

Department of Fish and Game
Summary Response to Nearshore Fishery Management Plan Peer Review
October 16, 2001 Version

The Department of Fish and Game (DFG) established a program with the University of California regents for external peer review of the scientific basis of marine living resources management documents. This program is mandated in Fish and Game Code section 7062. DFG staff received the first peer review report on October 16, 2001 for the Nearshore Fishery Management Plan (NFMP). The California Fish and Game Commission (Commission) requested a DFG staff report on the NFMP peer review report at its November 2, 2001 meeting in Redding, California.

This DFG summary response to the NFMP peer review report has two parts. First there is an overall summary of the peer review report, and then there is a specific comment to each of the 31 issues raised by the peer review panel.

Overall Summary Response

- DFG staff would like to thank the peer review panel for their comments on the NFMP. Based on these comments, any future drafts of the NFMP will be a better document.
- DFG staff believes that all peer review comments can be answered through better organization of the NFMP, clarification of issues by providing either additional informational explanations, and simplification of information presentation with the use of spreadsheets or flow diagrams.
- The intents of some of the peer review issues were not clear to DFG staff, or they could be interpreted several ways. Therefore, there is a need for DFG staff to meet with the NFMP peer review panel to clarify certain issues so an appropriate response can be made.
- Based on the NFMP peer review, we believe DFG has demonstrated the NFMP is based on sound scientific knowledge, methods, and practices. DFG accepts the peer review report findings as fair and will revise the NFMP accordingly (see specific comments below). DFG will explain any findings as part of the final NFMP document that is submitted to the Commission for adoption.

Specific Comments on Each Issue

Plan Organization and Approach

1. NFMP peer review comment: The criteria used to select the 19 species to be managed under the Plan were questionable, resulting in omitting a number of highly significant species (*e.g.*, kelp bass, lingcod, surf perches, croakers, California halibut) while including some of less significance (*e.g.*, monkeyface prickleback).

DFG response: The selection criterion was based on the Pacific Fishery Management Council's nearshore groundfish sort group, and a ranking matrix that is listed the NFMP. The Master Plan required by the MLMA has identified several species mentioned by the Peer Review Team as high priorities for management under a fishery management plan.

2. NFMP peer review comment: The Panel believes that effort reduction should be an important goal of the Plan, given that little is known about biomass or appropriate harvest rates of nearshore species. The Plan lacks specifics on how effort can be reduced. It should include an array of effort reduction actions that could function in data-poor (stock assessment) situations.

DFG response: We concur that effort reduction should be an important goal of the NFMP. The specifics are included throughout the current NFMP and will be better organized and spelled out in any NFMP rewrite. These specifics include restricted access in the commercial fishery and other measures as seasonal closures and gear restrictions for the recreational fishery.

3. NFMP peer review comment: The Plan places emphasis on using marine protected areas (MPAs) as a management tool, both for conservation purposes and to estimate unfished biomass densities of nearshore species. However, there is insufficient discussion about corresponding conservation (*e.g.* reductions in effort and/or removals) in unprotected areas. Also, there is little discussion about the time frames involved in using MPAs to estimate unfished biomass densities. For long-lived species with inconsistent recruitment, decades may pass before fish densities in a MPA returns to unfished levels. The Plan does not address how unfished biomass will be estimated in the interim.

DFG response: This is a clarification issue that will be addressed in the NFMP rewrite. The revised draft NFMP will clarify the link between marine protected areas and reduction of effort in areas outside MPAs.

4. NFMP peer review comment: There was a consensus that 10% of nearshore habitat (north) and 15% (south) would not offer adequate protection if over fishing occurred outside the MPAs. Definitions, management, and distribution of MPAs need to be linked to the Marine Life Protection Act (MLPA).

DFG response: The MPA process is linked to the MLPA process. This linkage will be shown in a rewrite of the NFMP Fishery Management Program Chapter (Chapter 2). Furthermore, the draft NFMP does not propose to use MPAs as a primary tool for managing take in the commercial and recreational fisheries. MPAs are only one of the tools listed within the proposed harvest control rules. The exact role we envision for MPAs requires a more detailed explanation, which will be provided in a future draft.

5. Oceanographic and ecological considerations suggest that the California coast should be divided into two distinct regions: one from the Oregon border to Point Conception and the other from Point Conception to Mexico. In the northern region, the nearshore environment favors features adapted to strong coastal upwelling and close proximity to the California Current, whereas in the southern region it favors features adapted to a closed, cyclonic eddy. Each of these very different environments has favored distinctive life-histories and therefore, different species.

