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**New England Fishery Management Council  
EAFM Stakeholder Workshop #8  
Hyannis, MA**

**Date:** November 1, 2005  
**Location:** Radisson Hotel Hyannis  
**Attendees:** (8) – Sarah Gallo, Chatham MA; David Dow, East Falmouth MA; Louis Ribas, Provincetown MA; Andrea Ribas, Provincetown MA; Michael Fogarty, Falmouth MA; Frank Gable, Natick MA; Ron Smolowitz, Falmouth MA; David Casoni, Plymouth MA  
**Facilitators:** Chad Demarest (NEFMC), Kathy Mills (Cornell University)  
**Start time:** 5:30 scheduled, 5:40 actual  
**End time:** 8:30 scheduled, 8:40 actual  
**Questionnaires:** 5 completed on-site, 0 received in mail

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**I. Purpose and format**

The purpose of this workshop was to engage participants in a discussion, and to solicit a wide range of opinions, on topics critical to integrating ecosystem approaches into the Council's stewardship of marine resources and our fisheries.

Due to the number of participants the workshop was run in one group. Kathy began by discussing Objectives, Indicators and Tools, followed by Chad discussing Ecosystem Boundaries and Collaborative Management.

**II. Break-out Session: Objectives, Indicators and Tools**

Implementing an ecosystem-based approach to fisheries management requires drawing upon stakeholder input to define objectives for both local fisheries and ecosystems. Identifying indicators to track the status of these fisheries and ecosystems, and determining methods or tools for reaching these objectives, follow closely after. Participants were asked to consider changes in fisheries management that may result if ecosystem approaches are utilized, and to identify objectives related to the fishery management process and its outcomes for both fisheries and the ecosystem. From this information, we hoped to gain a sense of the issues and priorities stakeholders want to see addressed through an ecosystem approach, and the results they hope such an approach will achieve. Participants were also asked to identify indicators (including biological, ecological, social, and economic features) that can be used to track how well fisheries and the ecosystem are doing based on metrics relevant to our stakeholders. Finally, participants shared their perceptions of the usefulness and acceptability of common current management tools and offered suggestions for other tools that could be adapted under an ecosystem approach.

**A. Objectives**

Objectives stated by participants in this session fell into several major categories: management and the management structure and process, fisheries, biological and

## DRAFT

ecological considerations, and science. [Note that categories were developed after the discussion and were not used to guide the session.]

### **Management structure and process**

- Simpler isn't always better if regulations are left open to interpretation.
- More input from fishermen
  - Increase trust between fishermen and management agencies / scientists
- Create open process that considers ecology of system to decide which species should be protected and which should not
- Develop science and management tools that link sectors (e.g., water quality and fisheries)
- Improve coordination across all agencies
- Prioritize fairness in all regulations
- Match management to actual conditions better (e.g., cod migrations not matching up with catch restrictions)
- Manage consistently across spatial range
- Manage in way to avoid sub-dividing fleets
- Develop more holistic perspective and coordination
- Develop social objectives
- Increase education about sustainable fishing and what it means to eat fish that is caught sustainably
- Manage areas as fishing grounds or set aside for biodiversity protection (managing for fisheries vs. biodiversity requires different approaches)
- Develop management plans for geographically-specified areas

### **Fishery**

- No big factory boats
- Fresh fish—seafood quality
- Newcomers to fishery
- Reduce by-catch
- Downsize fleet
  - Decrease fishing power of individual units
  - Allow gear shifting
  - Maximize owner-operators
  - Flexibility to move with resource
- Owner-operator fisheries
- Sustainable stocks lead to sustainable communities

### **Biological and ecological considerations**

- High resource biomass
- Manage for predator-prey balance
  - Leave prey to support predators and recreational fishermen
  - Recognize dogfish overabundance
- Deal with water quality

DRAFT

## DRAFT

- Evaluate how nursery areas affect ecosystem components
- Enhance ecosystem to produce larger pie (e.g., seeding, predator control)
- Control impacts of development (e.g., nutrients, habitat loss)
- More comprehensive consideration of range of factors
- Recognize trade-offs in what want to produce
- Use enhancement to achieve higher production

### Science

- Broader scope of science (e.g., extend to water quality, recreational sector)
- Expand science to focus on bottlenecks (e.g., reproduction, lack of spawning), not just habitat complexity
- Include other species in science and its use in management (e.g. turtles—water temperature limitations on their range are not considered in management regulations)
- Develop collaboration across science fields
- Expand cooperative research
- More work needed to define [spatial] range of stocks
- Understand impact of recreational fishing on fish stocks
- Develop better offshore/deepwater coverage of fish in these areas

### ***B. Indicators***

Indicators put forward by the group included features related to ecological, socio-economic, and management aspects of fisheries and the ecosystem. [Note that categories for the indicators were developed after the group discussion.] In suggesting potential indicators, participants noted that there is a need for “better science, including surveys at the right time and place” to be able to effectively develop indicators, establish appropriate management goals, and assess progress towards those goals.

