

October 11, 2012

Mr. Dan Wolford, Chairman  
Pacific Fishery Management Council  
7700 NE Ambassador Place, #101  
Portland, OR 97220

**RE: Agenda Item K.1.d, Development of a Pacific Fishery Ecosystem Plan**

Dear Chairman Wolford and Council Members:

We write to express our support for the Pacific Fishery Management Council's (Council) development of a Fishery Ecosystem Plan (FEP), to encourage the Council to stay on track with adopting a finalized FEP in March of 2013, and to ensure that the FEP prioritizes protection of the marine food web.

We are pleased with the progress that the Council has made on the FEP in general and are optimistic about the ways in which it will enhance and improve existing fisheries management by bringing more ecosystem science, broader ecosystem considerations and coordinated management policies to the table.<sup>1</sup> While the progress it has made is promising, in order for the FEP to best fulfill its stated purpose and need it should:

- Include in its objectives an explicit reference to the assessment of Optimum Yield (OY), as defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA).<sup>2</sup>
- Call for monitoring the status and trends of the forage base in the Exclusive Economic Zone off the West Coast as an indicator of ecosystem health.
- Provide a framework to ensure that information from the FEP is incorporated and utilized in the decision making process.

A description and the justification for these items are described in further detail below. We ask that the Council consider these suggestions as it reviews the forthcoming final draft of the FEP and incorporate them into the guidance it gives to the Ecosystem Plan Development Team (EPDT) as it prepares the FEP to be released for public comment.

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<sup>1</sup> PFMC. June, 2012. Draft Pacific Coast Fishery Ecosystem Plan. Agenda Item H.1.a. Page 2

<sup>2</sup> 16 U.S.C. 1802 § 3(33)(B).

## FEP Goals & Objectives

We agree with the approach taken by the EPDT to establish objectives for the FEP in accordance with those found throughout the Council's fishery management plans (FMPs); including first-order ecosystem-based goals of avoiding overfishing and minimizing bycatch and impacts to habitat. We also support the EPDT's inclusion of an additional objective found only in the Coastal Pelagic Species (CPS) FMP: that of providing adequate forage for dependent species.<sup>3</sup> This objective in particular is the focus of our comments below.

The National Standard 1 (NS1) Guidelines echo this objective from the CPS FMP by stating that the benefits of ecosystem protection result from among other things, "maintaining adequate forage for all components of the ecosystem."<sup>4</sup> The guidelines go even further by directing that in FMPs, "consideration should be given to managing forage stocks for higher biomass than  $B_{MSY}$  to enhance and protect the marine ecosystem."<sup>5</sup> In short, forage conservation is a primary component of ecosystem-based fishery management<sup>6</sup> and should be a major focus of the research, monitoring and assessment activities called for in the FEP, as well as the way in which its implementation will enhance management.

The second objective listed in the FEP addresses the assessment of the greatest long-term benefits derived from the conservation and management of marine fisheries and the tradeoffs necessary to achieve those benefits. We concur with the recommendation made by the Ecosystem Advisory Subpanel to modify this objective by including a specific reference to OY as follows:<sup>7</sup>

*"2. Build toward fuller assessment of the greatest long-term benefits from the conservation and management of marine fisheries, of optimum yield, and of the tradeoffs needed to achieve those benefits while maintaining the integrity of the CCE..."*

The MSA) mandates that FMPs seek to achieve OY in order to provide the greatest overall benefit to the Nation, particularly with respect to food production, recreational opportunities and protecting marine ecosystems.<sup>8</sup> Under the MSA, OY is defined as Maximum Sustainable Yield (MSY) reduced by relevant social, economic and ecological factors.<sup>9</sup> The incorporation of

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<sup>3</sup> PFMC. 1998. Coastal Pelagic Species FMP. Page1-4.

<sup>4</sup> 50 C.F.R. § 600.310(e)(3)(iii)(C).

<sup>5</sup> 50 C.F.R. § 600.310(e)(3)(iv)(C).

<sup>6</sup> See also: Warren, Brad. 2007. *Sea Change: Ecological Progress in U.S. Fishery Management*. A report jointly commissioned by the Marine Conservation Alliance and the Institute for Social and Economic Research and the University of Alaska Anchorage. July, 24, 2007.

<sup>7</sup> PFMC. June, 2012. Ecosystem Advisory Subpanel Report on Council Fishery Ecosystem Plan Development. Agenda Item H.1.c.

<sup>8</sup> 16 U.S.C. 1851 § 301(a)(1)

<sup>9</sup> 16 U.S.C. 1802 § 3(33)(B).

these factors into the determination of catch levels is thus a requirement of FMPs.<sup>10</sup> It should be clear that a major objective of the FEP will be to assist the Council to identify, assess and explicitly incorporate these factors into its existing FMPs as an adjustment from MSY to OY.

