

- Non-fishing activities that may affect the ecosystem(s) of which Council-managed species are a part.

We next discuss each of these types of activities, the manners in which they may be addressed in a FMC process, and how an ecosystem planning or regulatory document may or may not be useful in addressing these activities.

5.1 Fishing Activities for Fishery Management Unit Species

When a FMC chooses the species within an FMP's FMU, it is essentially choosing to manage any directed or non-directed fisheries for those species. Which species this Council includes in its potential EFMP's FMU will depend on how the Council wishes to use the EFMP. For example, if the EFMP were to be used as the primary authority for managing all the fisheries under the Council's jurisdiction, then all those species and their fisheries would be designated as the EFMP's FMU. This approach would be similar to that taken by the Western Pacific Fishery Management Council, which has converted its former species group FMPs into geography-based Fishery Ecosystem Plans (FEPs), which have all the required characteristics of FMPs, yet are arranged by geography rather than taxonomy. However, if the regulatory authority of the EFMP is intended to address either species for which there is neither a current nor future-desired fishery, or to address only issues that cross several of the Council's current species group FMPs, then the EFMP's FMU will be much more limited. We provide a range of potential EFMP formats that address these uses of FMUs in Table 5.1, below.

5.2 Fishing Activities for Species Not Within a Council FMP

Ecosystem-based fishery management for the CCE will bring new information into the Council process on a broad range of marine species, including species not defined as fish under the MSA, and species for which there is no fishery. Some species may be of interest to the Council for their roles as indicators of CCE health and productivity, even if those species are neither under Council management (e.g. state-managed fisheries or lower trophic level species), nor under potential Council jurisdiction except as bycatch to be avoided (like marine mammals, turtles, and seabirds). In describing alternative potential FMUs for the EFMP, this document assumes that the Council may request and discuss information on any species and its ecosystem relationships with other species (or even recommend action by other entities outside MSA authority to conserve and manage those species), regardless of whether it has the authority or inclination to name that species to an FMU in any of its FMPs.

The 2006 revisions to the MSA changed the authorization for Councils to "designate zones where, and periods when, fishing shall be limited, or shall not be permitted, or shall be permitted only by specified types of fishing vessels or with specified types and quantities of fishing gear," to require that such closure (Section 303(b)(2)(C):

- (i) is based on the best scientific information available;
- (ii) includes criteria to assess the conservation benefit of the closed area;
- (iii) establishes a timetable for review of the closed area's performance that is consistent with the purposes of the closed area; and
- (iv) is based on an assessment of the benefits and impacts of the closure, including its size, in relation to other management measures (either alone or in combination with such measures), including the benefits and impacts of limiting access to: users of the area, overall fishing activity, fishery science, and fishery and marine conservation."

The 2006 MSA revisions also added authority for FMCs to designate fishery closure zones to protect deep sea corals from physical damage by or interactions with fishing gear (MSA at Section 303(b)(2)(B)).

In support of this provision, the 2006 reauthorizing act also added Section 408 to the MSA, which requires NOAA Fisheries to establish a deep sea coral research and technology program. The agency's 2007 report, *The State of Deep Coral Ecosystems of the United States*, discusses current scientific information on deep sea corals and includes a chapter on west coast deep sea corals (NMFS 2007).

The MSA authorizes FMCs to exercise these general authorities without specifying how they are to be organized within FMPs. The South Atlantic Fishery Management Council (SAFMC) has an FEP that informs their actions taken under the authorities of their species group FMPs. The SAFMC has recently used its FEP to recommend establishing Coral Habitat Areas of Particular Concern, but is implementing those recommendations through linked amendments to each of its species group FMPs (SAFMC 2009). In other words, the SAFMC retains its authority within its species group FMPs, while using its FEP process to facilitate discussions on issues that affect all their FMPs.

