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June 6, 2008

Mr. Donald K. Hansen
Chair, Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

RE: G.1 Coastal Pelagic Species Management

Dear Chairman Hansen

The Pacific Fishery Management Council (PFMC) must manage forage species using an ecosystem-based approach that recognizes and accounts for the important role forage species play in the California Current Large Marine Ecosystem. Forage species, including those managed under the Coastal Pelagic Species Fishery Management Plan (CPS FMP), play a crucial role in marine ecosystems by transferring energy from plankton to larger fishes, seabirds, and marine mammals.[1] The PFMC has the responsibility under the Magnuson-Stevens Fishery Conservation and Management Act and CPS FMP to consider ecosystem needs and minimize adverse effects on prey species and their habitat. As demonstrated by their recent actions prohibiting fishing for krill, the PFMC and National Marine Fisheries Service also have the ability to set policies and take actions that protect the functional role of forage species in the food web. As such, the Council should adopt a policy that protects populations of forage species and their functional role in the ecosystem by managing forage with an ecosystem-based approach and utilizing a precautionary, conservative approach to fisheries management.

Specifically, we recommend the PFMC take the following actions:

1. Include ecosystem information in annual SAFE reports

The CPS FMP requires that the Coastal Pelagic Species Management Team (CPSMT) prepare an annual SAFE report, and, "in particular, the SAFE report shall include…ecosystem information."[2] Previous SAFE reports lacked meaningful information about the role of CPS in the marine ecosystem or the ecological effects of harvesting coastal pelagic species (CPS). Therefore, in our May 6, 2008 letter to the CPSMT and Advisory Subpanel (CPSAS) (Agenda Item G.1.d, Public Comment) we provided a detailed request for analyses of ecosystem information in Stock Assessment and Fishery Evaluation (SAFE) reports. We are pleased that the CPSMT recognized the importance of ecosystem information and has taken an initial step to include ecosystem information in the draft 2008 SAFE report by including a section on 'ecosystem-based fishery management' and one on 'sardines as forage'.[3] Clearly this will

require additional discussion and analysis, but we applaud the CPSMT for taking a first step toward providing ecosystem information as specified in the CPS FMP.

In addition, we support the Council's past and current research recommendations to "[e]valuate the role of CPS resources in the ecosystem, the influence of climatic/oceanographic conditions on CPS, and define predator prey relationships."[4] Specifically, we request that the SAFE report comply with the CPS FMP as stated above and include the analyses recommended in our May 6, 2008 letter.

2. Account for the needs of the ecosystem when setting catch levels

One of the CPS FMP goals is to "[p]rovide adequate forage for dependent species."[5] This is a critical goal with sound scientific basis as forage species are important for other commercially and recreationally important species[6] as well as the wider ecosystem.[7] There has been no showing, however, that the Maximum Sustainable Yield (MSY) control rules for the two actively managed CPS (Pacific sardine and Pacific mackerel) adequately account for ecosystem needs. Including ecosystem information in SAFE documents would help provide an answer to this question.

The PFMC must reevaluate the MSY control rules to ensure that ecosystem needs are directly incorporated into the process by which catch levels are set. For example, the 'CUTOFF' values in the control rules for both Pacific sardine and Pacific mackerel should be re-examined. Currently, the CUTOFF values for Pacific sardine and Pacific mackerel are as low as 10-15% and 5-20% respectively, of recent biomass estimates. Targeted fishing for these species should be stopped at a considerably higher biomass unless or until there is strong scientific evidence showing that commercial take, up to these very low biomass levels, does not harm dependent species.

The Council's own 'Current and past Research and Data Needs' documents have identified the priority need to "re-evaluate the harvest control rules for both Pacific sardine and Pacific mackerel."[8] We support such a re-evaluation of the MSY control rules for these species and note that, as it undertakes that re-evaluation, the PFMC must ensure that adequate forage for ecosystem needs are provided.

We also are concerned about directed fishing for monitored species that do not have recent stock assessments. Under the default MSY control rule used for monitored species, Allowable Biological Catch (ABC) is set at 25% of MSY, and overfishing is considered to be occurring when catches are higher than the ABC level. The threshold for moving monitored CPS to actively managed status is unclear; the FMP states only that "[a]ny stock approaching the ABC or MSY levels should be Actively managed unless there is too little information available or other practical problems."[9] Without accurate stock assessments, however, and a thorough evaluation of ecosystem needs, there is no reliable information to evaluate whether or not current catch levels of 'monitored' CPS are sustainable.

