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**New England Fishery Management Council
EAFM Stakeholder Workshop #2
Rockland, ME**

Date: October 3, 2005
Location: Tradewinds Motor Inn
Attendees: (17) -- Kate Simmons, Camden ME; Cindy Smith, Augusta ME; Jennifer Atkinson; Friendship ME; Roger Fleming, Appleton ME; Jeanne Brown, Walpole, ME; Bud Brown, Georgetown ME; Vivian Newman, South Thomaston ME; Ted Ames, Stonington ME; Nancy Griffin, Thomaston ME; Ed Thorbjornson, Port Clyde, ME; Gerry Cushman, Port Clyde ME; Dan Miller, Tenants Harbor ME; Mary Beth Tooley, Camden ME; Adrian Jordaan, Orono ME; Mystery Guest # 1, Port Clyde ME; Bernard Raynes, Owls Head ME; Jennifer Brewer, Newcastle ME
Facilitators: Chad Demarest (NEFMC), Kathy Mills (Cornell University)
Start time: 5:30 scheduled, 5:40 actual
End time: 8:30 scheduled, 8:45 actual
Questionnaires: 9 completed on-site, 0 received in mail

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.

After introductions, the workshop was divided into two groups: Group A began with 9 people and Group B with 8. Kathy led Group A through Objectives, Indicators and Tools first, while Chad led Group B through Ecosystem Boundaries and Collaborative Management. After approximately 1 hour and 40 minutes, the groups were rotated.

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)

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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

Participants in this session suggested objectives related to the management process, fisheries, stakeholders, ecosystem, and science. (These categories were not used to guide the discussion at the meeting but were developed afterwards based on comments received during the session.) Common points of discussion concerned a desire for a simpler, flexible management structure. Participants sought a holistic approach to management that allows influence by the fisheries sector on decisions made in other sectors, recognizes fisheries-related impacts that are created by other sectors, supports multi-species perspectives on fisheries, and includes a broad base of stakeholders in the management process. Fishermen, in particular, were concerned about having access to a diversity of fisheries and the ability to switch and re-enter fisheries; they saw this flexibility as critical to an ecosystem approach for fisheries management to avoid reliance on and concentration of effort in one species.

Management structure and process

- No more meetings to discuss problems
- Fewer restrictions/simpler management
- Use holistic or area-based plans
- Flexibility and adaptability of management to respond to system
- Flexibility in regulations
- Local management unit
 - Sub-unit of Council
 - Local units comprised of elected fishermen, Council member from area, scientists
- Vote for representatives
- Expand decision-making process to incorporate other sectors
 - Encourage Council participation in decision-making processes of other sectors
 - Agency or some other structure to allow fishermen's input to decisions in other sectors
- Get away from single species thresholds and tools when not appropriate (but don't forego single species considerations entirely)

Fishery

- Newcomers (not coming in now because regulations are too restrictive)
- Access for young, newcomers
- Equal access even if the commercial aspect of fisheries is sacrificed
- Provisions to re-enter fishery if out for awhile
- Ability to switch fisheries
- Lots of local jobs
- Lots of local boats

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- Owner-operators good mostly but not for all fisheries
- Must have big boats too to keep market/processors here in winter
- Efficiency is not bad
- Sustainable fisheries
- More fish
- More fishermen
- Better prices
 - Debate about whether could have all three of the above at once, needs to be done at smaller scale
- Diversity of fisheries
- Flexibility to avoid over-dependence on one fishery

Stakeholders

- Fishermen, NGOs, government find common ground
- Incorporate the wide universe of stakeholders—fishermen, NGOs, environmentalists, community members

Ecological considerations

- Healthy (we've learned what we don't want things to look like)
 - Good water quality (not toxic)
 - Normal temperature
 - Substrate
 - Regain diversity
- Trophic balance
- More fish/biodiversity generally
- Account for effects of other sectors
 - Industry
 - Land use

Science

- Develop ways to consider qualitative information/characteristics in science and management decision-making processes
- Better long-term analyses of available data
- Broader scope of data collection/science/management
 - Ocean is impacted by many sectors and we are not currently considering the multiple, cumulative impacts well
- Cost considerations—surveys do not find the cod, use industry knowledge to better target during surveys (thereby reducing research costs)

B. Indicators

The discussion of indicators began with many participants expressing a desire for existing biological, physical, social, and economic data to be looked at thoroughly to determine what ecosystem features are changing and what changes are associated with one another. Participants also wanted to see broader data incorporated into models, and they believed that these multi-faceted models would be more consistent with fishermen's knowledge. Some raised concerns about the scale at which current

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monitoring is conducted; participants felt that data needed to be available at a finer resolution than 10-minute squares. [Note that the “socio-economic” and “ecological” categories were not put forward to guide the discussion at the meeting but were used in this report to group responses that were obtained during the session.]