5.3 Non-Fishing Activities that may Affect the EFH of Fishery Management Unit Species

Under the MSA, FMCs have the authority to use FMPs to identify EFH for managed species and to identify any adverse effects on EFH. Councils are permitted to comment on and make recommendations to the Secretary of Commerce or any Federal or State agency "concerning any activity authorized, funded, or undertaken or proposed to be authorized funded or undertaken, by any Federal or State agency that, in view of the Council, may affect the habitat, including essential fish habitat, of a fishery resource under its authority" (Section 305(b)(3)(A)). Councils are required to comment on and make recommendations regarding activities that are likely to substantially affect the habitat of anadromous species, such as Pacific Coast salmon (Section 305(b)(3)(B)). If the Council chooses to pursue an FEP intended primarily to inform its work across species group FMPs, rather than an EFMP with regulatory authority, it could use that FEP to organize comments on non-fishing activities that may affect EFH in several of its FMPs or that may affect non-Council species that interact with Council-managed species from several FMPs. Alternately, an EFMP with regulatory authority could serve the same cross-FMP organizing function, plus add EFH designations for any species included as part of that EFMP's FMU. Any ecosystem planning process the Council undertakes, whether it results in an FEP, EFMP, or other document, will have the significant benefit of serving as a coherent and comprehensive public statement of the Council's priorities for conservation and management of marine resources in the CCE.

5.4 Non-Fishing Activities that may Affect the Ecosystem(s) of which Council-Managed Species are a Part

Under NEPA, the Council has the opportunity to comment on any federally-managed or -permitted activities that it believes may affect Council-managed species or any portion of the ecosystem or ecosystems of which those species are a part. Similar state environmental review laws also provide comment opportunity on state-managed or -permitted activities. Unfortunately, ensuring that the Council has a voice in NEPA and other environmental review discussions relevant to the CCE can be logistically challenging when mandated review periods for actions affecting the environment do not fit within the Council's meeting schedule. As with non-fishing activities that may affect EFH of Council-managed species, a Council-generated EFMP will help guide analysis by agencies looking at non-fishing activities within the CCE and connected ecosystems. Instead of the Council finding itself in the position of having to alert agencies addressing non-fishing activities that the Council might wish to comment on those activities, it will be able to point to its EFMP at the beginning of the analysis process and request that analyses of non-fishing activities assess the effects of those actions on the species, inter-species relationships, and natural processes of the CCE.

Under the Regulatory Flexibility Act, the Council has an opportunity to comment on any draft regulations that may affect small businesses (such as fishing businesses), small entities (usually non-profit), or small

government agencies (such as small coastal municipalities). The Council could use its EFMP as a basis for assembling more comprehensive information on the dependency of fishing communities on fishery resources, the vulnerability of those communities to changes in resource availability, and the resilience of those communities to economic change. Such an EFMP could help to strengthen the voices of fishing community members as they assess the potential future effects that non-fishing activities may have on the CCE and on their communities.

An EFMP could also have a role in national and West Coast governance of ocean resources. National and regional programs on coastal and marine spatial planning will require input from FMCs. An EFMP would articulate Council priorities for a healthy ocean ecosystem, and could improve the effectiveness of Council engagement with external entities that manage non-fishing activities that may affect the CCE.

5.5 Ecosystem Fishery Management Planning in Other Fishery Management Councils

Three FMCs (North Pacific, Western Pacific, and South Atlantic) have created FEPs for one or more of the ecosystems under their respective authorities. Each council has taken a different approach to the framing of and philosophy behind their FEPs. However, each FMC has also ensured that they have addressed their managed species under the MSA framework for FMP requirements.

North Pacific Fishery Management Council – Aleutian Islands FEP (2007)

“The goal of this FEP is to provide enhanced scientific information and measurable indicators to evaluate and promote ecosystem health, sustainable fisheries, and vibrant communities in the Aleutian Islands region.”

“...the FEP was developed to provide the Council with an understanding of important relationships among ecosystem components, which are not always considered together by managers. The FEP also identifies areas of uncertainty, describes how the Council may currently be addressing the associated risk, and provides suggestions for other tools the Council may wish to consider.”

The FEP provides background information and analyses on the Aleutian Islands ecosystem:

- describes and synthesizes the Aleutian Islands ecosystem processes and interactions,
- delineates the regulatory and bio-physical boundaries of the Aleutian Islands,
- conducts a qualitative risk assessment of Aleutian Islands interactions,
- uses management objectives of Aleutian Islands fisheries to identify Council priorities for the FEP,
- identifies ecological indicators appropriate to monitor key ecosystem interactions,
- identifies knowledge gaps and research needs,
- provides a framework by which ecosystem considerations identified herein could be implemented within the current Council structure and management practice.