3. Prohibit new fisheries for forage species unless or until research shows it can happen without negatively impacting dependent species.

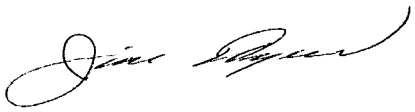
As the PFMC has already done with krill and as the North Pacific Fishery Management Council has done with many other forage species[10], precautionary action must be taken to prevent the development of fisheries on non-managed forage species unless or until research demonstrates there will not be adverse effects on the ecosystem. Given the mounting pressures on forage species from increasing aquaculture, global climate change, and a burgeoning population, it is imperative that the Council continue to take precautionary actions to protect the marine food web. Specifically, we recommend that directed take of any species not currently managed by the PFMC or states (*e.g.*, Pacific sauries and sand lance) be prohibited unless and until necessary ecosystem research and evaluation has been conducted.

4. Prioritize the role of forage species in the ecosystem

To ensure the use of forage fish best serves the public interest, we recommend the Council prioritize utilization in the following order: (1) ecosystem needs, (2) direct human consumption, (3) bait and aquaria, and (4) all other uses. We also support the Council's own recommendation of additional research on the role of CPS in the ecosystem,[11] consistent with moving the fishery towards an ecosystem-based and precautionary management regime.

Again, please see our May 6, 2008 letter for specific recommendations on the type of information we think needs to be incorporated into SAFE documents and control rules for forage species. We applaud the CPSMT for taking an initial step in the right direction by including a discussion on how to include ecosystem information, but much more must be done in order to protect CPS species and their role in the ecosystem. We look forward to continuing to work with the Council on this issue in order to protect the base of the marine food web that will provide long-term benefits to the diverse and productive California Current Large Marine Ecosystem, users of ocean resources, and current and future generations.

Sincerely,



Jim Ayers
Vice President, Oceana

Attached: Oceana – CPSMT letter, May6 2008

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[1] Alder, J. and Pauly, D. (2006). On the Multiple Uses of Forage Fish: From Ecosystems to Markets. Fisheries Centre Research Reports 14(3). *The Fisheries Centre, University of British Columbia. 120pp.*
[2] PFMC. CPS FMP, at 4-6
[3] PFMC. June 2008, Agenda Item G.1.a, Attachment 1, Draft CPS SAFE, at 45-47
[4] PFMC, 2007. CPS SAFE, at 47
[5] PFMC, 2006 (as amended). CPS FMP at 1-4
[6] Walters, C. J., Christensen, V., Martell, S. J., and Kitchell, J. F. 2005. Possible ecosystem impacts of applying MSY policies from single-species assessment. ICES Journal of Marine Science, 62: 558-568; National Research Council, Committee on Ecosystem Effects of Fishing, Phase II. Dynamic Changes in Marine Ecosystems: Fishing, Food Webs, and Future Options. National Academies Press, Washington, D.C. (2006). 160 pp.
[7] Furness, Robert W. 2003. Impacts of Fisheries on Seabird Communities. Sci. Mar., 67 (Suppl.2): 33-45; Baraff, L.S. and Loughlin, T.R. 2000. Trends and Potential Interactions Between Pinnipeds and Fisheries of New England and the U.S. West Coast. Marine Fisheries Review 62(4): 1-39; Becker, Benjamin H. & Beissinger, Steven R. 2006. Centennial Decline in the Trophic Level of an Endangered Seabird after Fisheries Decline. Conservation Biology, 20 (2): 470-490; Tasker, M. L., Camphuysen, C. J., Cooper, J., Garthe, S., Montevecchi, W. A., and Blaber, S. J. M. 2000. The impacts of fishing on marine birds. ICES Journal of Marine Science, 57: 531–547.
[8] PFMC. 2008 Research and Data Needs, at 23
[9] PFMC. CPS FMP, at 4-2
[10] NPFMC, 1998. Amendment 36 to the BSAI Groundfish FMP and Amendment 39 to GOA Groundfish FMP to Create and Manage a Forage Fish Species Category.
[11] PFMC. 2007 CPS SAFE, at 47