### Ecological

- Mortality rate on stocks
- % quota being met
- Lesions in fish

### Socio-economic

- Economic of recreational and commercial fisheries, including secondary benefits
- Profit, with fuel prices, insurance, and other factors considered as components
- Age of fishermen
- Financial incentives for conservation
- Cost to enter fishery

### Management

- Consistency between science and management

DRAFT

- Levels of satisfaction with fisheries and the management process
- Level of confidence managers have in fishermen

**C. Tools**

Participants recognized some useful benefits of many currently-utilized management tools, including effort controls, technical tools, and protected areas. However, comments on these tools or others that might be useful in an ecosystem approach to fisheries management were limited.

Management tools	Useful for?	Acceptability?
Effort controls (DAS, trip limits, trap limits)	Trap limits—need law enforcement Useful for effort control	
Output controls (quotas, size limits)	Hard TAC useful to control mortality Recreational size and bag limits useful	For recreational fisheries, more is needed—some quotas exceeded under current controls
Technical tools (gear/vessel regulations)	Prevent/reduce by-catch	
Protected areas (spawning/year-round closures)	Increase spawning and stocks	Seasonal closures for spawning purposes acceptable

**III. Break-out Session: Ecosystem Boundaries and Collaborative Management**

One of the foundational concepts underlying Ecosystem Approaches to Management is that different geographically-defined areas have different biological production capacities, and that it may be advantageous to scale science and management to these areas.

Input was solicited on the appropriate geographic scale for fisheries management, the link between ‘scientifically-defined ecosystems’ and potential ‘management areas,’ and any governance issues that may arise as a result of spatially-defined ecosystems.

Terrestrial and, to some extent, international literature on ecosystems approaches to management frequently target community-based (or co-management, collaborative management) principals as a primary driver for ecosystems approaches to management. The group was asked to comment on the perceived advantages of collaborative management, such as an increased sense of stewardship and the potential to see gains from personal conservation-based behaviors, and how these benefits may dovetail with what might be considered a highly geographically mobile fishing fleet in New England. Does the capacity for local management exist? Is there a way to maintain geographic flexibility while achieving the perceived benefits of community-based management? Are communities necessarily geographic, or can they take on other units?

### ***A. Ecosystem Boundaries - Governance***

Participants spoke favorably towards spatially-based regulations, but tempered their enthusiasm with the caveat that, while their local areas (on Cape Cod) may see benefits, not all areas are likely to agree. A fair amount of time was spent discussing the need for integrating non-fishing impacts into fisheries management, and/or getting fisheries managers more active in representing the interests of the fisheries in the planning process for other marine resource uses.

- Area-based emphasis may be better
- Ecosystem boundaries must be adaptive to change
- There may be a need for an umbrella organization to oversee multi-use coordination
- Could look to the Integrated Scotian Shelf example, which may be a good way to go
- Defining fishing regulations by area may engender stakeholder involvement

### ***B. Collaborative Management***

A few participants felt that this type of approach would work well with the small-boat, limited-fishing-range fisheries that are predominate on Cape Cod, but that it may not work as well with the larger vessels residing in other ports. At least one participant drew a link between successful management on a smaller geographic scale (than is currently employed) and a large percentage of owner-operator businesses within a given fishing fleet.

- Smaller fishing boats are more closely tied to community than large boats
- Vessel type and fishing style may dictate the quality of tie to community
- Recognized benefits from community-based approaches
- Would likely work well on small boat, small harbor fisheries
- May also work well in fisheries with high percentage of owner/operator

## **IV. Summary statements**

Both groups were reassembled in plenary and given an opportunity to provide any comments or feedback on any issues pertinent to ecosystem approaches to fisheries management. Here is what they felt was most important:

- The Council is not the only group trying to manage fisherman—the situation is becoming overwhelming for average fisherman
- There is a need to explore the benefits of community-based management
- Fisherman can be stewards for the resource if the governance structure/incentive structure is set up correctly
- Species-based fisheries may make more sense than ecosystem-based approaches
- Sense of community/stewardship is more likely in species-based fisheries
  - Loyalty