The North Pacific Fishery Management Council (NPFMC) also completed an Arctic FMP in 2009 (NPFMC 2009), implemented at 50 CFR 679. Very little data or analyses are available on any fish species within the U.S. Arctic EEZ. The Arctic FMP provides an example of an FMP primarily intended to close a large geographic area to fishing for fish stocks about which little is known. The Arctic FMP

has three so-called target species for its FMU, none of which are subject to targeting beyond subsistence fishing, and a suite of ecosystem component (EC) species.¹

South Atlantic Fishery Management Council – Fishery Ecosystem Plan (2009)

“The FEP will serve as a source document that will, over time, present more detailed information describing the South Atlantic ecosystem and the impact of the fisheries on the environment. As a living document, the FEP will provide a greater degree of guidance on incorporation of fishery, habitat, or ecosystem considerations into management actions, such as bycatch reduction, prey-predator interactions, maintenance of biodiversity, and identification of spatial management needs.”

The SAFMC has a history of detailed and FMP-spanning work on EFH issues. In their EFH work, the SAFMC had considered the effects of fishing and non-fishing activities on both the EFH of individual species in their FMPs and on the collective EFH of all of their FMPs taken together. The South Atlantic FEP grew out of their work on EFH and their desire to have a cross-FMP source of information about biophysical ecosystem of their managed species, and about the effects of fisheries and non-fisheries activities on that ecosystem. The FEP is a multi-volume document that includes, but is not limited to:

- oceanographic and climate features of the South Atlantic Bight,
- locations of South Atlantic Fishery Management Council (SAFC) management areas,
- descriptions of the species and habitats (Council-managed and not) within the South Atlantic Bight,
- the South Atlantic human and institutional environment,
- spiny lobster economics and social environment,
- maps of commercial fisheries catch in the South Atlantic management area, by latitude/longitude blocks,
- perceived threats to the South Atlantic ecosystem and recommendations for addressing those threats, and
- description of research and data needs.

Western Pacific Fishery Management Council – Fishery Ecosystem Plans by Geographic Area (2009)

“The Magnuson-Stevens Fishery Conservation and Management Act (MSA) authorizes FMCs to create fishery management plans (FMP). The Western Pacific Regional Fishery Management Council developed this Fishery Ecosystem Plan (FEP) as an FMP, consistent with the MSA and the national standards for fishery conservation and management. The FEP represents the first step in an incremental and collaborative approach to implement ecosystem approaches to fishery management in [the FEP area – same language used across FEPs].”

In December 2009, the Secretary of Commerce approved five new geography-based FEPs that had been drafted by the Western Pacific FMC for: American Samoa, Hawaii, Mariana Archipelago, Pacific remote island areas, and western Pacific pelagic fisheries. These FEPS all meet the MSA requirements for FMPs and FMP species. The FEPs explicitly do not establish any new fishery management regulations, but are

¹ 50 CFR 600.310(d)(5)(i): *To be considered for possible classification as an EC species, the species should: (A) Be a non-target species or non-target stock; (B) Not be determined to be subject to overfishing, approaching overfished, or overfished; (C) Not be likely to become subject to overfishing or overfished, according to the best available information, in the absence of conservation and management measures; and (D) Not generally be retained for sale or personal use.*

intended to provide a place from which FMCs may address ecosystem-based management principles in the future.

5.6 Beyond Council Documents

As discussed throughout this report, ecosystem-based fishery management planning is not simply about adding a new document to the suite of FMPs that bound the Council's regulatory authority. Beyond an EFMP, there are numerous actions the Council can take to help itself and the public think more about how Council-managed species interact with each other and their environment, including:

- Review the Council's 2008 Research and Data Needs (PFMC 2008) Section 2.0, Ecosystem-Based Fisheries Management, to determine whether the highest priorities set in this document are being met and if not, whether they can be met.
- Through the SSC, develop recommendations on a desired suite of natural and socio-economic ecosystem science products that could be useful to the Council process.
- As new appointments to Council advisory bodies become available, consider whether those bodies have adequate representation from persons with cross-species or ecology expertise.
- During the Council's EFH review process for its four FMPs, ensure that the EFH, habitat areas of particular concern (HAPCs), and any EFH closed areas designated for all Council species or species groups can be mapped in compatible fashions so that the Council and the public can review EFH designations and other areas across all the Council's FMPs.
- Early in each Council meeting week, preferably on the first meeting day, schedule a presentation on science in support of ecosystem-based fishery management (11/09 Council recommendation). If the Council opens a tradition of scheduling ecosystem issues early in its meeting weeks, then ecosystem concerns can better frame subsequent Council discussions throughout each meeting week.

an increase in juvenile predation by arrowtooth flounder (predators). The NPFMC SSC consequently recommended adopting a reduction in the maximum permissible ABC to account for these concerns.