Socio-economic

- Number of jobs created
- Number of jobs lost
- Social stratification
- Ownership patterns—corporate, owner-operator, etc.
- Levels of debt
- Infrastructure availability
- Spending networks—local vs. non-local
- Markets
- Income levels
- Diversity in fleet and of fisheries
- Days at sea
- Number fishermen in business
- Number newcomers entering fisheries
- Income
- Ability of fishermen to diversify
- Constraints on scale of fishery

Ecological

- Biodiversity—look at history to determine mix of species we should attain
- Abundance of species
- Trends in populations of non-commercial species
- Water temperature
- Spatial distribution of species
- Species interactions
- Habitat
- Pollution/water quality
- Intact population structure
- Invasive species
- Toxic events
- Storms

C. Tools

Participants in this session recognized potential usefulness of all of the currently-utilized tools that were considered. However, they felt that certain tools were more acceptable than others, with quotas being the least preferred tool and with mixed reactions to effort controls. The usefulness and acceptability of specific management tools depends on whether they are applied appropriately (i.e., not used for fishery

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management situations they do not fit) and with provisions that minimize negative impacts or secondary consequences.

Management tools	Useful?	Acceptable?
Effort controls	Uncertain—some said they failed in NE, others said they decreased mortality and increased stocks Could be useful if added to output controls or protected areas to mitigate race to fish	Appropriate for specific fisheries Better than quotas and ITQs Acceptable if everyone has same amount of effort Stress weakest segments of fleet
Output controls	Not useful in multi-species fisheries Suitable for herring Could work for certain fisheries (e.g., clams) Not useful—institutionalize by-catch	Necessary evil because overfishing continues Quotas destroy communities Quotas motivate consolidation; use in a way that maintains diverse fleet and protects communities Force consolidation—already too much power Create incentives to break law
Technical tools	Maintain number of fish Protect habitat Decrease by-catch	Equitable Easy to enforce
Protected areas	Protect biodiversity Useful as reference areas Should cover more than commercial species Not useful because concentrate effort Rolling closures working OK Protect areas from activities other than fishing	Rolling closures acceptable Scallop closure bad because scallops pile up and die (creates waste) Acceptable if establish goals and can demonstrate progress towards them Set ground rules related to access to areas—fishermen need to use in reasonable way Area management is better approach than protected areas

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. The first step, obviously, is to define the areas. The group was asked the question “what makes a particular area unique.” The answers in many cases may be predictable, such as “temperature,” “salinity,” “sediment,” etc., but the question was designed to get the participants thinking in terms of spatially-differentiated geographical areas. It was especially interesting to note when novel indicators were explored, and to what degree participants felt that actions of humans (fishing and non-fishing) should be factored into the equation.

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Input was then 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

Responses by participants are categorized (below) into one of three themes: delineation, governance, and scale. These themes emerged from discussions during the workshop and they were not presented to participants in this structured format.

Physical and ecological factors dominated the discussion of ecosystem boundary delineation. Similar to the prior day’s workshop in Gouldsboro, ME, there was a heavy emphasis placed on what one participant called “critical habitats” which we took to mean those habitats most vital to the survivability and recruitment of fish species. Discussion of a “landscape approach” to delineating boundaries was discussed at some length (this concept was brought up in Gouldsboro, ME as well but was discussed more fully in Rockland). Such an approach, as it was explained, attempts to contextualize key emergent properties in a way that, when these properties are taken as a whole, individual “landscapes” emerge. Thus, a few participants urged the review of terrestrial applications—the origin of this landscape approach.

The seven lobster management zones were discussed as a model of melding political, economic and ecological realities into a spatial management context. Participants were not quite as universally positive about the outcomes of these zones (as the Gouldsboro participants appeared to be), but most spoke favorably about what they perceived as the open, public process that created them. The differences between inshore and offshore environments and fisheries were noted, and the potential for offshore/inshore management zones was discussed.

Several participants expressed an emphasis on flexibility over strict spatially-based management.

Delineation

- Emphasis should be on political boundaries due to lack of knowledge

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- Critical habitats
- Landscape approach
 - Boundaries are fuzzy
 - Landscapes emerge from a mixture of social, biological and political inputs
- Coastal shelf is different from offshore/deepwater areas
- Include coastal communities in delineation
- Fishing styles
- Physical features
 - Substrate
 - Upwelling
 - Currents/Tides
 - Temperature
- Feed – presence of bait fish
- Spawning areas
- “Micro-systems”

Governance

- Fish don't follow political boundaries
- Areas should not be exclusive—must have flexibility
- Collaborative science

Scale

- Broader scale allows for greater flexibility

B. Collaborative Management

Amongst the participants there was not a strong sense of the role of communities in management. The idea that a community could be something other than geographically-based had appeal to some participants, while strict spatial management was viewed by many as being strongly unfavorable. There was a desire to cultivate local involvement in management, but it was expressed by relatively few participants.

- Must define communities
- Geographic definitions of communities with regard to management are defunct
- Participatory democracy
- Currently there is ‘raw’ capacity for community participation in management, but this is not viewed as especially important
- Must invest in structures and mechanisms that will enable communities to get involved in management

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:

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- It is difficult to think about big picture concepts when the focus is constantly on short-term needs
- Must recognize human realities when considering policy changes
- We don't have to change everything at once
 - Experiment
 - Small-scale projects can come before large-scale ones
- Must recognize that we won't get it right the first time
- It's important to try new ideas, recognizing that there is "massive" room for improvement
- Look to other working examples for guidance

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