



## New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

# DRAFT MEETING SUMMARY

## Ecosystem Based Fishery Management (EBFM) Committee

Omni Hotel, Providence, RI

May 22, 2014

The EBFM Committee met on May 22, 2014 in Providence, RI, state to: hear about efforts to develop EBFM plans in other places and to discuss how to begin the development of an EBFM plan in New England.

**MEETING ATTENDANCE:** Tom Dempsey (Chairman), Mike Sissenwine (Vice Chair), Terry Alexander, Doug Grout, David Pierce, David Preble, John Quinn, Mary Beth Tooley, Chris Zeeman (Lee Anderson and Frank Blount absent); Andrew Applegate and David Thomas (NEFMC staff); Tobey Curtis (NMFS GARFO staff); Karen Abrams and Jason Link (NMFS Silver Spring), Rich Seagraves (MAFMC), Mike Burner (PFMC), Jake Kritzer (SSC) and Michael Fogarty (NEFSC). In addition, approximately 15 members of the public attended, with an additional 15 online observers.

The meeting was broadcast on the Internet and several people gave their presentation and communicated with the Oversight Committee via the Internet. Their presentations were displayed for the committee and rebroadcast. The link provided two-way communication to allow for questions and dialogue between the committee, the audience, and the presenters. The system worked quite well.

Presentations and background documents are available on the Council's EBFM web page (<http://www.nefmc.org/ecosystems/index.html>).

### KEY OUTCOMES:

- The Oversight Committee received presentations about National policy and science, a summary of US regional Fishery Ecosystem Plan (FEP) development, background about EBFM work by the NEFMC during and before 2012, and some possible choices to develop a New England FEP. The committee discussed several relevant process issues including how to manage additional public input and scientific information.

Mr. Dempsey opened the meeting with an introduction about the focus of the meeting. Developing EBFM is a unique charge and may therefore require an unusual approach, he said. To start the process, Mr. Dempsey thought it would be helpful to introduce the committee to

EBFM efforts elsewhere, both at a national and regional level. Mr. Kritzer would also provide a summary of the SSC white paper on EBFM and discussions the SSC have had since that document was completed. Mr. Dempsey anticipated working on EBFM for at least a few years. He thought we should begin by learning about EBFM here, in other regions and countries. Initially, there would be a learning process about the experience of and different approaches taken by others developing EBFM.

#### ***PRESENTATION 1 – NATIONAL FISHERY ECOSYSTEM POLICY – KAREN ABRAMS***

Presentations were given by Dr. Karen Abrams and Dr. Jason Link from NMFS Silver Spring which gave an overview of National EBFM policy and sciences respectively. Karen Abrams described the background and framework for EBFM development, including legislative and statutory support and authority for developing fishery ecosystem plans (FEPs). The reports referenced in her presentation are available on the Council's EBFM web page.

#### **Discussion**

Following the presentation, Mr. Alexander asked how does the EBFM approach mesh with existing national standards? Dr. Abrams replied that regulations developed through FEPs must comply with national standards, but developing an FEP was possible under existing national standards.

Dr. Pierce asked whether new standard revisions will address developing NMFS ecosystem science in FEPs. Dr. Abrams pointed out that other councils have developed FEPs under existing standards, and therefore there was considerable room for developing FEPs now. Later during the meeting, Mike Burner pointed out that some additional FEP requirements were written into one of the Magnuson Act revision drafts.

Mr. Grout asked for more details about the Lenfest program for developing a practical blueprint. What is the timeline for the Lenfest initiative? Dr. Abrams said she was uncertain when the completions date is. Dr. Link added that the Lenfest initiative is a two-year process and has Council representation. We are unsure who the NEFMC representative on this panel is (after the meeting it was determined that the advisory panel had not yet been formed and the NEFMC therefore has no representative on it).

Jud Crawford, Pew Charitable Tures, asked what Dr. Abrams thought would be the best guide for developing FEP? Dr. Abrams answered that the 2014 training course is a good practical guide, but all of the referenced background documents have different pieces of information to offer. Several committee members asked that these documents be made available, all of which have since been posted on the EBFM page.