Ecosystem advice has also been developed to inform management of Antarctic krill, by the Commission for the Conservation of Antarctic Marine Living Resources. Key management questions for Antarctic krill revolve around how to spatially allocate the allowable catch in a manner that minimizes the potential effects on krill-dependent predators. As the key uncertainties in this question relate to krill movement and advection rates, and the functional relationships between krill and their predators, several biophysical models have been developed to address these questions, and with which to explore competing hypotheses regarding krill movement and advection. As resource managers continue to be confronted with complex issues and trade-offs related to managed species and their complex interactions with climate conditions, other elements of the food web, and direct and indirect human activities, there is clearly a role for greater application of ecosystem principles, models, indicators and assessments of many flavors. Among the greatest challenges now is how to incorporate such guidance into the existing and continually evolving management framework to better understand the tradeoffs associated with management decisions.

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9 Appendix A: Example Practical Considerations for EFMP Alternatives

Need	Status Quo + (Do we need an EFMP?)	Advisory FEP	Umbrella EFMP with Selected FMUs	Regional Omnibus EFMP	Coastwide Omnibus EFMP
<p>Meet PFMC Mission for Sustainable Fisheries Mgmt. Some Potential Benefits:</p> <ol style="list-style-type: none"> 1) Improve information and decision-making 2) Identify information gaps 3) Integrate across species-specific FMPs 4) Provide a nexus with other ecosystem efforts 5) Establish a framework that enables mgmt. at the appropriate ecosystem scale for a species or species complex 6) Create incentives for improved stewardship 7) Encourage innovation by offering alternatives to achieve a more robust portfolio of fishing opportunities 	<p>Information and PFMC process improvements are limited and made on a case-by-case basis:</p> <p>Qualify some effects of management decisions and risks for one species on other ecosystem species, habitat, fisheries, communities, etc.</p> <p>Monitor and report other (non-PFMC) ecosystem efforts and provide input, as determined necessary and useful.</p>	<p>Non-regulatory plan provides a cohesive framework:</p> <p>Quantify effects of management decisions and risks for one species on another ecosystem species, habitat, fisheries, community, etc.</p> <p>Coordinated, organized and prioritized focus with identifiable goals for input to other ecosystem efforts.</p>	<p>Adds some regulatory authority/responsibility while maintaining current basic PFMC and FMP organization, structure and decision-making processes.</p>	<p>Revises PFMC and FMP organization, structure and decision-making processes to correspond to relevant ecological relationships.</p> <p>Adopt FMPs with specific FMUs for ecoregions. Some spp. may be included in a single FMP (e.g. cowcod), others in multiple FMPs (e.g. arrowtooth flounder, or northern lingcod) and some in all FMPs (e.g. thresher shark)</p>	<p>Consolidates all existing FMPs into a single FMP.</p> <p>Provides for simultaneous decision-making appropriate for the suite of ecosystem impacts.</p> <p>Provides greater consistency in goals, objectives, & processes across all current FMPs.</p> <p>Flexible FMP structure allows for changes in ecosystem understanding and information without requiring development of new FMPs.</p> <p>Allows for maintenance or revisions to PFMC and advisory group structure, as necessary.</p>

