats are unimportant for salmonids. What the EIR concluded is that there are inconsistencies among the results anticipated by the "expected" habitat-use model and the observations of fish habitat usage in Humboldt Bay. These inconsistencies indicate that additional information must be obtained and assessed regarding the usage of Humboldt Bay's habitats (see the following subsection). The District thus specifically declines to agree that the "likely usage patterns of the salmonids in the Humboldt Bay" can be inferred solely from studies carried out in other locations, although the studies most definitely do inform the District's understanding of the Humboldt Bay aquatic ecosystem.

#### **5.4.2 Salmonid Habitat Elements in the Humboldt Bay Ecosystem Complex**

This comment explicitly states that NMFS "believes that salmonid habitat elements in Humboldt Bay are adequately defined or can be inferred" to identify likely impacts to salmonids as a result of Draft Management Plan policies. The District does not agree with this statement of belief, for the reasons cited in the previous response and explained further below. There is significant uncertainty regarding the actual usage patterns of salmonids (particularly juveniles) that can be unequivocally "defined" in the Humboldt Bay region. In addition, the District believes that the existing information about salmonid usage in the Humboldt Bay ecosystem complex supports a conclusion about juvenile salmonid usage that differs from the NMFS suggestions. The District is further concerned that basing long-term management decisions on "inferred" scientific study results is inappropriate, unwise, and contrary to federal and state law.

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biophysical river dynamics in northern California is also warranted."

The NMFS comment defines a number of Primary Constituent Elements (PCEs), which are habitat elements important within the federal Endangered Species Act regulatory process for “critical habitat” for the federally listed fish species (see the NMFS comment letter for an explanation of these PCEs). The NMFS comment letter states (paraphrasing a *Federal Register* notice): “NMFS found that Humboldt Bay contains PCEs for rearing and migration and was of high conservation value because it provides migratory connectivity for juveniles and adults between high value freshwater spawning and rearing habitat and the ocean.”

The District’s consideration of the available scientific evidence in the Humboldt Bay region led the District to conclude that the general characterization of the aquatic ecosystem elements in the region is substantially correct, but that there was a high likelihood that the use of the habitat elements differed from NMFS’ “expected” interpretation that the marine waters of Humboldt Bay are a significant rearing habitat for these salmonids. In summary, the District’s assessment included the following:

- The “expected” model of estuarine habitat use by all of the salmonid species includes migration by adults to reach freshwater spawning areas. While there are few data that document the upstream passage of adult salmonids, all known existing data support the expectation, and furthermore this expectation *must* be correct; therefore the District concluded that the PCEs identified by NMFS for adult migration are germane for bay management.
- The “expected” model of estuarine habitat use also includes variable use of the bay’s environment by juveniles and smolts, but data from the Humboldt Bay region do not currently support this expectation within the bay’s waters. That is, juveniles (particularly) and smolts do not appear to be utilizing the waters of Humboldt Bay in the way the “expected” model predicts. This uncertainty prompted the District to consider whether a different model might be more appropriate (see below) and the PCEs identified in the NMFS designation misapplied.
- The “expected” model suggests that all of the species should find appropriate spawning and/or rearing habitat in freshwater ecosystem elements above the limits of estuarine influences. This interpretation is consistent with virtually everything that is known about these species, and is undoubtedly correct; however, the District lacks jurisdiction over these freshwater spawning or rearing habitats and the District did not consider this element further.

The District’s consideration of salmonid habitat use patterns in the bay watershed suggested that a likely source of the discrepancy between the “expected” model and actual local observations occurs because juvenile salmon are not rearing within the bay. These considerations led the District to conclude that this possibility is not incompatible with known regional salmonid ecology, because the waters in Humboldt Bay do not function as a typical estuary, a place where freshwater and seawater actively mix with high frequency and salinity is regularly reduced by freshwater inflow. Rather, Humboldt Bay is well known to be, effectively, a marine embayment, with average salinity, dissolved oxygen concentration, and other water quality parameters most of the time close to or the same as those of the nearshore Pacific Ocean.