#### ***PRESENTATION 2 – NATIONAL FISHERY ECOSYSTEM SCIENCE – DR. JASON LINK***

Dr. Link's presentation described options and scientific tools supporting EBFM. NMFS now has a commitment to make EBFM an operational reality. Climate changes and pressures are a real threat facing ecosystems. In fact the Northeast region is facing some of the

greater changes in ocean temperature. In some recent cases, climate and predation interactions have been explicitly incorporated into stock assessments and management recommendations.

Butterfish assessment used thermal habitat effects on catchability, as an example. Extended stock assessment models, incorporate predation and environmental variables are being explored. Moreover, the Councils need to be asking for these tools, Dr. Link suggested. We have an annual ecosystem status report in NE region and Dr. Link went on to describe various approaches and tools were described. Management strategy evaluation is another tool being explored to evaluate achievement of multiple objectives. Dr. Link suggested a portfolio approach in FEPs, sort of a table of contents to be applied in specific fishery management plans. He thought it would be helpful if the scientific reports start tracking overall ecosystem productivity and other biological reference points of aggregate groups.

### Discussion

Mr. Preble thought that all the tools exist, but there are dangers to be aware of. In this region as elsewhere there are so many agencies at different points and with different goals, creating a danger of turf battles, a troubling trend. He thought political and administrative adjustments to manage large marine ecosystems are needed.

Dr. Pierce asked to what extent is NMFS going to be involved in assisting revising the national standards and the ecosystem staff assisting congress when amending the Magnuson Act. Dr. Link replied that the issues are on the table and the NMFS senior scientists (assessment, ecosystem, economics) are very engaged in the discussions and advice to congress. The Managing Our Nations Fishery report was being used as input, he added. Dr. Pierce also asked to what extent NEFSC ecosystem scientists involved in real time with stock assessment science process, blending knowledge, assessments that factor trophic interactions and climate change variables. Dr. Link replied that there is a multispecies assessment working group established, developing new models and approaches.

Mrs. Tooley asked about forage issues, consideration of predation, but the right questions might not be being asked. Questions are still often being considered in a single species mode. She thought we need to be asking questions about adequacy of total forage base. She added that the Pacific Council has thought about the broad base of forage needs, mammals, seabirds, fish predators, and fishing industry. A second question was asked about risk tolerance,  $P^*$ , which still has a single species focus. Dr. Link agreed that broader consideration of risk is needed.

Mr. Zeman recommend that NMFS should prepare list of standard ecosystem indices and direct the (fishery science) centers to routinely include them in all stock assessments. Mr. Dempsey added that the information would have to come forth with information about how the ecosystem indicators could be used by managers. Dr. Link thought that this effort would be helpful and suggested the Council made time on its agenda for an annual presentation on ecosystem indicators. A report for 2013 would become available soon.

Mr. Quinn asked about coordination issues with MAFMC and ASMFC. Dr. Link agreed that this is an issue and urged coordination and communication to address regional EBFM issues.

Steve Mirer, East Coast Tuna Association, asked about fishery and other use tradeoffs in EBFM approaches. Dr. Link said that to some extent these considerations were being made and used an example of dialogue about the relationship between productive scallop beds and wind farm siting.

Ron Smolowitz, Coonamessett Farms, expressed concern about the data collection capabilities to support EBFM and these types of decisions. He asked whether there was a discussion about gathering such data, possibly using commercial vessels. Dr. Link agreed that there is a need for creative ways and exploration to gather the information with advanced sampling technologies, but he was struck by the amount of information that we actually have now. Lots of information and data is already available and downloadable on the web. He thought that the EBFM PDT could be helpful to define what it is that should be tracked and analyzed. Mr. Smolowitz pointed out changes in availability of species in diets due to climate change, currents are now different than they were just a few years ago.

### ***PRESENTATION 3 – SSC WHITE PAPER SUMMARY AND DISCUSSIONS ABOUT EBFM – DR. JAKE KRITZER***

Dr. Jake Kritzer summarized the three 2010 SSC white papers and other discussions that the SSC has had with respect to EBFM. At the time, the SSC plan recommended a transition or phased approach to developing EBFM. Dr. Kritzer gave a brief overview of EBFM case studies: California, Eastern Scotian Shelf, Australia (MSE), Chesapeake Bay (five major targets with parallel plans). SSC recommended focus on five major foci: define spatial units (EPU), issues associated with ecosystem components, objectives and risks, etc. He noted that EPUs were proposed.