Need	Status Quo + (Do we need an EFMP?)	Advisory FEP	Umbrella EFMP with Selected FMUs	Regional Omnibus EFMP	Coastwide Omnibus EFMP
Some PFMC Examples:					
Species, such as forage species	<p>Qualitatively address forage fish issues: identify suite of spp. affected by anchovy harvests and nature of impacts on FMP species and fisheries, and non-FMP species.</p> <p>Will the salmon resource be affected (harmed) by the proposed anchovy harvest?</p>	<p>Explicitly address forage fish issues: Quantitatively assess sardine harvests on other FMP spp. and fisheries, and non-FMP spp.</p> <p>What are the effects on the salmon resource (and fisheries & communities) of the proposed anchovy harvest? How certain is it that these effects will occur (probabilities)?</p>	<p>Regulatory management for species like krill</p> <p>May selectively add new non-FMP managed species to an FMP</p>	<p>What are the impacts of the harvest of anchovies on other relevant resources, fisheries, habitats, and communities within Region X? What are the probabilities that these impacts will occur?</p>	<p>What are the impacts of the harvest of forage species on all other relevant resources, fisheries, habitats and communities on the West Coast?</p> <p>Make simultaneous management decisions for salmon, whiting, anchovy, sardine, smelt, albacore, etc. based on integrated ecosystem information.</p>
Fisheries	<p>Identify potential effort shifts among fisheries due to harvest opportunities for several target species: Will fishers for albacore tuna switch to fish more for salmon at the proposed salmon harvest level?</p>	<p>Quantify effort shifts among fisheries: To what degree will albacore fishers switch to/from salmon fishing as a result of the proposed salmon harvest level?</p>	<p>Explicitly account for harvest opportunities for FMU species in different FMPs, when setting management measures for these FMU species: Adjust salmon management measures and albacore management measures, as needed, to account for potential</p>	<p>When setting management measures in Region X, explicitly account for harvest opportunities for multiple FMU species within the regional FMP: Within Region X, account for potential efforts shifts between</p>	<p>Simultaneously set management measures that explicitly account for potential effort shifts among fisheries due to harvest opportunities for all FMU species.</p>

Need	Status Quo + (Do we need an EFMP?)	Advisory FEP	Umbrella EFMP with Selected FMUs	Regional Omnibus EFMP	Coastwide Omnibus EFMP
			effort shifts between these fisheries.	salmon and albacore fisheries.	
Habitats	Identify how oceanographic processes may affect FMP fisheries: How does ocean acidification affect the food chain, and ultimately, the abundance of target FMU species?	Update and integrate information on EFH for all FMP species: Assemble available information to quantify areal extent and locations of habitat types important to each FMP species.	When setting harvest levels and management measures, assess and consider the effects of site development (e.g., energy facility), if any, on each FMP species and fishery.	Provide effective input to non-PFMC regarding activities potentially affecting PFMC mission: Within an FMP region, what are the kinds and level of impacts a proposed energy facility may have on the FMP species and fisheries?	For all FMU species, include oceanographic conditions in stock assessments and decision-making processes: Incorporate oceanographic information on the CCE into all stock assessments for FMU species on the West Coast.
Socio-Economic	For various fishing portfolio strategies, identify the annual revenue effects of proposed harvest levels and management measures for multiple FMU species: For small trollers, will they likely to receive more revenue if they switch to a different portfolio, e.g., target lingcod and salmon rather than other nearshore species?	For various fishing portfolio strategies, quantify the effects of proposed harvest levels and management measures for multiple FMU species on annual revenue: How much (more/less) annual income will large trollers receive if they primarily target albacore rather than salmon or groundfish ?	Evaluate socio-economic trade-offs among fishing portfolio strategies, and explicitly consider these when setting harvest levels and management measures for FMU species in different FMPs.	For a regional FMP, evaluate socio-economic trade-offs among fishing portfolio strategies, and explicitly consider these when setting harvest levels and management measures for all FMU species in the FMP.	For the West Coast, evaluate socio-economic trade-offs among fishing portfolio strategies, and explicitly consider these when simultaneously setting harvest levels and management measures for all FMU species and FMP fisheries.

Need	Status Quo + (Do we need an EFMP?)	Advisory FEP	Umbrella EFMP with Selected FMUs	Regional Omnibus EFMP	Coastwide Omnibus EFMP
<p>Some PFMC Implementation Considerations</p>	<p>Within existing PFMC structure, focus more resources to: Acquire, organize, analyze and disseminate relevant ecological information (e.g., multi-species biology, oceanography, habitat, fisheries, socio-economics and their interrelationships)</p> <p>Improve utilization of relevant efforts (summaries, information, analyses) by non-PFMC entities</p> <p>Identify key non-PFMC ecosystem efforts to monitor or engage in.</p> <p>Implements priority revisions to PFMC structure and function (e.g., recommendations from EPDT and other advisory bodies)</p>	<p>Develop Terms of Reference for the delivery and review of ecosystem science to the PFMC</p> <p>PFMC adopt FEP (developed by EPDT)</p>	<p>If non FMP-managed species are included in the EFMP, then PFMC must set ACLs, OFLs, etc. for these new FMU species.</p>	<p>Reorganize information and decision-making from coastwide (generally fishery-related) to a regional basis (ecologically related).</p> <p>Set ACLs, OFL,s etc. for FMU species on a regional basis (e.g., like for fishery sectors in NS1 guidelines).</p> <p>Reorganize and potentially broaden advisory groups to correspond to regional FMPs.</p> <p>May need to revise existing rebuilding plans to account for different geographic scopes and FMU species in regional FMPs.</p>	<p>Provide significant resources and revise PFMC structure and operations to support very complex analytical and decision-making processes</p> <p>Provide for broad and timely communication among all relevant parties for information acquisition, analysis, and decision-making.</p>