The “estuary” in the Humboldt Bay watershed is actually composed of the lower reaches of perennial streams that flow into the bay, primarily Jacoby Creek, Freshwater Creek,

Elk River, and Salmon Creek. That is, the “expected” salmonid habitat use model for Humboldt Bay actually predicts that juvenile rearing should be concentrated in the estuarine reaches of these major streams (and likely in their estuarine tributaries). The marine waters of Humboldt Bay would directly enter the juvenile life cycles of these species when they smoltify and leave the bay ecosystem, which could take place very rapidly because of potentially high predation pressures within the bay’s waters.

Existing data and scientific deliberations about Pacific Coast salmonid habitat use fully support the District’s interpretation of habitat usage in the Humboldt Bay complex:

- The studies of estuarine habitat use by salmonids elsewhere along the Pacific Coast (many of which are summarized in the NMFS comment) virtually all identify the lower, estuarine reaches of coastal rivers as the locus of important salmonid rearing. That is, the District reads the existing studies from throughout the Pacific Northwest to indicate that the important estuarine rearing habitat should occur in the lower, tidal reaches of rivers entering the marine environment, where seawater and freshwater mix. In Humboldt Bay that estuarine habitat occurs in the lower tributaries.
- Known data addressing salmonid use in the Humboldt Bay ecosystem are consistent with this preliminary interpretation. The studies that have been and are being conducted by Associate Biologist Michael Wallace of the California Department of Fish and Game and his colleagues have identified (and continue to identify) the estuarine reaches of these major tributary streams as the places where salmonid rearing occurs, while studies in the open waters of Humboldt Bay (e.g., Pinnix and others 2004) have found virtually no young salmonids.

The District’s considerations constitute an alternative model for salmonid use of habitats within the Humboldt Bay ecosystem complex, a model that is consistent with the known occurrence data for these species in the Humboldt Bay area. The District is, nonetheless, uncertain that this alternative scientific model is correct, and concludes that additional research regarding salmonid usage is appropriate. Two salient conclusions do emerge from these considerations:

1. The consistency of the “alternative” interpretation of habitat use by juvenile salmonids with valid data collected within the Humboldt Bay watershed clearly indicates that the habitat use patterns of these species in the Humboldt Bay area are not fully resolved scientifically.
2. The general characterization of Humboldt Bay as critical habitat for one or more life stages of these species is undoubtedly correct; however, the PCEs provided in the Humboldt Bay region for various life stages, based on scientific studies from elsewhere as well as within Humboldt Bay, may differ from those suggested by the NMFS comment.

The District has often stated its support for additional applied research regarding the use of the bay ecosystem by a variety of organisms, and the District supports additional research and scientific assessment regarding the ecology of salmonids within the bay ecosystem complex. The District agrees with NMFS that the Humboldt Bay ecosystem complex provides essential habitat for salmonids. However, the District does not concur with the thrust of the NMFS comment that it is possible to “infer” the effects of all of the

Management Plan's policies on these fish and their habitats based solely on existing scientific study results generated outside of the region.

#### **5.4.3 Interpretation of Prior NMFS Conclusions Regarding Eelgrass and Salmonids**

The NMFS comment letter states that the Draft EIR "erroneously" interpreted the NMFS biological opinion (BO), submitted to the Army Corps of Engineers with respect to the impacts of mariculture operations in Arcata Bay, to support a conclusion in the EIR that "adverse effects to listed salmonids, and to the migratory corridors of listed salmonids, as a result of effects to eelgrass habitats, (are) unlikely and would not be environmentally significant." However, the Draft EIR did not interpret the NMFS BO in support of a conclusion that impacts to salmonids because of a loss of eelgrass would not be significant; the Draft EIR did not reach such a conclusion. What the Draft EIR concluded was that "insufficient knowledge currently exists for the EIR to definitively determine whether the Plan's policies are associated with impacts on these (salmonid) species" (see Draft EIR page 10-16).

