

HABITAT COMMITTEE REPORT ON UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Habitat Committee (HC) reviewed the Research and Data Needs document. The document does a good job of identifying the highest priority action items and data needs for each species/topic group. However, treatment of habitat research varies throughout the document. Some sections do a better job than others of placing the need for habitat-species relationship information in context with other study needs. Overall, habitat research continues to take a back seat to more specific and urgent issues, which tends to perpetuate the species/fishery management plan (FMP)-specific focus for fisheries management.

The HC supports the steps taken to collate research and data needs according to species/FMP groupings – clearly, managers in each of those topic areas know best what information is needed to improve management under their FMPs. The ecosystem-based fisheries management section (Section 7.1) does a good job of bringing the ecosystem-related components of the separate FMP sections into an ecosystem-based fisheries management context. This component should be brought to the top of the document, as it provides a foundation and broad context into which the species/topic pieces fit.

The HC wishes to emphasize and enhance the three key components of ecosystem-based fisheries management implementation identified in Section 7.1:

- Increasing use of short- and long-term climate and ocean status, trends, and scenarios for the California Current ecosystem in stock assessments, harvest levels, and rebuilding plans.
- Consideration of trophic interactions among species, both fished and unfished, and associated impacts of fishing on trophic dynamics and ecosystem structure and function (and conversely, the implications of trophic changes on fishing).
- The increasing application of spatial management measures to protect life history characteristics, biodiversity, complex stock structure, and identify sensitive habitats.

The HC suggests that key recommendations in the remainder of the document be cross-referenced with these ecosystem objectives in order to identify elements that meet multiple objectives. This would help readers understand how data items are linked in a broader context, and will improve the effectiveness of this section in demonstrating efficient use of limited research resources.

To kick off the Council's ecosystem-based fisheries management activity, a large-scale initial effort is needed to collate and synthesize existing data from multiple sources. Additional data may be available, but not in a form useable for our needs – projects need to be encouraged and undertaken to bring these data to a useable form. The Council process will benefit from this cross-species, cross-FMP assessment, not only in the contexts of individual species management, but especially as we begin to seek ways to adapt to a changing ocean environment.

Salmon FMP Emerging Issues (Section 3.4) includes the following four bullets on Ecosystem and Habitat Issues:

- Develop tools that describe the environmental state and potential habitat utilization for nearshore anadromous fish.
- Characterize and map the ocean habitats for anadromous species using data from satellites and electronic tags.
- Characterize climate variability in the northeast Pacific and its relation to salmon production.

These items are broadly relevant to the other species/FMP sections in this document.

By-Section comments:

Introduction:

The introduction does a good job of relating the basis for the research and data needs document, and of showing the new provisions of the Magnuson-Stevens Reauthorization Act. A Section 1.3 should be added that identifies a plan to communicate and coordinate with entities beyond those specified in Section 302(h)(7) of the Magnuson-Stevens Act. Specific actions must be taken to enhance the probability that research and data collection activities will be coordinated and actively pursued. Specific targets for collaboration should include the Pacific Coast national marine sanctuaries, state and tribal management agencies, nongovernmental organizations, and the academic community.

Groundfish:

Emphasis on mapping benthic habitat is important as both a groundfish and ecosystem research need. Benthic habitat mapping in both state and federal waters remains an item of critical interest to the HC, and we suggest increasing the priority of this item. The research should include habitat/species associations to further elucidate how species are utilizing the habitat.

Salmon:

The HC agrees that incorporating environmental factors and variability into salmon productivity models is a “highest” priority. Development of relationships between measurable environmental factors and stock survival, abundance, maturation rates, and distribution should also be a “highest” priority. Particular emphasis should be placed on studying outmigrant survival in estuarine areas – this is important not only for Central Valley fall Chinook but for the many other stocks originating from degraded estuaries coastwide. Research needs specific to the Klamath should include items identified in the Klamath overfishing report.

In addition to the recommendations provided for Klamath fall Chinook, the HC recommends further exploration of the role of hatchery practices on recruitment, specifically with respect to relative production of fingerlings and yearlings, and the need to reduce competition between hatchery and natural outmigrants. The HC applauds the salmon “Ecosystem and Habitat Issues” section, and suggests that the kinds of research outlined here should be cast in the broader context of all marine species, and not restricted to salmon.