In regards to economic OY considerations, the management of forage species should consider new scientific studies evaluating the economic value of forage species as prey for other recreationally and commercially important species relative to their economic value as commercially targeted stocks.<sup>11</sup> Economic and social OY adjustments must be carefully designed so that they do not overlook the possible negative impacts of forage fish depletion on commercial and recreational fisheries for marine predators in higher-trophic levels (e.g., salmon and tuna), and must incorporate long-term impact assessments on all stakeholders for fisheries which are dependent on forage species as opposed to just short-term perspectives on catch reduction impacts to forage fisheries. In regards to ecological OY considerations for single-species management, the FEP should provide guidance to help assess the relative contribution of the particular forage stock to the diets of key predators with respect to population trends and ocean conditions in order to manage the fishery in a way that maintains that ecological contribution. Additionally, the FEP should analyze alternative forage management strategies to identify and minimize any potential negative impacts to existing fisheries and the ecosystem.

### **FEP Ecosystem Indicators & Implications for Management**

According to the draft outline for an annual state of the California Current ecosystem report provided to the Council by the EPDT in June 2012, one of the planned components of the FEP will be to identify a suite of ecosystem indicators for the Council to monitor and utilize in its decision making process.<sup>12</sup> The Council has heard public testimony pointing out that overall abundance and composition of the forage base is a critical indicator of ecosystem status and also that we have the scientific expertise to begin developing that indicator from both a qualitative and quantitative perspective.<sup>13</sup> As this process unfolds and as ecosystem science expands, we encourage the council to establish benchmarks or thresholds of forage abundance against which the forage indicator may be measured and which are consistent with the Council's ecosystem goals and objectives. Additionally, the FEP should identify important forage species and evaluate the ecological services they provide. This information should be used, in conjunction, to help inform the development of conservation and management measures that

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<sup>10</sup> 50 C.F.R. § 600.310(e)(3)(iv)(C).

<sup>11</sup> Hannesson, R., & Herrick JR, S. 2010. The value of Pacific sardine as forage fish. *Marine Policy*, 34(5), 935-942.

<sup>12</sup> PFMC. June, 2012. Draft Outline for an Annual State of the California Current Ecosystem Report. Agenda Item H.1.a, Attachment 2.

<sup>13</sup> See Public Comment at November 2011 PFMC Meeting. Agenda Item H.2.c. Page 7.

“protect and conserve the flow of trophic energy within the ecosystem;”<sup>14</sup> as stated in the Objectives section of the FEP.

The use of indicators is a well-recognized approach in the practice of ecosystem-based fisheries management. For example, in 2006 the North Pacific Fishery Management Council’s (NPFMC) Groundfish Plan Team noted low levels of forage biomass (sandlance, capelin, eulachon, herring, etc) in the Bering Sea and Aleutian Islands management area. This indicator of forage abundance was viewed as a qualitative reason for acting with extra precaution when setting that season’s catch levels for walleye pollock.<sup>15</sup> Additionally, the NPFMC’s Aleutian Islands Ecosystem Team monitors the reproductive success of various seabirds in the management area and uses that information as an indicator of forage availability and system level productivity.<sup>16</sup>

A report released by Livingston *et al.* in 2005 describes ecosystem indicators as valuable tools for assessing ecosystem status and the impacts of fishing on the ecosystem. The authors also highlight how the indicator approach is being expanded to utilize models to predict possible future trends and changes in ecosystem status.<sup>17</sup> Specifically, in order to detect changes outside of the natural range of prey availability relative to predator demands, this report describes the assessment of trends in forage biomass as a quantitative indicator that is measured against thresholds established in accordance with existing ecosystem goals and objectives. As the Council refines its use of indicators and develops thresholds, the FEP must also provide a framework for the Council to consider and respond to information on the short-term and long-term status, trends and forecasts relative to the forage base.

In October of 2011, the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) held a national Scientific and Statistical Committee workshop on ecosystem and social science considerations in federal fishery management. Much of the discussion focused on forage issues and bringing ecosystem considerations into the fishery management process. In regards to monitoring and assessing forage abundance within a system, the workshop report found that:

*“[I]t may be more important to identify an overall forage base cutoff or biomass threshold rather than a species-specific goal. Oceanographic or ecological conditions that result in poor survival across species can have broader and greater impacts on the system than fluctuations in a single species’ population*

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<sup>14</sup> PFM. June, 2012. Draft Pacific Coast Fishery Ecosystem Plan. Agenda Item H.1.a. Page 4.

<sup>15</sup> Aydin, K. 2008. *The evolution of ecosystem approaches: notes from the front lines*. Alaska Fisheries Science Center. NMFS.

<sup>16</sup> NPFMC. September 2011. Summary Report of Aleutian Island Ecosystem Assessment Workshop. September 28-29, 2011.

<sup>17</sup> Livingston, P. A. et al. 2005. A framework for ecosystem impacts assessment using an indicator approach. *ICES Journal of Marine Science*, 62: 592e597.