The context of the assessment in the Draft EIR is programmatic. That is, the Draft EIR did not consider effects of the many hundreds of specific projects that may occur in implementing the Plan's policies in any sense more than a general context. The District understands that the NMFS BO was project-specific, focused on the proposed mariculture operation. The Draft EIR concluded with respect to mariculture projects (which were not a specific subject of the EIR's analyses, but which could be considered an activity that could be approved by the District in certain cases as consistent with proposed Management Plan policies) that a reduction in density and productivity within about 250 acres of eelgrass (the predicted effect of the proposed mariculture operation) would not result in significant impacts on salmonids if that proposal were a subject of the EIR, which was/is not the case. The Draft EIR cited the NMFS BO in support of this conclusion because that was, in fact, what the BO concluded.<sup>4</sup>

#### **5.4.4 General Effects of Port-Related Activities on Salmonids**

The NMFS comment letter recommends that the Draft EIR characterize the effects on salmonids of implementing "many" port-related activities in Humboldt Bay, including *inter alia* dredging, construction of over-water structures, and shoreline modifications. However, the Draft EIR already includes such a characterization of the Plan's implementation, in chapters 8.0, 9.0, 10.0, and 11.0.

The purpose of programmatic assessments accompany planning documents pursuant to CEQA was covered, generally, in Section 1.2 of the Draft EIR. It is also instructive to review CEQA Guidelines Section 15166, which addresses EIR requirements for certain planning documents specifically.<sup>5</sup> A detailed characterization of possible effects of implementation projects is generally inappropriate for a programmatic environmental

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4 A determination of "not likely to adversely effect" is synonymous with an insignificant and discountable effect on these species (Endangered Species Consultation Handbook, page 3-12; NMFS and USFWS 1998).

5 See URL: [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines\\_2004-09-07/art11.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines_2004-09-07/art11.html) (viewed June 2006)

assessment, because that programmatic assessment will not lead to the approval by the Lead Agency of a single example of any such project, absent a subsequent project-specific assessment when it is considered by the District and by other agencies.

The District interprets the NMFS comment generally as a statement that the Draft EIR did not clearly enunciate a conclusion that managing Humboldt Bay as a port will unavoidably have significant impacts on salmonid habitat and on individual salmonids, because such port-management activities have been associated with potential impacts to salmonid habitat and individual salmonids in one or more studies carried out at various locations in the past. The District notes, however, that it is likely to be the case that at least *some* port-related projects can be identified that incorporate appropriate mitigation measures such that the effects of the projects on salmonids are not environmentally significant, and it would be inappropriate to conclude that all port-related projects inevitably will have adverse effects on salmonids.

For the purposes of fulfilling CEQA's requirements to characterize potential Plan-related impacts unequivocally, this Final EIR includes the following statement:

*Based on a variety of past studies in a variety of port-related contexts, there is a known potential for actions that result from port operations (including dredging, construction of over-water structures, shoreline modification and maintenance, and a wide variety of other activities) to produce adverse effects on many physical and biological resources of general environmental concern. Carrying out any of the port-related policies in the Draft Humboldt Bay Management Plan may lead to some degree of adverse effect on these resources, including federally listed fish, wildlife, and plant species and their habitats. At the present time it is unclear whether any specific project that might follow from implementing the Draft Management Plan will have such impacts. Any proposal considered by the District in the future must evaluate the proposal-specific effects on these resources, and must implement any feasible mitigation measures required by the District to avoid, reduce, or offset such impacts. It is possible that some proposed actions may be associated with impacts that cannot be mitigated to levels that are less-than-significant, and in approving such actions the District will identify the public benefits that outweigh the unavoidable environmental impacts.*

## **5.5 ESSENTIAL FISH HABITAT IN HUMBOLDT BAY**

This NMFS comment identifies an incorrect EIR attribution to NMFS of the designation of Essential Fish Habitat (EFH). The comment identifies the source of EFH designation to be the appropriate Fishery Management Council; once designated by a management council and *approved* by NMFS, the EFH designations are *used* by NMFS to recommend appropriate management actions, with respect to EFH, to federal agencies regarding proposals under consideration by those agencies. The Draft EIR was inappropriately inexact in identifying these lines of responsibility in the designation of EFH, and the District appreciates the correction.

