Members in Attendance
Ms. Yvonne deReynier, Acting Chair, NMFS, Northwest Regional Office.
Dr. John Field, Acting Vice-Chair, NMFW, Southwest Fisheries Science Center
Mr. Josh Lindsay, NMFS, Southwest Regional Office
Mr. Corey Niles, Washington Department of Fish and Wildlife
Ms. Cyreis Schmitt, Oregon Department of Fish and Wildlife
Mr. Richard Scully, Idaho Department of Fish and Game

Members Absent
Dr. Melissa Haltuch, NMFS, Northwest Fisheries Science Center
Dr. Sam Herrick, NMFS, Southwest Fisheries Science Center
Dr. Andrew Leising, NFMS, Southwest Fisheries Science Center
Dr. Mary Ruckleshaus, NFMS, Northwest Fisheries Science Center
Dr. Lisa Wooninck, NOS, Monterey Bay National Marine Sanctuary

Others in Attendance
Mr. Mike Burner, Pacific Fishery Management Council Staff
Ms. Alison Dauble, Oregon Department of Fish and Wildlife
Mr. Ben Enticknap, EAS Member, Oceana
Dr. Selina Heppell, SSC Member, Oregon State University
Ms. Lia Protopapadakis, Santa Monica Bay Restoration Commission
Mr. Dan Waldeck, EAS Chair, Pacific Whiting Conservation Cooperative
Mr. Erick Wilkins, Northwest Indian Fisheries Commission

Call to Order and Administrative Matters
Ms. DeReynier called the meeting to order and asked for introductions. The group reviewed the agenda and made plans to discuss a draft table by Ms. Schmitt that displays ecosystem plan alternatives, their benefits, costs, and implementation needs. The group noted the July 19, 2010 recommendations of the Ocean Policy Task Force and their relevance to the meeting topic and considered adding a discussion topic to the agenda. Given the limited time available and the fact that few in the room had been able to thoroughly review the new recommendations the group decided to table the discussion for a future meeting.

Election of Officers: Several Ecosystem Plan Development Team (EPDT) members commended Ms. DeReynier for her role as Acting Chair since February and were supportive of her continuing as Chair. Although the EPDT may have only just had a quorum at this meeting, the group decided to forego formal elections until a future date. Ms. DeReynier agreed to continue in
her current capacity and will represent the EPDT at the September Council meeting. She asked for a volunteer for an acting Vice-Chair as a backup. Dr. Field agreed to serve in this capacity.

Review of Council Guidance and Assignments
Mr. Burner reviewed the following Council guidance and requests from the November 2009 Council meeting.

- Schedule presentations by the Northwest and Southwest Fisheries Science Centers on the state of the science in support of ecosystem-based fishery management.

The group discussed the recent recommendations by Mr. Frank Lockhart to the Council regarding regularly scheduled, short presentations to the Council. The Council has tentatively scheduled such a session on their draft agenda for November 2010.

- Review the Council record of dialogue on ecosystem-based fishery management including statements by the Council, its Advisory Bodies, and the public.

- Review the existing Council fishery management plans (FMP) to identify existing approaches and commonalities regarding ecosystem approaches to management.

The EPDT has done some initial reviews, but noted that the expertise regarding the Council’s existing Fishery Management Plans (FMPs) is in the Advisory Bodies in support of those FMPs and the EPDT is interested in getting broader input in the future.

- Inventory ecosystem-related management tools for their applicability to the ecosystem based FMP (E-FMP) process.

- Review existing ecosystem-based management efforts of other regional fishery management councils.

This was first done back in 2006 by the Habitat Committee for their joint session with the Scientific and Statistical Committee. Also the NWRO provided a similar overview at the November 2009 Council meeting. The EPDT will look into including a summary of this information at the September 2010 Council meeting.

- Prepare a report to the Council that includes
  1) Draft statement of purpose and need,
  2) draft list of possible initial goals and objectives,
  3) Draft range of options on a) the geographic range of the E-FMP, b) the regulatory scope of the E-FMP, c) the management unit species within the E-FMP, and
  4) Draft list of miscellaneous issues to be addressed by an E-FMP.