Several approaches were considered: incremental or evolutionary within existing FMP structure, holistic or revolutionary approach adopting new FEPs with integrated analytical framework, and a blended approach (in Wakefield symposium paper) with planning approach that is incremental but with ecosystem level goals and objectives. The incremental approach is actually in progress here, examples including: holistic size at age trends (GARM3), changes in natural mortality and causes in some stock assessments (2012 Gulf of Maine cod), stock recruitment temperature effects (Southern New England winter flounder), herring variable natural mortality based on consumption estimates, whiting (socio ecological implications, economics, social behavior and ecological needs).

### **Discussion**

Dr. Pierce asked about the validity of the proposed EPU boundaries. He questioned ability to define spatial boundaries for FEPs. Dr. Kritzer answered that the EPUs are linked and need more discussion about how to manage those linkages, which will remain an issue. Dr. Pierce also asked about NROC marine spatial planning, has this effort been considered by the SSC? Dr. Kritzer answered that not much has been done in this respect but the emphasis of EBFM was on managing the interactions with the fishery (as opposed to EBM, which has an even broader focus).

Dr. Pierce questioned the method of catch allocation by species or whether basket TACs or some other approach would be possible. Dr. Kritzer replied that that had not been addressed specifically, but that trophic interactions should be considered. He thought that possible guild management with species level backstops might be a viable approach and comply with national standards. Asking a question about management goals and reference points, Mr. Preble used an example of how to deal with the necessity to temporarily overfish certain species to achieve ecosystem goals. Dr. Kritzer said that uncertainty buffers giving some latitude to change catch without actually overfishing.

Mr. Dempsey asked Dr. Fogarty to add any thoughts about the discussion. Dr. Fogarty said it was important to understand the Council needs, to align NEFSC science efforts to meet the management needs. He said that the system is very interconnected system and we are dealing with the system in a disconnected way. How does the science translated into a management approach, consistent with the way the Council operates, consideration of species interactions and climate change? Dr. Fogarty thought that EPU's give some stability in a geographic sense, but allow periodic review and adjustment. He added that the basis of food web is a starting point for identification of boundaries.

Dr. Pierce asked about aggregate biological reference points for the EPU's, whether they are available and how well they are estimated? Dr. Fogarty thought that aggregate surplus production models have been developed and give useful management guidance.

***PRESENTATION 4 – SUMMARIES ABOUT REGIONAL FEP DEVELOPMENT – ANDREW APPLGATE AND MIKE BURNER (PFMC)***

Andy Applegate and Mike Burner summarized the status of EBFM development and processes that various Councils followed. Andy Applegate also gave a brief summary of some EBFM examples from Australia, Iceland, and Canada as well as a previous effort by the EBFM PDT to begin development of an EBFM scoping document in 2012.

Mr. Applegate gave an overview of the status and development of FEPs in other regions, including the NPFMC, the GSMFC, CFMC, the SAFMC, and the WPFMC. The NPFMC developed an Aleutian Islands (AI) FEP, which focused on local ecosystem issues and provided guidance to other plans managing overlapping fisheries. The NPFMC was initiating a Bering Sea FEP which may have more ecosystem initiatives, like those applied by the WPFMC FEPs that are written to manage island group ecosystems. The AI FEP was a non-regulatory guidance document that didn't require formal scoping, NEPA analysis, nor approval by the Secretary of Commerce.

Mr. Applegate reported that the GSFMC was supporting data collection and multispecies assessment to support EBFM, but was not developing an FEP per se. The SAFMC has an EBFM plan, but it focuses mainly on data collection and research, while supporting coral and habitat management. The CFMC was revising or reallocating their ACLs along regional boundaries, but was not really focused on trophic relationships and species interactions, from what he could tell.

Australia has a formal EBFM approach which included an annual ecosystem risk assessment which provided guidance to the individual regional fishery management plans. Iceland had taken a non-formal EBFM approach with a network of closed and special management areas, but the date Mr. Applegate could find was somewhat dated, in 2004. Canada had an ecosystem policy and a director, but it was unclear how those policies were applied in regional fishery management plans.