Need	Status Quo + (Do we need an EFMP?)	Advisory FEP	Umbrella EFMP with Selected FMUs	Regional Omnibus EFMP	Coastwide Omnibus EFMP
<p>Some Potential Costs and Consequences:</p> <p>a) Resource costs for personnel, meetings, etc.</p> <p>b) Additional technical expertise</p> <p>c) Changes to Council organization or decision-making processes</p> <p>d) More complex decision-making</p> <p>e) Consultation with additional affected constituencies</p> <p>f) Effects on other entities (time, decisions and actions): governments, industry, NGOs, constituents, public</p> <p>g) Evaluation of EFMP performance</p> <p>h) Workload and time commitment from Council family to develop and implement EFMP while continuing current PFMC activities.</p> <p>Others?</p>	<p>Resources to assemble, organize, analyze and disseminate key information.</p> <p>Increase coordination among current advisory bodies.</p>	<p>Add resources and expertise to assemble, organize, analyze and disseminate all relevant information</p> <p>EPDT activities to draft plan</p> <p>PFMC and advisory bodies to review and approve plan</p> <p>SSC develop Terms of Reference for the delivery and review of ecosystem science to the PFMC</p>	<p>Add expertise and stakeholders to advisory panels.</p> <p>May inadvertently affect state-managed fisheries and resources.</p>	<p>Re-form and add advisory panels: likely broaden the range of scientific expertise needed and stakeholders affected.</p> <p>May take much more time to fully transition to new regional approach, for PFMC process adjustments and for developing new regional FMPs.</p>	<p>Timing of decision-making may be disadvantageous for some actions and advantageous for others.</p> <p>Evaluation of the outcomes of PFMC decisions could be more challenging and less timely.</p>

10 Appendix B: Pacific Fishery Management Council Goals and Objectives from Each of its Four Species Group FMPs

This appendix provides the assembled goals and objectives from the Council's four species group FMPs: coastal pelagic species, groundfish, highly migratory species, and salmon. The goals and objectives of the four FMPs share four common themes that are consistent with an ecosystem approach to fishery management: avoid overfishing, maintain stability in landings, minimize impacts to habitat, and accommodate existing fisheries sectors. Those four larger themes emerge in a variety of ideas that are common across the FMPs, divided roughly in this table:

Pacific Council FMP Shared Goals and Objectives, by FMP Objective/Goal Number

Ecological	CPS	Gr. Fish	Salmon	HMS
Prevent overfishing and rebuild depleted stocks.	7	3	1	10
Provide adequate forage for dependent species.	6			
Describe, identify and minimize adverse impacts on essential fish habitat		5		14
Minimize bycatch (incl. protected species) and encourage full utilization of resources	5	9, 11	4	9, 17
Economic				
Achieve greatest possible net benefit (economic or OY) from resource	2	6	5	5
Promote efficiency and profitability in the fishery, including stability of catch	1	2, 7, 14	6	2
Accommodate existing fishery sectors	4	12	2, 3	4, 18
Minimize gear conflicts.	11	13		13
Minimize adverse impacts on fishing communities and other entities		15, 16	2, 3	3
Use gear restrictions to minimize need for other management measures wherever practicable		8		
Management				
Acquire biological information and develop long term research	8			11
Foster effective monitoring and enforcement.	9	1		12
Establish management measures to control fisheries impacts, use management resources effectively	10	4, 10		3, 15
Encourage cooperative international and interstate management	3		8	1, 6, 7, 8
Promote the safety of human life at sea		17	9	
Support enhancement of stock abundance			7	
Promote outreach and education efforts				16

All four FMPS are currently being amended to meet the new requirements of the MSA and its National Standard 1 guidelines and for other purposes, and are subject to change. The following list of FMP goals and objectives is a snapshot of those goals and objectives that were in place as of August 2010, and is provided herein to help the Council and the public consider the Council's management philosophy across its four FMPs and how that philosophy might be translated into goals and objectives for an EFMP.