*level and this aggregated treatment of forage would better mitigate such fluctuations.”<sup>18</sup>*

We’d also like to remind the Council of comments made by the CPS Management Team (CPSMT) regarding the monitoring of the forage base in the Council’s ecosystem plan (at that time referred to as the E-FMP, before the decision to make the plan a strictly advisory FEP):

*“The identification and monitoring of indicator species and the role species play in the food web are likely to be important issues for the E-FMP....It may become more practical to monitor species for their ecological role and associated ecosystem functions under the E-FMP rather than in the EC (Ecosystem Component) categories of the Council’s four FMPs.....There are many small pelagic nekton species (primarily fish and squid) that are not presently a target of commercial fisheries...These forage species, together with presently managed coastal pelagic species, comprise the forage base for the California Current ecosystem. As the Council moves to developing an E-FMP, it is important that key populations of forage species are monitored, their role in the food web identified, as well as identifying how fluctuations in forage species abundances affect CPS abundance.”<sup>19</sup>*

We wholeheartedly concur with the CPSMT that an FEP is the proper place to address ecosystem-wide forage base issues. Similar to utilization of forage status and trends, as the FEP begins to identify ecological and economic tradeoffs and alternative management scenarios are evaluated, there must be a framework in place to ensure that this information is considered and utilized in the decision-making process that currently occurs within the context of single-species/species complex FMPs.

## **Conclusion**

We’d like to commend the Council for its development of the Pacific FEP. The sections of the FEP that describe its Purpose and Need as well as its Objectives reflect a sincere effort on the Council’s part to manage our fisheries with an ecosystem-based approach. We fully understand that this process is evolutionary rather than revolutionary and that as our knowledge of the marine ecosystem grows, so too will our ability to protect ecosystem structure and function while at the same time managing sustainable fisheries. The first and most crucial step in this process is to conserve the marine food web.

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<sup>18</sup> Seagraves, R. and K. Collins (editors). 2012 Fourth National Meeting of the Regional Fishery Management Council’s Scientific and Statistical Committees. Report of a National SSC Workshop on Scientific Advice on Ecosystem and Social Science Considerations in U.S. Federal Fishery Management. MAFMC, Williamsburg, VA.

<sup>19</sup> PFMC. March, 2010. Amendment 13 to the Coastal Pelagic Species Fishery Management Plan. Please refer to March 2010 PFMC Meeting Agenda Item H.2.a.

Forage species populations fluctuate dramatically in response to ocean conditions and they face increasing pressure from climate change and other forces beyond the control of the Council. At the same time, we know that fishing pressure exacerbates these stressors and can result in forage populations reaching unnaturally low-levels.<sup>20</sup> While the Council can't stop global warming or regulate non-fisheries uses of the marine environment, it can seek to minimize negative impacts to the ecosystem from the fisheries it does control. Adopting a meaningful FEP that is utilized in the decision making process will enable the Council to achieve our established national goal of transitioning to an ecosystem-based approach to fisheries management.

We appreciate the Council undertaking this endeavor and look forward to working with all stakeholders to maintain healthy oceans and sustainable fisheries.

Thank you in advance for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Marx". The signature is fluid and cursive, with the first name "Steve" being more prominent than the last name "Marx".

Steve Marx  
Pacific Fish Conservation Program  
Pew Environment Group

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<sup>20</sup> Hsieh et al. 2006. Fishing elevates variability in the abundance of exploited species. Nature 443:859-862.  
Doi:10.1038/nature05232



October 10, 2012

Mr. Dan Wolford, Chair  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220-1384

Dear Chairman Wolford and Council Members,

The Environmental Action Committee of West Marin (EAC) is a 41-year environmental advocacy group based in Point Reyes Station, California. We understand and highly regard the role that forage fish play in our marine ecosystem, and we are dedicated to ensuring that they are responsibly managed for current and future generations.

EAC appreciates the Council's decision in June recognizing forage fish as the cornerstone of a productive marine ecosystem along the Pacific coast. Forage fish are the lifeblood of a healthy ocean. *We ask that you keep on track to fulfill your commitment to prohibit new fisheries targeting forage species that aren't yet being fished, starting with timely adoption of a strong Fishery Ecosystem Plan.*

Our coastal ecosystem is under increasing pressure. The Pacific marine environment is affected by large-scale changes in climate, coastal habitat degradation, invasive species, and rising demand to feed a growing world. A resilient ecosystem depends first and foremost on a balanced food web, which is why conservation of prey fish is widely recognized as a pillar of ecosystem-based fishery management.

It is important that the Council adopt a plan that is useful in improving fishery management. A meaningful Fishery Ecosystem Plan should include an index measuring forage abundance along the West Coast. The Council's top priority should be to ensure the stability of the marine ecosystem and existing fisheries here on the Pacific coast. Adequate conservation of forage fish may be the single most important action the council can take to protect the Pacific marine ecosystem – and the fishermen and coastal communities that depend on it.

Thank you for your consideration of our concerns and comments.

Sincerely yours,

A handwritten signature in black ink that reads "Amy Trainer". The signature is written in a cursive, flowing style.

Amy Trainer, Executive Director