The NMFS comment letter states that NMFS believes that life-history information and habitat use patterns are adequately clear for fish species covered under one or more of the three fishery management plans affecting Humboldt Bay that effects of various actions on EFH may be determined. NMFS disagrees with the Draft EIR conclusion (on page 11-31)

that “(f)urther explication of the habitat relationships of the covered species must await a substantial increase in applied research addressing those relationships.”

While the District concurs with the NMFS comment that substantial information exists from studies conducted along North America’s western coast that helps in considering essential fishery habitat for covered species, the District does not agree with the primary point in the comment that sufficient knowledge exists regarding these habitat relationships to address, in the Draft EIR for the Management Plan, potential effects on the habitat of many of the affected species. For example, recent research in Humboldt Bay by University of California scientists has produced results that constitute new information about use of Humboldt Bay habitats by FMP-covered rockfish species.

In the District’s judgement, conclusions on the basis only of existing studies about the effects of various actions, inside and outside Humboldt Bay, on the habitats of many of these species would be based only partly on established science, with many “conclusions” based largely on guesses. While various habitat elements may be important for one or more species at some place or at some time, those elements may or may not occur regularly in or close to Humboldt Bay. Moreover, the mere occurrence of the habitat elements cannot, scientifically, be the same thing as a demonstration that the affected species utilize those elements in the Humboldt Bay region in the ways that have been identified elsewhere (such as in Alaska or Monterey Bay); there is evidence that the ecological use patterns of the species, and indeed even the genetic continuity of the populations within species, vary along the Pacific Coast.<sup>6</sup> Finally, even if all of the proposed habitat relationships in the FMPs were fully correct, it is still true that the existing information base about Humboldt Bay and the nearshore Pacific is fragmentary and the District would be largely speculating should it address possible effects to the essential fish habitat of all of the covered species in this EIR.

The discordance regarding the adequacy of existing information will not be resolved in this EIR process. The District looks forward to positive working interactions with NMFS, UC, and other interested parties in developing habitat management approaches for Humboldt Bay that help the District, NMFS, and other affected parties in assuring that essential fish habitat for these commercially important species is integrated into the District’s decision-making processes. In these discussions the District, NMFS, and other affected parties may consider the knowledge that addresses other essential habitat elements of commercially important fish species, crafting appropriate management strategies for Humboldt Bay habitats.

## **5.6 IMPLEMENTING THE MANAGEMENT PLAN**

This NMFS comment states that NMFS disagrees with the Draft EIR’s conclusion that the proposed Management Plan avoids significant environmental effects on Humboldt Bay: “NMFS does not believe the current” (i.e., proposed Management Plan) “policies contain sufficient detail to ensure that impacts” [i.e., to “designated critical habitat and EFH (e.g., eelgrass)”] “are reduced to a less than significant level.” The NMFS comment suggests that the District should accelerate the development of (primarily) the habitat protection

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6 O’Farrell, M. R., and L. W. Botsford. 2006. Estimating the status of nearshore rockfish (*Sebastes* spp.) populations with length frequency data. *Ecol. Applications* 16:977-986.

and enhancement policies that are identified as implementation elements in the Draft Plan.

The District disagrees with the NMFS suggestion, and with the implication that habitat protection and enhancement policies are inherently the most important aspects of the bay's management. The District is legally obligated to "balance" uses in Humboldt Bay pursuant to state statute, and within this context the District affirms the conclusion that the policy focus in the Draft Plan reduces the potential effects of the Plan on fishery habitats and fish species to levels that are less-than-significant environmentally.<sup>7</sup>

The District identified an implementation program for the Draft Plan which, while not definitive, indicated clearly the fact that there are many elements in the Management Plan, and that the District likely will not be able to undertake implementation efforts on all of them simultaneously. The habitat management elements in the Plan are clearly important concerns for the bay's management, however, and the District's decision-makers will undoubtedly assign a relatively high priority to the implementation of these elements.