Review and Discussion of Ecosystem Advisory Subpanel (EAS) Comments
Mr. Waldeck thanked the EPDT for its commendable first draft of the report and characterized the May 4th EAS meeting as productive both in terms of providing comments on the draft and in helping the EAS work through some complex discussions leading to a better understanding of what ecosystem-based fishery management (EBFM) could entail. Mr. Waldeck summarized EAS comments by the following major topics.

Overarching statement on EFMP versus and FEP: The Council has expressed interest in a regulatory mechanism under an ecosystem plan, but the question is really whether that could be achieved with an FEP. The EAS is interested in the issue as well and recommends the EPDT move forward with a fleshed-out set of alternatives on this topic.

Review of Existing Council FMPs: The EAS felt that this is seems important step in the
identification of gaps in existing management. The exercise would logically lead to needs or goals for an ecosystem plan. The EAS recommends that the EPDT consider the following recommendations of the SSC from November of 2009.

- **Catalog aspects of ecosystem management that are already taking place under the current FMPs (e.g., habitat protection and protected species).**
- **Examine what gaps within or between the FMPs need to be filled by ecosystem based management.**
- **Analyze the goals and objective across the current FMPs and see if they can be more consistent.**
- **Analyze why it is important to augment single species management. What are the outcomes ecosystem based management may achieve that are not possible through single species management?**
- **Document the approaches to ecosystem management that have been used in other regions.**

**Purpose and Need for an Ecosystem Plan:** The EAS spent a lot of time on the question of need and developed the following matrix as a means of working through what the plan is envisioned to be and identifying the best direction to take. The discussion led to a straw definition of EBFM that the EAS felt is good conceptually, lacks the nuts and bolts required for practical application. Ms. DeReynier attended the May 4th EAS meeting and concurred that this EAS discussion was valuable and represents the kind of “think tank” exercise that the Council process relies on, but that the Council rarely has the luxury of doing on the Council floor.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Need</th>
<th>What Works</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is EBFM and its value?</strong></td>
<td>What are the shortcomings of existing mgmt. approaches?</td>
<td>What approaches and tools will effectively access the value?</td>
<td>What decision and approach and implementation?</td>
</tr>
<tr>
<td>EBFM is a systems approach that looks at interactions of habitats and species to optimize ecosystem services in ways that encourage sustainability of the broader marine ecosystem and the health and resilience of fisheries, fish stocks, fishing communities. /1</td>
<td>What is EBFM’s worth or what is the value of the needs?</td>
<td>What can we learn from other EBFM approaches?</td>
<td></td>
</tr>
</tbody>
</table>

/1 Biodiversity (species, genetic, age, etc.) and the human component (viable communities, seafood supply, etc.) were discussed as example criteria for assessing ecosystem sustainability.

Dr. Heppell felt that the Council will have a strong interest in understanding how the EFMP will affect the specific decisions and management action the Council is charged with, in other words, what are the practical implications of EBFM.

Dr. Field noted that the “holy grail” would be a broad assessment of the the cumulative effects of a wide variety of ecosystem impacts, harvesting at MSY across species in all four FMPs in combination with other extractive and non-extractive impacts. He stated that this is a foreseeable assessment, but not in the near future.
The EAS recommended some summarization of the purpose and need and goals and objectives sections of the document. The EBFM document provides a vehicle to (1) improve information and improve decision making; (2) identify gaps in information; (3) integrate across species-specific FMPs; and (4) provide a nexus to regional and national ecosystem-related endeavors. The EAS recommended the following items also be considered in the purpose and need statement (5) establish a platform or framework that enables management at the appropriate ecosystem scale for a species or complex of species, (6) create incentives for improved stewardship and (7) encourage innovation by offering an alternative pathway for management of a complex of species that might yield a more robust portfolio of fishing opportunities.

Graphic Representation of Concepts: The group reviewed a graphic the EAS adapted from the North Pacific Fishery Management Council’s FEP. The graphic displays the types of interrelationships that Dr. Field alluded to when talking about an overall assessment of ecosystem impacts and services. The EAS also had a good conversation with Ms. Schmitt regarding a tabular display of benefits and tradeoffs of EBFM.