Central Valley fall Chinook (Appendix II)

The HC notes that the list does not include specific questions related to the fate of these fish in estuarine habitat. Such information is anxiously awaited by HC members.

Coastal Pelagic Species:

The HC suggests that studies of krill concentrations and California Cooperative Oceanic Fisheries Investigations (CalCOFI) larval data in association with annual and intra-annual variations in environmental conditions may provide insights into predator-prey relationships, ocean productivity, and climate change.

Within Section 4.1.2, Pacific Sardine:

Bullet #6: Acoustic methods could also be used to provide information on distribution and physical oceanographic (pelagic habitat) information, such as currents, sea surface temp, chlorophyll, etc.

Bullet #11: microsatellite DNA markers might also be useful for mapping distribution and pelagic habitat utilization.

Emerging Issues Pacific Sardine: Aerial surveys are not only useful for relative abundance estimates, but for studying pelagic habitat utilization.

Emerging Issues Bullet#6: Whiting survey data may also have data on sardine bycatch.

In Section 4.2.2 Pacific Mackerel:

Bullet #4. Overlaying oceanographic data on spotter plane observations may provide information on pelagic habitat utilization to help predict movement patterns and/or for use in stock assessment.

Highly Migratory Species:

The HC wishes to underscore the importance of habitat work needed to identify pupping grounds, migratory routes, feeding areas, and areas where adults aggregate for reproduction, with critical emphasis on thresher and mako shark pupping areas. This section also lacks an explanation of the role of Highly Migratory Species (HMS) as top predators and their importance in food web dynamics for many different habitats and ecosystems.

In Section 5.2.1, HMS Species – Albacore, habitat utilization and environmental factors are said to be “less critical” information needs. We disagree. Environmental factors could be quite important to understanding the population fluctuations of this species.

Section 5.3.3, Sharks – Emerging Issues/Essential Fish Habitat (EFH) is on the right track and could be pasted into FMP sections for species lacking an EFH determination. EFH should also include oceanographic parameters, not just substrate.

Economics and Social Science

This section fails to draw an important conclusion that is also relevant to ecosystem-based management: there is need for spatial information by fishery type (p. 37) at a scale useful for management. Almost any socioeconomic question requires spatial information by fishery type. Spatial information is also critical in species/habitat management, for example to determine economic impact of EFH and habitat areas of particular habitat areas of particular concern

(HAPC) development and the locating of marine protected areas, to determine impacts from wave energy development, and to aid siting of aquaculture projects.

Ecosystem-Based Fisheries Management

The HC recommends that Section 7 be split into two separate sections: marine protected areas (MPAs) and Ecosystem-based fisheries management (EBFM). The ecosystem-based fisheries management discussion should be moved to the beginning of the Data and Research Needs document, because these items set broad context for all aspects of fishery management.

The HC supports the ecosystem section as outlining priorities that are necessary foundational steps towards a longer-term objective of ecosystem management. The Council should develop a plan to undertake the “Highest Priority Issues” outlined in Section 7.1.2 as a critical step toward implementation of ecosystem-based fisheries management.

In the first bullet under Section 7.1 (page 45), modify the sentence as follows: Increasing use of short and long term climate and ocean status, trends, and scenarios for the California Current ecosystem in stock assessments, *harvest levels* and rebuilding plans.

In the fifth bullet under Section 7.1.2 (page 46), include as an indicator some measure of ocean acidification and associated impacts on ecosystem structure and function.

Marine Protected Areas

MPA-related research is likely to be focused on specific geographic areas, and conducted by state, local, or sanctuary program scientists. The HC wished to stress the importance of collaboration between Pacific Fishery Management Council (Council) and sanctuary, state and local entities to ensure that management questions relevant to all parties are incorporated into study designs. Also, the Council and its members have data resources that can aid sanctuary, state and local entities in answering some of those management questions. The Office of National Marine Sanctuaries, and sanctuaries throughout the Council management area, should be encouraged to consult early and often with the Council about management questions, research priorities and opportunities to collaborate. Finally, the Council data needs for MPAs should be coordinated with nearshore efforts (e.g., by the states), especially for lifecycle and larval dispersal information.

EFH Issues

The HC suggests that the new Groundfish EFH Review Committee develop a plan to undertake the activities called out in Section 7.2.2 or prioritize continuing data gaps.

PFMC
06/10/08