The District notes that the Plan's implementation program must adhere to the requirements of the District's enabling legislation and other legal requirements affecting District decision-making. It cannot be assumed that implementing the Management Plan will always avoid all possible impacts to fish-related habitat elements in Humboldt Bay, but the Draft Plan identifies a policy focus that includes minimizing possible habitat impacts that result from other management elements that the District is obliged to carry out. The District expects to implement management directions that protect habitat elements in Humboldt Bay, but the District does not have the option to forego port-related management or recreational management elements, and actions in both categories may adversely affect fishery habitat values in the bay. In short, it will not be possible for the District to place avoiding all impacts to fish and fishery habitats above all of the competing priorities for the bay's management.

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<sup>7</sup> The District points out that the Draft Plan includes policies that provide the District with the opportunity to develop elements or measures that avoid, reduce, and/or offset impacts to fish and their habitats, and that this is the necessary result for the EIR to conclude that the Draft Plan will not have intrinsic environmentally significant impacts. However, it is possible that some necessary implementation projects may not completely mitigate project-specific impacts; this EIR simply cannot know or consider all of the details of possible future implementation projects.



UNITED STATES DEPARTMENT OF COMMERCE  
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MAY 26 2006

In response refer to:  
151422SWR2005AR00165

Jeff Robinson  
Conservation Specialist  
Humboldt Bay Harbor, Recreation, and Conservation District  
P.O. Box 1030  
Eureka, California 95502-1030

Dear Mr. Robinson:

Thank you for your April 14, 2006, letter providing the opportunity to review the Humboldt Bay Harbor, Recreation, and Conservation District (District) Draft Environmental Impact Report (DEIR) on the Draft Humboldt Bay Management Plan (Plan). This letter transmits NOAA's National Marine Fisheries Service (NMFS) comments on the DEIR, pursuant to our authority under the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the Fish and Wildlife Coordination Act. NMFS provides the enclosed comments in the spirit of collaboration towards the future coordination and simplification of the regulatory processes affecting harbor-related management and development activities which are goals identified in the Plan.

NMFS specifically identifies the following concerns about habitat protection in Humboldt Bay in the DEIR: (1) characterization of existing District planning guidance, (2) analysis of impacts of the Plan's policies on salmonids, salmonid habitat, and Essential Fish Habitat, and (3) timeline and milestones to ensure collaboration to complete the tasks and products identified in the proposed Conservation Element policies.

NMFS is confident that, if our concerns are addressed, the Plan's policies would accommodate habitat conservation and enhancement, and ultimately increase regulatory efficiency, in the implementation of future projects in Humboldt Bay. As suggested in previous correspondence, we recommend that the District schedule a meeting with NMFS and other relevant regulatory and resource agencies (U.S. Army Corps, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Coastal Commission). NMFS is confident that the proactive, timely collaboration in clarification and development of conservation policies will achieve a balanced Plan that meets the District's goals, as well as conserves and enhances habitat within Humboldt Bay.

Please contact Mr. Chuck Glasgow at (707) 825-5170 or via email at [chuck.glasgow@noaa.gov](mailto:chuck.glasgow@noaa.gov) if you have any questions regarding this letter.

Sincerely,

  
Irma Lagomarsino  
Arcata Area Office Supervisor

Enclosure

cc: J. Hicks, U.S. Army Corps of Engineers, San Francisco, CA  
M. Long, U.S. Fish and Wildlife Service, Arcata, CA  
G. Stacey, California Department of Fish and Game, Los Alimitos, CA  
B. Merrill, California Coastal Commission, Eureka, CA

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H.B.H.R. & C.D.