Goals and Objectives: The EAS felt that the EPDT goals for an ecosystem plan seemed too narrow because they focus only on providing information on the ecosystem. The plan should set out to do more, namely advising management on a variety of topics (e.g. forage protection, area management, protected species, etc.). There may not be enough info at this time to answer all of the specific management questions, but the plan should be evolutionary.

Stakeholder Involvement: The EAS felt that public outreach and coordination with other Council Advisory Bodies will be important aspects of the development of an ecosystem plan. The EAS recommended that Council staff incorporate the ecosystem agenda item at the September Council meeting into the agendas of as many Advisory Bodies as possible.

Review of Draft Report and Discussion of Revisions
Mr. Scully noted that as a new reader of the draft, he felt a summary of other Council efforts in EBFM would be helpful. Ms. DeReynier suggested the incorporation of the NMFS report that was provided at the November of 2009 Council meeting.

The EPDT highlighted the issue of the regulatory scope of the ecosystem plan as a topic that would benefit from additional Council clarification on what is desired and legal clarification on what is possible under the variety of plans discussed in the report.

Mr. Niles felt that there really wasn’t an existing ecosystem plan in the nation that would fit current expectations for the West Coast. The first thing that needs to be decided is what is desired from the plan, and second, is regulatory authority under a broader plan needed to achieve the desired outcomes. One evolutionary approach would be to start with a list of things an EFMP could do, start with informative pieces that inform existing authorities and move to concepts that could broaden authority. The merging of natural resource conservation and the services that humans desire from those resources is something a broad plan could potentially assess cumulatively.

The EPDT briefly discussed existing ecosystem plans. The geographically-based ecosystem plans in the Western Pacific Fishery Management Council seem to function like a place-based traditional FMPs and are tailored to the specific needs of their broad geographic management
needs. Perhaps at the other end of the spectrum is the North Pacific Fishery Management Council’s FEP for the Aleutian Islands. This plan is not regulatory vehicle but rather informs decisions that are implemented under other plans or authorities.

The South Atlantic Fishery Management Council completed a comprehensive FEP that seems to both inform decisions in other FMPS, but also takes broad actions that cross FMPS, namely geographic closed areas. This has simplified their Council process because it takes a common issue, deals with it in one place, and implements it across all FMPS. This plan seems to have potential as one to draw from as the Pacific Council process moves forward.

Ms. DeReynier reported that NMFS has questions about what an EFMP is and what it does. It is often noted that if the plan takes the form of an FMP, it will likely have to meet all of the provision of an FMP as specified by the Magnuson-Stevens Fishery Conservation and Management Act (MSA), provisions that have been developed over years with a more traditional species-based approach. These provisions are not likely to conform well to the broader perspective of an ecosystem-based approach.

Mr. Burner noted that although NMFS has made EBFM a high priority for ocean resource management, there is very little guidance on how it could be done. The last MSA reauthorization provided few specifics and there may need to be considerable flexibility in how an EFMP is developed and how it is reviewed under current statutes and guidelines that were largely not developed with EBFM in mind.

Ms. Schmitt reviewed a table or matrix of practical considerations and applications across a variety of management approaches (first draft included at the end of this document). The table is not intended as a guide or to limit Council decisions making. In other words, the ideas presented are just examples of some of the potential tradeoffs not a guide to EBFM that must be followed. The table was well received and, when completed, will be included in the final report.

The discussion turned to the interrelation between fisheries and FMPS. The cyclical nature of fish stocks and fisheries causes many shifts in fishing patterns and exploitation. These shifts or changes in regimes are the type of thing an ecosystem approach could help identify or predict. But just how this broad perspective is achieved is unclear. Would each management team in the Council process be charged with ectype consideration with new expertise added to teach team or would the EFMP team be responsible for evaluating the management measure and harvest specifications under each FMP in relation to each other?