However, some panelists pointed out that because of the very limited home range of some species and the potential for serial depletion, the coast should be divided into smaller subdivisions. If the division of the coast into three regions was based on considerations other than geographical boundaries that differentiate stocks of species (e.g., differences in fishing fleets, societal needs, or providing income for coastal communities), the considerations should be stated and the rationale clarified.

DFG response: Information considered in the selection of regional management approaches were explained in Fishery Management Program Chapter. The number of regions which can be considered is limited by the precision of our harvest data. The current three regions were selected as the result of a balance between the socio-economic differences which occur along the coast and the adequacy of the harvest data available. We will consider how best to represent this information in the next draft.

6. NFMP peer review comment: The Plan should clarify the decision making process. There are places throughout the Plan where flow charts (similar to the one on page 9-12) or decision trees could be used to elucidate material that now is described in text narrative.

DFG response: We concur. There should be visual explanations accounting for processes and how we arrived at our conclusions.

7. NFMP peer review comment: The Plan proposes several programmatic alternatives that would set harvest levels based on a target exploitation rate as modified by a 40/10 harvest control. As in the Council's harvest policy for groundfish, under the Plan's control rule the target exploitation rate for a stock is reduced when the stock drops below 40% of its unexploited level, and there is no exploitation when the stock drops below 10% of its unexploited level. The Plan specifies that the target exploitation rates would be based on $F_{50\%}$ for the nearshore rockfish species and $F_{45\%}$ for the other species, identical to the Council's default exploitation rates. The Plan provides no support that these exploitation rates, which were derived for the deepwater species, are appropriate for the aggregation of 19 species. Also, given the lack of reasonably accurate information on historical removals of the individual nearshore species, and corresponding data on changes in their abundance, it probably is not possible to estimate the unfished biomass of any of the 19 nearshore species.

DFG response: DFG needs some clarification regarding this comment from the peer review panel. In the absence of information for nearshore species, shelf groundfish species information is the closest related species information that is available. As we get better information on nearshore species, we will use this new information. There is accurate removal information for sheephead, cabezon, and California scorpion fish. DFG and Pacific States Marine Fisheries Commission staffs are examining both federal and state estimates of historical removals of the individual nearshore species. This examination of data may help in estimates of the unfished biomass for nearshore species or species groups.

8. NFMP peer review comment: All reviewers thought that the Plan could be better organized. As stated previously, the most prevalent suggestion was to use tools such as decision trees, flow charts, and matrices to better show how approaches and alternatives mesh. Key elements of the Plan are not clearly identified and are often hard to find. The definition of goals and objectives is inconsistent in different parts of the Plan.

DFG response: We concur. DFG needs some clarification regarding "the definition of goals and objectives is inconsistent in different parts of the Plan" from the peer review panel.

Data Concerns

9. NFMP peer review comment: The Plan cannot be implemented successfully without better data on fish removals (*i.e.*, the biomass that is removed from a stock per unit time). The reviewers believe that the DFG needs to place greater emphasis on improving removal estimates both in the commercial and recreational fisheries. This is one of the largest deficiencies in the plan.

DFG response: This emphasis on improving removal estimates both in the commercial and recreational fisheries was described in earlier versions of the NFMP. This information was removed since it was not required in the contents of fishery management plans (Fish and Game Code sections 7080 through 7088). This information should be replaced in any rewrite of the plan. DFG has started this process of improving data. A team has been formed (team lead = Dr. Mary Bergen) that includes DFG staff, academia and other governmental agencies.

10. NFMP peer review comment: There must be some provision in the Plan to implement and support ongoing assessments of relative abundance. Harvest control rules are based on Optimum Yield (OY) and Maximum Sustainable Yield (MSY), which cannot be determined without relative abundance estimates. The Plan estimates OY and MSY by using catch statistics from 1993 - 1998, and setting an OY proxy at 50% of these recent catch levels. That time period contained the highest reported catches in some portions of the coast. There are no data to

support the assertion an OY proxy of 50% of 1993 - 1998 catches is or is not a sustainable harvest rate.

DFG response: The selected years are the best information available. The commercial catch information used in the NFMP is from the Pacific Fish Information Network (PacFIN). This is a federal catch estimate system that did not concentrate on nearshore species prior to 1993. Therefore, there is no reliable commercial catch information for nearshore species prior to this date. If better information becomes available then estimates of OY and MSY would be recalculated. Faced with uncertainty, DFG has recommended and the Commission adopted a conservative approach to estimating MSY and OY.

11. NFMP peer review comment: The Plan does not identify a source of funding for collecting, maintaining, and analyzing essential fishery information (EFI). The MLMA requires that DFG obtain EFI for all marine fisheries managed by the state [FGC §7060(a)(b)]. For the Plan to be considered credible, it should acknowledge the difficulty in obtaining essential fishery information for the large number of species inhabiting nearshore waters. There must also be an identified strategy and financial commitment to improve acquisition of fishery dependent and fishery independent data.