10.1 Coastal Pelagic Species

Goals and objectives for the CPS FMP (not listed in order of priority):

1. Promote efficiency and profitability in the fishery, including stability of catch.
2. Achieve OY.
3. Encourage cooperative international and interstate management of CPS.
4. Accommodate existing fishery segments.
5. Avoid discard.
6. Provide adequate forage for dependent species.
7. Prevent overfishing.
8. Acquire biological information and develop long term research program.
9. Foster effective monitoring and enforcement.
10. Use resources spent on management of CPS efficiently.
11. Minimize gear conflicts.

10.2 Groundfish

The Council is committed to developing long-range plans for managing the Washington, Oregon, and California groundfish fisheries that will promote a stable planning environment for the seafood industry, including marine recreation interests, and will maintain the health of the resource and environment. In developing allocation and harvesting systems, the Council will give consideration to maximizing economic benefits to the United States, consistent with resource stewardship responsibilities for the continuing welfare of the living marine resources. Thus, management must be flexible enough to meet changing social and economic needs of the fishery as well as to address fluctuations in the marine resources supporting the fishery. The following goals have been established in order of priority for managing the West Coast groundfish fisheries, to be considered in conjunction with the national standards of the Magnuson-Stevens Act.

Management Goals

Goal 1 - Conservation. Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.

Goal 2 - Economics. Maximize the value of the groundfish resource as a whole.

Goal 3 - Utilization. Within the constraints of overfished species rebuilding requirements, achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Objectives. To accomplish these management goals, a number of objectives will be considered and followed as closely as practicable:

Conservation

Objective 1. Maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.

Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group. Achieve a level of harvest capacity in the fishery that is appropriate for a sustainable harvest and low discard rates, and which results in a fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.

Objective 3. For species or species groups that are overfished, develop a plan to rebuild the stock as soon as possible, taking into account the status and biology of the stock, the needs of fishing

communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem.

Objective 4. Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the bycatch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.

Objective 5. Describe and identify essential fish habitat (EFH), adverse impacts on EFH, and other actions to conserve and enhance EFH, and adopt management measures that minimize, to the extent practicable, adverse impacts from fishing on EFH.

Economics

Objective 6. Within the constraints of the conservation goals and objectives of the FMP, attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.

Objective 7. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities and establish management policies that extend those sectors fishing and marketing opportunities as long as practicable during the fishing year.

Objective 8. Gear restrictions to minimize the necessity for other management measures will be used whenever practicable. Encourage development of practicable gear restrictions intended to reduce regulatory and/or economic discards through gear research regulated by EFP.

Utilization

Objective 9. Develop management measures and policies that foster and encourage full utilization (harvesting and processing), in accordance with conservation goals, of the Pacific Coast groundfish resources by domestic fisheries.

Objective 10. Recognizing the multispecies nature of the fishery and establish a concept of managing by species and gear or by groups of interrelated species.

Objective 11. Develop management programs that reduce regulations-induced discard and/or which reduce economic incentives to discard fish. Develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. Promote and support monitoring programs to improve estimates of total fishing related mortality and bycatch, as well as those to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

Social Factors.

Objective 12. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.

Objective 13. Minimize gear conflicts among resource users.

Objective 14. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures, and the environment.

Objective 15. Avoid unnecessary adverse impacts on small entities.

Objective 16. Consider the importance of groundfish resources to fishing communities, provide for the sustained participation of fishing communities, and minimize adverse economic impacts on fishing communities to the extent practicable.

Objective 17. Promote the safety of human life at sea.