Purpose and Need Section:

One way to illustrate a need for EBFM would be to look at historic examples of where ecosystem considerations could have averted a problem (sardine collapse, groundfish overfishing). It was noted that EBFM will not likely ever be entirely quantitative. Just because we cannot quantify all of the impacts to a stock does not mean those interactions are not happening. There are qualitative analyses that could inform the process as the state of the science and the details within the scientific advice improve. The group agreed to again look at the November recommendations of the SSC regarding the identification of the need for EBFM.
Goals and Objectives Section:

The goals of the plan should include the goal of attaining a better understanding of long-term cumulative effects of fishing and the relationship of the species between FMPs. Mr. Burner provided a summary of the goals and objectives of each of the Council’s four FMPs. None of the existing FMPs have such a broad perspective as a goal, but many goals are shared by more than one plan. The EPDT felt it would be important to consult with the other Council Advisory Bodies when determining all of the interrelations between the Council fisheries.

The cumulative effect of the optimum removal of all harvested species is not currently assessed. There is evidence that attaining OY at the single species level is not optimum for ecosystem health when practiced across species. The report should highlight the concept of added efficiencies. There is an opportunity to streamline the Council process by combining analyses across FMPs.

Regulatory Scope and Management Unit Species:

This section would make more sense if reorganized. Organize by areas of Council authority; fishing activities for FMU species, fishing activities for species outside FMUs, non-fishing activities that impact EFH, and non-fishing impacts that effect the ecosystem. This section also seems like a logical place to put some examples from other regional fishery management councils.

Geographic Range and Scale Section:

Mr. Lindsay noted that the Council’s jurisdiction is limited to the EEZ, but that the California current large marine ecosystem (CCE) is a scientific rather than political concept and extend beyond the EEZ. The plan should be reference appropriately. A map of the EEZ and the accepted scale of the CCE might be helpful.

Essential fish habitat (EFH) is an issue that reached across FMPs and may benefit from a EBFM approach. However, EFH is defined very differently for salmon versus coastal pelagic, versus groundfish and mapping them all would get difficult and would end up covering the full extent of the EEZ.

A map of biogeographic regions was suggested, but varying scientific opinions exist on how many there are within the CCE. The GLOBEC process has identified four regions that could be used as an example.

Because of the close link between EBFM, spatial management, and marine sanctuaries, the group decided that a map of the EEZ and the west coast National Marine Sanctuaries would be useful

State of Ecosystem Science Section:

The EPDT agreed that this section could mention National Standard 2 regarding the use of the best available science. As the science behind EBFM improves, the appropriate application of it to fishery management will be of interest. The process of implementing EBFM and introducing new concepts and science will likely evolve with or without an ecosystem plan, but surely the process would benefit from a developed framework.
**Work Assignments and Scheduling**

Dr. Field agreed to update the Goals and Objectives and State of the Science sections. Ms. DeReynier will work on the Regulatory Scope section. Ms. Wooninck and Mr. Lindsay will put some maps together for the Geographic Range section. Mr. Scully will consider the EAS and SSC comments and work on the Purpose and Need section. Mr. Niles will provide additional material on the need for EBFM to augment single species management. Ms. Schmitt will complete the table on benefits, costs, and tradeoff to EBFM implementation.

Ms. DeReynier will continue to serve as overall document compiler and will work on transitional paragraphs and document organization.

Appendices:
- A. Table of costs, benefits, and tradeoffs across EBFM approaches (Schmitt)
- B. The existing appendix
- C. Goals and objectives of the four FMPs
- D. Acronyms

Schedule:
- August 3 – all submissions to Ms. DeReynier.
- August 5 – Full report draft sent out to EPDT for review.
- August 10 – All comments back to Ms. DeReynier.
- August 17 – Final draft done and sent out to the EAS and other Advisory Bodies.

The EPDT finished the meeting with a discussion of developing an EPDT statement to the Council for September that compliments the full report by providing recommendations for future work, EPDT preferred alternatives, and recommendations on future presentations. Mr. Burner will send out a draft outline of a statement by July 23rd and the EPDT agreed to get comments back to Ms. DeReynier by August 3rd.