DFG response: We acknowledge this comment; however, funding of activities under the NFMP depends upon future actions of the executive and legislative branches of the State of California. This uncertainty of funding must be taken into account in devising fishery management measures.

Serial Depletion and Stock Assessment

12. NFMP peer review comment: Unless it can be shown that the thirteen species of rockfish covered by the Plan are of equal resilience they shouldn't be managed as if they were a single species. The likelihood is that the favored (most valuable) and/or least resilient species would be overfished, and that the Plan would fail to protect the weaker stocks.

DFG response: DFG acknowledges there is risk of a "weak stock" being overfished. However, DFG would take immediate action if any new information is gathered regarding weak stock management. The NFMP states that species can be split out into management units as the need arises. Reserves would provide an insurance policy to prevent weak stocks from being overfished.

13. NFMP peer review comment: The Plan offers no details about how, given data-poor conditions, it will be determined that a stock is overfished. If a stock is determined to be overfished and harvests are curtailed, how will it be determined if and when the stock has rebuilt to a level that will again permit harvesting? The Plan should discuss how DFG would be able to get resources (staffing/financial) to do the assessments, and how they would be carried out if resources were available.

DFG response: We cannot identify overfished stocks, but we can identify over fishing relative to an established OY. We need to gather better information and move from a data poor to a data moderate level of information. In addition, MPAs would provide a hedge against overfishing. That is, if nearshore stocks in MPAs were healthy and the MPAs covered 15 percent of the habitat, then this would count toward a target level of 25 percent of the unfished biomass for maintaining fish above overfished levels.

14. NFMP peer review comment: It was questioned whether DFG could get fishery dependent and independent data simultaneously. Because of the nature of the stocks, DFG needs to gear up for a consistent, long-term data collection effort that would last a minimum of 20 years. It was suggested that an effort to amass and mobilize a volunteer data-gathering team might be beneficial. The Plan should discuss how DFG will integrate with and exploit historical and existing sampling programs such as CalCOFI or the NMFS juvenile rockfish survey.

DFG response: DFG has started this process of improving data. A team has been formed (team lead = Dr. Mary Bergen) that includes DFG staff, academia and other governmental agencies. Reviewing existing sampling programs such as CalCOFI or the NMFS juvenile rockfish survey will occur under this process.

Analysis of the Alternatives

15. NFMP peer review comment: The backbone of the Management Plan is contained in Chapter Two, "Fishery Management Program." This chapter is confusing and needs to be reorganized to make it easier to understand the decision points and the management measures that would be triggered at each point.

DFG response: We concur. There should be visual explanations accounting for processes and how we arrived at our conclusions.

NFMP peer review comments 16, 17 and 18 are very similar; therefore, these comments are listed together with one DFG response that covers these three comments.

16. NFMP peer review comment: The panel concluded that Alternatives 1 and 3 may not meet the requirements of the MLMA. Alternative 1 might continue to deplete the stocks. Alternative 3 (a maximum of 4 lines per vessel and 2 hooks per line) would likely eliminate commercial fishing as a viable industry.
17. NFMP peer review comment: Alternative 2 relies on MPAs to enable depressed stocks to recover. This might achieve the conservation goals of the MLMA, but it would create substantial social and economic disruption. There is insufficient information about how the Plan will address social and economic issues.

18. NFMP peer review comment: Since Alternative 4, the preferred alternative, might be the only one that would comply with the law, the discussion of alternatives should include only the different ways that Alternative 4 would be applied in differing situations.

DFG response to comments 16, 17, and 18: DFG staffs do not believe these comments are correct. The alternatives do meet the mandates of MLMA. There needs to be an added explanation of how the alternatives meet the mandates of MLMA. DFG staff will review the draft white seabass fishery management plan for similar examples to clarify these issues.

19. NFMP peer review comment: It was suggested that for each viable management alternative there should be a formal analysis of how the alternative will conform to each objective of the MLMA.

DFG response: DFG staff will develop a spreadsheet to clarify this concern.

Allocation/Restricted Access Issues

20. NFMP peer review comment: A goal of the Plan is fair allocation ["fair resource allocation" is required in §7086(c)(2) of the MLMA]. The panel felt that discussions about allocation must recognize that the stocks being allocated are a public trust resource, and that harvests rights are granted with the understanding that some benefit from use of the resource should accrue to the citizens of California, beyond those involved directly with fishing, processing, and marketing of fisheries products.

DFG response: We concur and will clarify this issue in any NFMP rewrite.