### Discussion

Dr. Pierce asked if closed area management was a fundamental basis of FEPs. Mr. Applegate answered that many management plans that have ecosystem considerations also have area management, but they are not required to develop ecosystem management.

Dr. Link added that internationally there is an Antarctic FEP under development which include trophic set asides. Arctic management also exists along EBM lines and EAFMs are being adopted in Indonesia and Malaysia in incredibly data poor situations.

Mike Burner gave a more thorough presentation on development of PMFC FEPs. Initially it was developed as a response to roadblocks for creating conservation zones, he said. The other issue motivating FEP development was protection of forage base, species that were not part of their FEPs. It also served as a means to get improved science and information into management. Their FEP is not a regulatory document, but provides guidance to their FMPs. It brought ecosystem considerations into species assessments. There is a separate ecosystem initiatives appendix in the plan. Mr. Burner added that their FEP was not submitted for formal federal review, but it was not classic Magnuson Act approach. Draft revisions of Section 303 of the Act would require a full federal review of FEPs. In the FEP, there are no initiatives required when ecosystem indicators are out of range. But it requires an annual ecosystem status report in an easily digestible form. This document helps with cumulative effects analysis within species/fishery FMPs.

### Discussion

Mr. Dempsey asked about how incorporation of public input was done, since a formal review was not needed. Public input was key to shaping the FEP, answered Mike Burner. Their Ecosystem PDT and an ecosystem panel advisory group were instrumental, groups made up of NGOs and brought in outside perspective. Human recruitment to the fishery was a consideration, since the fishing population and the fleet were aging. Mr. Burner added that their September meeting is scheduled to consider the minimums incidental catch of non-regulated species.

Mr. Grout asked about federal/state management authority of estuarine species in the forage based. Mr. Burner said the focus was on those species in federal waters to prevent large scale marine fisheries from occurring, rather than to protect the forage base for species occurring in territorial waters.

Dr. Pierce asked about the El Nino effect and changes in the California Current System, whereas on the east coast we have variations in the NAO and the Gulf Stream position. He asked how good the science was about how those phenomena affect their fisheries and how they are linked to the management approaches. Mr. Burner replied that the science is pretty good for species that seem sensitive to those changes, but there has been limited success tying them into the management process.

### ***PUBLIC COMMENT<sup>1</sup>***

Mr. Jud Crawford said that the Council with this meeting is off to a great start. The Council's efforts started in 2004 with EBFM workshops. He recommended that in a complicated process that the importance of high level goals will be essential. The Council needs a plan for deciding those goals, else the Council will be wrapped around the axles. So that task should be an important part of next steps for EBFM development.

Ms. Sally McGee provided a 2-page handout about a project on understanding fish response to changes in ocean temperature. The research focus is to be useful to managers about climate change effects on fisheries. Several suggestions were made including focusing on density dependent effects and size range, as well as evaluate changes in the distribution of fishing in response while they are targeting species in the assemblages analyzed by the project.

After hearing the presentations and public comment, the Oversight Committee focused discussion on five topics at the direction of the chair:

- 1. Is there additional information or perspectives that the committee would like to see at a future meeting?**

Mr. Grout suggested he needs time to digest more detailed information about EBFM development. Mr. Dempsey was interested in process that were followed, where there were dead ends and productive directions. Mr. Preble thought that all of the information needs to be in front of the Council, to bring them up to speed. He thought that the NEFSC website will be a valuable contribution.

Dr. Sissenwine said he is more interested about substantive knowledge of what we know about our own ecosystem, what should be taken into account but is not now considered. Mr. Dempsey added this knowledge should include ecological indicators and trends, up or down.

Mr. Applegate suggested development of standardized TORs for assessments to incorporate and consider ecosystem effects in forecasts of stock size and distribution.

- 2. How to develop public dialogue about EBFM, topical workshops or other types of hearings?**

---

<sup>1</sup> This was a scheduled agenda item for general public comment about the presentations and any other matter related to EBFM development.