ADJOURN
PFMC
08/06/10
<table>
<thead>
<tr>
<th>Need</th>
<th>Status Quo + (Do we need an Ecosystem Plan?)</th>
<th>Advisory FEP</th>
<th>Umbrella EFMP with Selected FMUs</th>
<th>Regional Omnibus EFMP</th>
<th>Coastwide Omnibus EFMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFMC Mission: Sustainable Fisheries … <strong>Benefits:</strong></td>
<td>1) Improve information and decision-making</td>
<td>Non-regulatory plan provides a cohesive framework:</td>
<td>Adds some regulatory authority/responsibility while maintaining current basic PFMC and FMP organization, structure and decision-making processes.</td>
<td>Revises PFMC and FMP organization, structure and decision-making processes to correspond to relevant ecological relationships.</td>
<td>Consolidates all existing FMPs into a single FMP.</td>
</tr>
<tr>
<td></td>
<td>2) Identify information gaps</td>
<td>Quantify effects of management decisions and risks for one species on another ecosystem species, habitat, fisheries, community, etc.</td>
<td>Adopt FMPs with specific FMUS for ecoregions. Likely ecoregions include: So. CA Bight …. Coastwide (eg. FMUS include sardine) HMS (e.g., albacore)</td>
<td>Provides for simultaneous decision-making appropriate for the suite of ecosystem impacts.</td>
<td>Provides for simultaneous decision-making appropriate for the suite of ecosystem impacts.</td>
</tr>
<tr>
<td></td>
<td>3) Integrate across species-specific FMPs</td>
<td>Coordinated, organized and prioritized focus with identifiable goals for input to other ecosystem efforts.</td>
<td>Flexible FMP structure allows for changes in ecosystem understanding and information without requiring development of new FMPs.</td>
<td>Provides greater consistency in goals, objectives, processes across all current FMPs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Provide a nexus with other ecosystem efforts</td>
<td></td>
<td>Allows for maintenance or revisions to PFMC and advisory group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More….</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need</td>
<td>Status Quo + (Do we need an Ecosystem Plan?)</td>
<td>Advisory FEP</td>
<td>Umbrella EFMP with Selected FMUs</td>
<td>Regional Omnibus EFMP</td>
<td>Coastwide Omnibus EFMP</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Qualitatively address forage fish issues: identify suite of spp. affected by anchovy harvests and nature of impacts on FMP spp and fisheries, as well as non-FMP spp.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFMC Examples</td>
<td>Will salmon resource be harmed by the proposed anchovy harvest?</td>
<td>Explicitly address forage fish issues: Quantitatively assess sardine harvests on other FMP spp. and fisheries, as well as non-FMP spp.</td>
<td>Regulatory management for species like krill</td>
<td>What are the impacts of the harvest of species Y on other relevant resources, fisheries, habitat, and communities in ecoregion X? What are the probabilities that these impacts will occur?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>How much will the salmon resource (and fisheries and communities) be harmed by the proposed anchovy harvest? How certain is it that these impacts will occur (probabilities)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFMC Implementation</td>
<td>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-economic and interrelationships)</td>
<td>Revise STAR TORs to focus on ecosystem considerations (data, analysis, decision-making tools)</td>
<td>Set ACLs, OFLs, etc. for FMUS</td>
<td>Reorganize information and decision-making from coastwide to regional basis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PFMC adopt FEP (developed by EPDT)</td>
<td></td>
<td>Set ACLs, OFLs, etc. for FMUS on a regional basis (e.g., like for fishery sectors in NS1 guidelines).</td>
<td></td>
</tr>
<tr>
<td>Need</td>
<td>Status Quo + (Do we need an Ecosystem Plan?)</td>
<td>Advisory FEP</td>
<td>Umbrella EFMP with Selected FMUs</td>
<td>Regional Omnibus EFMP</td>
<td>Coastwide Omnibus EFMP</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>Identify key non-PFMC ecosystem efforts to monitor or engage in.</td>
<td></td>
<td></td>
<td>Reorganize and potentially broaden advisory groups to correspond to regional FMPs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PFMC implement priority revisions to its structure and function (EPDT develop recommendations)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs and Consequences</td>
<td>Resources to assemble, organize, analyze and disseminate key information.</td>
<td>Add resources and expertise to assemble, organize, analyze and disseminate all relevant information EPDT activities to draft plan PFMC and advisory bodies to review and approve plan SSC revise STAR TORs</td>
<td>Add expertise and stakeholders to advisory panels. May inadvertently affect state-managed fisheries and resources.</td>
<td>Re-form and add advisory panels: Potentially broaden the range of scientific expertise needed and stakeholders affected</td>
<td></td>
</tr>
</tbody>
</table>