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May 6, 2008

Dr. Samuel Herrick, Chair
Coastal Pelagic Species Management Team
P.O. Box 271
La Jolla, CA 92037-0271

Mr. John Royal, Chair
Coastal Pelagic Species Advisory Subpanel
P.O. Box 1162
San Pedro, CA 90733

RE: Ecosystem Considerations in Coastal Pelagic Species Stock Assessment and Fishery Evaluation (SAFE) Reports and Harvest Guidelines

Dear Chairmen Herrick and Royal:

We are writing to recommend information and analysis that the Pacific Fishery Management Council Coastal Pelagic Species Management Team (CPSMT) should include in the 2008 Coastal Pelagic Species Stock Assessment and Fishery Evaluation (SAFE) reports in order to meet its obligation to incorporate and evaluate ecosystem information. It is imperative that this ecosystem information be used in setting optimum yields for Pacific mackerel and sardines. Given the importance of these and other forage species to the California Current food web, they cannot be managed by single species fisheries management alone but, instead, must be considered in the broader ecosystem context.

Forage species, including those managed under the Coastal Pelagic Species Fishery Management Plan (CPS FMP), play a crucial role in marine ecosystems as they transfer energy from plankton to the larger fishes, seabirds, and marine mammals (Alder & Pauly 2006). The impacts of forage species removals on marine mammals and seabird populations both globally (Tasker et al. 2000, Furness 2003) and on the U.S. West Coast (Baraff & Loughlin 2000; Becker and Beissinger 2006) have been well documented. In fact, fisheries targeting forage species can even reduce the productivity of other commercial fisheries targeting fish that consume forage species as prey (Walters et al. 2006). Maintaining a healthy abundance of forage in our coastal marine systems is critical to the resilience of these systems in the face of the global climate and oceanographic changes we will face in coming decades (IPCC 2006). CPS fisheries management clearly requires a precautionary approach given the multiple sources of uncertainty regarding these species' population sizes and the important role forage species play in the productivity of marine wildlife and commercial and recreational fisheries (i.e. NRC 2006).

The CPS FMP requires that the CPSMT prepare an annual SAFE report and, "in particular, the SAFE report shall include…ecosystem information" (CPS FMP, at 4-6). Currently, SAFE documents lack any meaningful information about the role of CPS in the marine ecosystem or the ecological effects of harvesting CPS. In order to fulfill its obligations under the CPS FMP, we recommend that the CPSMT add an ecosystem chapter to the SAFE document that includes:

- A description of the California Current Large Marine Ecosystem,
- An explanation of the influence of oceanographic conditions on CPS, and

- Food web analyses including information such as
  - The role of CPS in the food web, including analysis of the relative interaction strengths between predators and CPS,
  - Consumption levels of CPS by other species including marine mammals, seabirds, and fish,
  - Shared prey analysis that will help provide an understanding of relative competition for CPS between predators and fisheries,
  - Species sensitivity analysis to determine how impacts to one species might transmit to other species through food web relationships, and
  - Spatial and temporal interactions.

In addition, we request that the CPSMT develop recommendations for setting appropriate levels of allocation of CPS to their predators prior to setting optimum yield in the current harvest guidelines. We recommend that the CPSMT review and utilize the results and methods presented in the ecosystem research currently being conducted by NOAA Fisheries, for example Field & Francis (2006), Field et al. (2006) and Fowler (1999). As such, working with seabird and marine mammal experts can be useful in obtaining initial estimates of quantities of CPS consumed by their predators.

We appreciate the hard work of the National Marine Fisheries Service stock assessment teams, the CPSMT and CPSAS to provide scientific estimates of the abundance of actively managed CPS (Pacific mackerel and sardine) and recommended harvest guidelines. Stock assessments, harvest control rules and management measures are the first step to sustainable fishery management. It is now time to include ecosystem information into the SAFE documents and in the harvest guidelines. The availability of forage species to provide a source of food for salmon, other fish, birds and marine mammals must be a priority consideration. A precautionary approach is necessary, especially for those fisheries targeting species lacking stock assessments and when ensuring abundant populations of forage for ecosystem needs.

Thank you for your time and consideration. We look forward to continuing to work with you.

Sincerely,

Ben Enticknap
Pacific Project Manager
CPS Advisory Subpanel Member

cc: Dr. Donald McIsaac, Executive Director, Pacific Fishery Management Council

References:

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