10.3 Highly Migratory Species

The general goals and objectives of this FMP are listed below to provide context for [management] actions. They are not listed in order of priority:

1. Promote and actively contribute to international efforts for the long-term conservation and sustainable use of highly migratory species fisheries that are utilized by West Coast-based fishers, while recognizing these fishery resources contribute to the food supply, economy, and health of the nation.
2. Provide a long-term, stable supply of high-quality, locally caught fish to the public.
3. Minimize economic waste and adverse impacts on fishing communities to the extent practicable when adopting conservation and management measures.
4. Provide viable and diverse commercial fisheries and recreational fishing opportunity for highly migratory species based in ports in the area of the Pacific Council's jurisdiction, and give due consideration for traditional participants in the fisheries.
5. Implement harvest strategies which achieve optimum yield for long-term sustainable harvest levels.
6. Provide foundation to support the State Department in cooperative international management of highly migratory species fisheries.
7. Promote inter-regional collaboration in management of fisheries for species which occur in the Pacific Council's managed area and other Councils' areas.
8. Minimize inconsistencies among federal and state regulations for highly migratory species fisheries.
9. Minimize bycatch and avoid discard and implement measures to adequately account for total bycatch and discard mortalities.
10. Prevent overfishing and rebuild overfished stocks, working with international organizations as necessary.
11. Acquire biological information and develop a long-term research program.
12. Promote effective monitoring and enforcement.
13. Minimize gear conflicts.
14. Maintain, restore, or enhance the current quantity and productive capacity of habitats to increase fishery productivity for the benefit of the resource and commercial and recreational fisheries for highly migratory species.
15. Establish procedures to facilitate rapid implementation of future management actions, as necessary.
16. Promote outreach and education efforts to inform the general public about how West Coast HMS fisheries are managed and the importance of these fisheries to fishers, local fishing communities, and consumers.
17. Manage the fisheries to prevent adverse effects on any protected species covered by MMPA and MBTA and promote the recovery of any species listed under the ESA to the extent practicable.
18. Allocate harvest fairly and equitably among commercial, recreational and charter fisheries for HMS, if allocation becomes necessary.

10.4 Salmon

The following objectives guide the Council in establishing fisheries against a framework of ecological, social, and economic considerations.

1. Establish ocean exploitation rates for commercial and recreational salmon fisheries that are consistent with requirements for stock conservation objectives within Section 3.1, specified ESA consultation or recovery standards, or Council adopted rebuilding plans.
2. Fulfill obligations to provide for Indian harvest opportunity as provided in treaties with the United States, as mandated by applicable decisions of the Federal courts, and as specified in the October 4, 1993 opinion of the Solicitor, Department of Interior, with regard to federally recognized Indian fishing rights of Klamath River Tribes.
3. Seek to maintain ocean salmon fishing seasons which support the continuance of established recreational and commercial fisheries while meeting salmon harvest allocation objectives among ocean and inside recreational and commercial fisheries that are fair and equitable, and in which fishing interests shall equitably share the obligations of fulfilling any treaty or other legal requirements for harvest opportunities.
4. Minimize fishery mortalities for those fish not landed from all ocean salmon fisheries as consistent with optimum yield and the bycatch management specifications of Section 3.4.
5. Manage and regulate fisheries so that the optimum yield encompasses the quantity and value of food produced, the recreational value, and the social and economic values of the fisheries.
6. Develop fair and creative approaches to managing fishing effort and evaluate and apply effort management systems as appropriate to achieve these management objectives.
7. Support the enhancement of salmon stock abundance in conjunction with fishing effort management programs to facilitate economically viable and socially acceptable commercial, recreational, and tribal seasons.
8. Achieve long-term coordination with the member states of the Council, Indian tribes with federally recognized fishing rights, Canada, the NPFMC, Alaska, and other management entities which are responsible for salmon habitat or production. Manage consistent with the Pacific Salmon Treaty and other international treaty obligations.
9. In recommending seasons, to the extent practicable, promote the safety of human life at sea.

11 Appendix C: Acronyms Used

Acronym	Term
CCE	California Current Ecosystem
EAS	Ecosystem Advisory Subpanel
EC Species	Ecosystem Component Species
EFH	Essential Fish Habitat
EFMP	Ecosystem Fishery Management Plan
EPAP	Ecosystem Principles Advisory Panel
EPDT	Ecosystem Plan Development Team
FEP	Fishery Ecosystem Plan
FMP	Fishery Management Plan
HAPC	Habitat Area of Particular Concern
HC	Habitat Committee
IEA	Integrated Ecosystem Assessment
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
SSC	Scientific and Statistical Committee