21. NFMP peer review comment: The Plan implies that restriction of commercial fisheries would meet the conservation goals of the MLMA, yet the impact of harvest on the fish resource is the same regardless of whether the catch was made by a recreational or commercial fisher. Discussion of allocation between recreational and commercial fisheries is inadequate.

DFG response: DFG needs some clarification regarding this comment from the peer review panel. We believe this issue is covered within the discussion of harvest control rules.

22. NFMP peer review comment: Specific ways of implementing restricted access methods to achieve the effort reductions that are presumed with MPAs are not identified in the Plan, and should be. Different generic approaches are listed, and the preferred approach is a combination of all of them. However there is no guarantee that a 50% effort reduction would result from their implementation.

DFG response: Effort reduction is required within the harvest control rules not presumed. We need clarification from the peer review panel regarding its mention

of a 50% reduction in effort. It is unclear the source of the referred to 50% figure. In developing a restricted access program for the commercial fishery, DFG staff will rely on the Commission's restricted access policy. Under this policy, the aim of a restricted access program is to balance the catching capacity of a fleet with the productivity of the resource. The actual effort reduction details would be a routine management measure once the NFMP is adopted.

23. NFMP peer review comment: Restricted access principles should be better articulated and a flow chart or decision tree used to clarify application.

DFG response: We concur and these suggestions will be considered in any rewrite of the NFMP.

24. NFMP peer review comment: No goal for restricted access is identified (*i.e.*, achieve maximum net economic benefit, reduce bycatch, etc.).

DFG response: The goal of MLMA is sustainability of the nearshore resource. The goal of the Commission's restricted access policy, which will guide development of a program for the nearshore commercial fishery, is to match fleet power with the sustainable harvest.

25. NFMP peer review comment: An area-specific approach to restricted access should be discussed.

DFG response: This will be clarified in rewriting the NFMP.

MPAs

26. NFMP peer review comment: All reviewers were concerned about the absence of a defined relationship between MPAs discussed in the Plan and MPAs in the MLPA. The goals and objectives of the MLPA should be included.

DFG response: We believe a chart can be developed to clarify this issue.

27. NFMP peer review comment: There was general agreement that any harvest inside MPAs would alter their ecological balances. At least one reviewer thought that no take (even scientific) should be permitted in MPAs.

DFG response: A discussion, regarding this issue, needs to occur with the peer review panel. This issue depends on MLMA goals or MLPA goals. The MLMA goals refer to the allowable take of the 19 species which allows for a more liberal take within MPAs of other species, while MLPA goals have a less liberal take of marine resources.

28. NFMP peer review comment: There was doubt that the recommended area of MPAs [15% (south) and 10% (north)] would adequately protect some stocks

because of their patchy distribution and unknown range of larval dispersal. A 10% to 15% MPA assumes that the remaining unexploited spawning biomass required for OY must survive to maturity outside of the MPAs. This rate of survival might be difficult to obtain for fish that are long lived and late maturing even with a 50% reduction in effort.

DFG response: MPAs are only one of the management tools recommended in the preferred alternative. DFG needs some clarification regarding this comment from the peer review panel. Patchiness is a subjective arena. Patchiness will decrease as stocks increase. This effect can be minimized by siting of MPAs. The comment on a 50% reduction effort may be in reference to a groundfish issue from the Pacific Fishery Management Council and not referenced in the NFMP.

29. NFMP peer review comment: The placement and configuration of MPAs should conform to an experimental design and appropriate monitoring that will provide scientific information about the function of MPAs and how to make them more effective.

DFG response: We concur.

Constituent involvement

30. NFMP peer review comment: Constituent involvement in the development of the Plan is described in the document, but the results are not. The details of public input should not only be identified, but it should be shown how its analysis influenced the evolution of the Plan, and will influence subsequent changes to the Plan.

DFG response: This will be clarified in an NFMP rewrite. This is a California Environmental Quality Act requirement in the NFMP version sent to the Commission for adoption.

31. NFMP peer review comment: In the Plan, nearshore is defined as the area from the high-tide line offshore to a depth of 120 feet. In the MLMA it is the area within one nautical mile of the coastline. This inconsistency in definitions should be resolved.

DFG response: There is confusion between the Nearshore Fisheries Management Act (Fish and Game Code sections 8585 through 8589.7) and the MLMA (Fish and Game Code Part 1.7, sections 7050 through 7090). The one nautical mile is defined in the Nearshore Fisheries Act (Fish and Game Code Section 8586 (c)). Nearshore waters are not defined in the MLMA. The Commission adopted the depth of 120 feet during its consideration of interim nearshore fishery regulations. Therefore, the NFMP continues this definition of the nearshore area to a depth of 120 feet. We will examine the intertidal boundary definition for consistency.