**NOAA's National Marine Fisheries Service (NMFS) Comments on the Humboldt Bay Harbor, Recreation, and Conservation District (District) Draft Environmental Impact Report (DEIR) on the Draft Humboldt Bay Management Plan (Plan)**

NMFS understands that the DEIR: (1) was prepared, in accordance with the California Environmental Quality Act (CEQA) to analyze and disclose the environmental consequences of the adoption of the Plan by the District; (2) determined an effect to be significant only if there was an increase in the potential for occurrence of the effect beyond the degree that would exist if the Plan's policies were not carried out; (3) evaluated potential effects in the context of present and future effects of the District's continued implementation of the existing 1975 Master Plan, District Ordinances, and current direction of the District's Strategic Plan; and (4) identified either changes in the Plan policy framework that would avoid, reduce or minimize a potentially significant effect, or an additional policy element that would reduce or offset unavoidable impacts.

In following comments, NMFS outlines why the existing Plan's policy framework does not adequately protect salmonid habitats and Essential Fish Habitat (EFH), and provides recommendations for improving habitat protection.

**1. Characterization of Existing District Planning Guidance**

- 5.1 NMFS believes the DEIR characterization of the 1975 Master Plan should more explicitly and clearly explain the District's approach to conservation, rather than simply stating the plan promoted a more aggressive approach to promoting industrial and commercial development around Humboldt Bay. The 1975 Master Plan (1) empowered the District, by state statutes, to develop Humboldt Bay to its ultimate potential as a harbor and a port while conserving the natural resources of the area; (2) was "based on the concepts of conservation and protection of important resource areas that occur over the entire bay and abutting land; support and regulation of activities; and development of facilities;" and (3) identified large eelgrass beds in the center of the North Bay that needed to be preserved. NMFS also notes that District Ordinance 7, article IV, section 9(a) states "maintenance and improvement of environmental quality shall be primary objectives for the use and development of all areas of Humboldt Bay and not just those areas designated as 'Conservation Water' and 'Public Open Space Lands'." In addition, the District
- 5.2 currently lacks a comprehensive or consistently-applied planning focus for shoreline concerns (DEIR p. 12-6), and will continue to rely on compliance of applicants' shoreline protection designs with the requirements of the Corps and other agencies for erosion-protection measures."
- 5.3 NMFS also believes the DEIR should disclose and evaluate the importance of the current direction and goals of the District Strategic Plan, which are posted on the District web site and include: streamlining permit processes for historic uses of Humboldt Bay and its margins; maintaining historic uses compatible with the Plan and Harbor Revitalization Plan; identifying and implementing the Harbor Revitalization Plan elements needed to build the foundation for a real increase in the cargo handling capacity (Harbor); facilitating a substantial increase in recreational facilities available throughout the District (Recreation); and providing leadership in enhancing and protecting the Bay environment (Conservation).

NMFS is encouraged by the District's ecosystem-based management approach for Humboldt Bay, and recommends the District evaluate the relevance, to the Plan, of the policies recommended by the Ecosystem Principles Advisory Board in report to Congress, "Ecosystem-Based Fishery Management" (<http://www.nmfs.noaa.gov/sfa/EPAPrpt.pdf>), and consider applying such an approach to the fishery component of the Plan.