Dr. Sissenwine thought a range of approaches should be used, including a PDT to work on a technical level, but also a structure that engages a broader set of stakeholders. Mr. Dempsey pointed out another approach that the MAFMC discussion had taken was broken topically as an effective means of communication. Dr. Sissenwine responded that EBFM means different things to different people. He encouraged pursuing an incremental framework (such as climate and habitat effects), but that ecosystem management is a recognition that we are managing a trophic system, and we need to be thinking about that as EBFM program. He recommended that the Council take parallel tracks, an Ecosystem Approach to Fishery Management (EAFM), is an incremental approach, while also developing EBFM which incorporates and directly accounts for trophic effects and interactions among species.

Mr. Preble thought that there is an essential need for workshops, but they can get bogged down. He thought it would be critical to keep program Council-centered. He also said that there is a need for clarification of terminology, which people often use in different ways. Mr. Grout would like to see annual report on ecosystem status. It would be good to have long discussion before the Oversight Committee and Council. He also agreed that the Council need to thrash out some goals. Mr. Preble thought the ecosystem status reports are an excellent start.

**3. How are incorporation of public input is unique in this circumstance? Whether we need to develop an AP? Whether a scoping document was needed?**

Mrs. Tooley prefer latter approach using a scoping document to gather and consolidate information in an informational document and then figure out how to engage the public by workshops for example. Mr. Alexander said that this document would focus the discussion on EBFM issues.

**4. Identification of additional expertise on the PDT.**

Mr. Alexander thought the Habitat Advisors would be a good place to start to coordinate expertise and input, but it lacked the herring committee advisors.

Mr. Preble suggested specifying very clearly what we are looking for in membership. He said it would be helpful to develop a strawman for Oversight Committee consideration. Mrs. Tooley suggested a little more can be broad range of fisheries, geographic range, fishermen input on fishing effects, thermal change predation etc., such as membership drawn from the NGO community with knowledge or experience in ecosystem science and management. Mr. Grout recommended inclusion of other interests and jurisdictions, striped bass, lobster, etc.

Mr. Preble drew a distinction between EBFM and EBM in selecting advisors. Bioenergetics is important, but fishermen observations are important as well.

Mr. Zeman added that coordination with the MAFMC is needed. State waters and



estuarine considerations should be included. He recommended that some thought about using IT should be considered, like virtual meetings and wikis.

Dr. Sissenwine thought that the real challenge is that if we get this right and get the science right, we'll be asking fishermen what type of fish they prefer – dealing with tradeoffs.

#### **5. How best to use hour with the Council in June?**

Dr. Curtis asked about barriers, are the scientific or institution or legal barriers real or perceived? There is a precedent for moving forward and there is agency support. The Committee needs to state whether EBFM development is viable and there are various ways of moving forward.

Mr. Alexander recommended that the committee should focus on the incremental approach and keep a long term goal in focus

Mr. Zeman replied that he thought there are very real barriers to FEP development. He thought that the agency should give credit for the incremental approaches that have been or will be taken, and provide an incentive to full FEP development.

Mr. Preble recommended using the outline on page 22 of NE Continental Shelf report (see below), which describes steps ahead and a pretty good framework. Suggests using it as a start as a framework to move forward.

# the steps ahead

**T**he development of an ecosystem approach to fisheries management, as one component of an overall ecosystem-based management strategy, will entail a collaborative effort among different stakeholder groups. Progress will be substantially enhanced through the development of Fishery Ecosystem Plans (FEPs). A FEP provides background information on the ecology of the system to guide the development of management strategies. As suggested by the NMFS Ecosystem Principles Advisory Panel, constructing an FEP involves the following actions:

- Delineate the geographical extent of the ecosystem(s) that occur(s) within Council authority, including characterization of the biological, chemical, and physical dynamics of those ecosystems, and 'zone' the area for alternative uses
- Develop a conceptual model of the food web
- Describe the habitat needs of different life history stages for all plants and animals that represent the 'significant food web' and how they are considered in conservation and management measures
- Calculate total removals – including incidental mortality – and show how they relate to standing biomass, production, optimum yields, natural mortality, and trophic structure
- Assess how uncertainty is characterized and what kind of buffers are included in conservation and management actions
- Develop indices of ecosystem health as targets for management
- Describe available long term monitoring data and how they are used



Steps in developing an Ecosystem-Based Management Program de la More 2005.

The EBFM Committee meeting began at 9:00 am adjourned at approximately 5:30 p.m.