## 2. Analysis of Impacts on Salmonids and Habitat

- 5.4.1 NMFS recommends the DEIR should not defer assessment of potential impacts and protection of habitats until further studies are conducted and "definitive judgments" on salmonid usage in Humboldt Bay are agreed upon (p. 11-11, 11-30). The DEIR did not find that the salmonid life histories or habitat usage in the Humboldt Bay watershed were known well enough to allow an adequate characterization of impacts of the Plan's policies, and cited the lack of salmonid capture by Pinnix *et al.* (2005) to support this conclusion. NMFS points out that the objective of Pinnix *et al.* (2005) was to describe the fish community structure in eelgrass, mudflat, and oyster culture habitats, not to target salmonids specifically. In fact, Pinnix *et al.* (2005) stated that the frequency and intensity of sampling, coupled with the low numbers of juvenile salmonids in North Bay, may be a possible explanation for not capturing salmonids during the study. NMFS believes that existing information (*e.g.* Waldvogel 1977, Bryant 2004, Cole 2004, Shaw 2004), information available since completion of the DEIR, and inference from other Pacific Coast estuaries, can be used to infer likely usage patterns of the salmonids in the Humboldt Bay and to characterize potential impacts of the Plan's policies on the likely varied habitats utilized by salmonids. Since completion of the DEIR, Wallace (2006) has summarized the temporal and spatial occurrence of juvenile salmonids in Freshwater Creek and Freshwater Slough in 2003, and Studebaker (2006) has collected a Chinook salmon smolt during a monthly trawl survey in an eelgrass bed adjacent to the Samoa Channel.
- 5.4.2 NMFS also believes salmonid habitat elements in Humboldt Bay are adequately defined or can be inferred, and the DEIR should assess the possible effects of the identified Bay uses on fish habitat elements (p. 11-30). For example, as indicated in our September 12, 2005, letter, NMFS points to the final rule designating critical habitat for California Coastal (CC) Chinook salmon and Northern California steelhead (September 2, 2005, 70 FR 52488), which identifies specific biological and physical features that are essential to the conservation of those species, otherwise known as Primary Constituent Elements (PCEs). The critical habitat analytical review team determined that the PCEs essential for CC Chinook salmon and NC steelhead are those sites and habitat components that support one or more life stages, and include estuarine areas free of obstruction and excessive predation with: (1) water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions from fresh-to saltwater; (2) natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and (3) juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. In particular, NMFS found that Humboldt Bay contains PCEs for rearing and migration and was of high conservation value because it provides migratory connectivity for juveniles and adults between high value freshwater spawning and rearing habitat and the ocean (December 10, 2004, 69 FR 71880; September 2, 2005, 70 FR 52488).
- 5.4.3 NMFS also believes the DEIR generalized and interpreted the conclusions of the NMFS (2005) biological opinion (BO) beyond their applicability, and erroneously used the conclusions as

partial support for its conclusion that adverse effects to listed salmonids, and to the migratory corridors of listed salmonids, as a result of effects to eelgrass habitats, were unlikely and would not be environmentally significant. NMFS cautions that the conclusions in the NMFS (2005) BO pertain only to the action analyzed in that BO; and should not be generalized to Humboldt Bay. NMFS recommends the DEIR explain the differences in intent, level, and specificity of analysis of effects in a BO and in the CEQA DEIR, before adopting the conclusions from the BO to the DEIR.

- 5.4.4 NMFS recommends the DEIR characterize impacts that could result from implementation of many of the Draft Plan's policies on salmonids in the Humboldt Bay (p. 10-16, 11-11) by using relevant studies (*e.g.*, Nightingale and Simenstad 2001a, 2001b, 2001c; Haas *et al.* 2002, Williams and Thom 2001) that have investigated effects of port-related activities (*i.e.*, dredging, construction of overwater structures, shoreline modifications).

### 3. Analysis of Impacts on EFH

- 5.5 NMFS recommends that the DEIR clarify the process of designation of EFH in Humboldt Bay. The DEIR (11-13) states: "The District has consulted with NOAA Fisheries regarding the EFH designation and management process that applies for Humboldt Bay. At the present time, EFH determinations are made by NOAA Fisheries on a project-by-project review basis; specific habitat designations have not been developed for habitats within Humboldt Bay." As NMFS indicated in a previous letter, EFH is described by the Pacific Fishery Management Council (PFMC), and is approved by NMFS. EFH descriptions are found within the various Fishery Management Plans (FMP) developed by the PFMC. NMFS does not determine what EFH is on a project-by-project basis, but refers to the EFH descriptions identified within the various FMPs and their associated technical appendices. Moreover, specific habitat designations have been developed in the FMPs and associated appendices, which are applicable within Humboldt Bay.

NMFS believes, contrary to statements in the DEIR (p. 11-31), that the life histories and habitat requirements of the species covered under FMPs are understood well enough to determine the effects of various likely activities in Humboldt Bay. The PFMC has designated Humboldt Bay as EFH for multiple species and has described specific habitat elements of EFH within the FMPs and their associated technical appendices. Since our previous correspondence, Pacific Groundfish EFH has been amended by the PFMC and was approved by NMFS in March, 2006. Pacific Groundfish EFH includes areas designated as Habitat Areas of Particular Concern (HAPC). For the purposes of identifying Pacific Groundfish EFH, artificial structures are excluded from the definition of substrate unless designated a HAPC. Estuaries, canopy kelp, seagrass, rocky reefs, and specific areas of interest have been identified as Pacific Groundfish HAPC.

For detailed descriptions of EFH, HAPC, and life history information for Pacific Groundfish species, please review Amendment 19 and associated appendices of the Pacific Groundfish FMP (<http://www.pcouncil.org/groundfish/gffmp.html>). For more detailed descriptions and identifications of EFH for the coastal pelagic species, please review Amendment 8 to the Coastal Pelagic Species FMP (<http://www.pcouncil.org/cps/cpsfmp.html>). For more detailed description and identification of EFH for salmon species, please review Appendix A to Amendment 14 to the Pacific Coast Salmon FMP (<http://www.pcouncil.org/salmon/salfmp.html>).

NMFS appreciates the focus on eelgrass within section 10 of the DEIR. Although not comprehensive in its analysis of the effects of various bay uses on eelgrass, the DEIR acknowledges that implementation of the Plan has the potential to adversely affect eelgrass and this is considered environmentally significant. NMFS believes a similar analysis should be conducted for additional habitat elements that are identified as EFH in the FMP documents. For example, section 3.2 of appendix A to Amendment 14 of the Pacific Coast Salmon FMP provides a brief overview of salmon habitat requirements, discussion of potential adverse effects, and a menu of conservation options. Similar information is available for the other FMPs as well. NMFS encourages the District to use this information to evaluate how various bay uses may affect the FMP-identified habitat elements within Humboldt Bay.

Although NMFS believes there is sufficient information for the DEIR to analyze the effects of various bay uses on identified EFH habitat elements, NMFS recognizes the importance of gaining additional information related to the habitat needs and habitat usage of Federally-managed fish. Thus, NMFS is supportive of the District's policy focus that will direct additional research and assessment in order to better identify and address roles that the bay ecosystem plays in the life cycles of Federally-managed fish species.

#### **4. Timeline and Milestones to Develop Proposed Conservation Policies**

5.6 NMFS believes the DEIR does not support the conclusion that all potential policy-related environmental impacts are reduced to less-than significant levels by proposed measures (p. S-14). The DEIR states that (1) the Plan is intended to be a "self-mitigating" programmatic management program for Humboldt Bay, where policies that could result in adverse effects are accompanied by other policies that minimize or avoid possible adverse effects; and (2) the success of the Plan in avoiding impacts depends entirely on full implementation of all the Plan's policies (pp. 5-12, 6-13, 8-20, 9-26, 10-15, 11-29). However, the DEIR also states that (1) the precise timing and scope of actions for most policies are uncertain (p. 1-6); and (2) without further clarification of the policies, the District will continue to use existing ordinances (e.g., Ordinance 7), developed to implement the 1975 Master Plan, to implement the Plan's requirements, and rely on development of new ordinances as needed (p. 13-8). NMFS interprets these statements to indicate the current direction of the District will continue until the policies are developed, and there is no assurance that the policies will be adopted or implemented or effective. Although NMFS is conceptually supportive of the policies (e.g., CAS-2) identified in the Plan to mitigate potential impacts to designated critical habitat and EFH (e.g., eelgrass), NMFS does not believe the current policies contain sufficient detail to ensure that impacts are reduced to a less than significant level.

NMFS re-iterates its recommendations, transmitted previously in our September 12 and September 28, 2005, letters that the District (1) clarify the timeframe and procedure for development, adoption, and implementation of the Plan's policies for habitat protection and enhancement, instead of reliance on existing regulatory framework to ensure habitat (e.g., eelgrass) protection; and (2) demonstrate that the Plan's policies will indeed achieve and ensure a balance of Harbor, Recreation, and Conservation element goals and objectives, considering the disparity among these elements in the current implementation of the 1975 Master Plan and the direction and goals of the District Strategic Plan.

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