

NEFMC Ecosystem Pilot Project



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NEFMC SSC – Newport, RI
August 26, 2009

Overview



- The project
- Pilot Project goal
- Pilot Project objectives
 - EBM
 - EBFM
- Final thoughts

The Project

- **FY 04 Omnibus Spending rider:**
 - *NOS*
 - *NOAA Fisheries*
 - *Four Councils*
 - Gulf Coast FMC
 - South Atlantic FMC
 - Mid-Atlantic FMC
 - New England FMC
- **Initiate public participation in developing EAFM**

NOAA Fisheries

1. Enhance Regional Ecosystem Governance Structures through Fishery Management Councils

Determine management objectives, threats, options, and alternatives; evaluate ability of Council's to expand their role

2. Develop Quantitative Decision Support Tools

Develop tools to aid decision makers in evaluating management options (models and GIS)

3. Conduct Technical Workshops

Establish dialog between science and management in applying ecosystem principles to fisheries; assess state-of-the-art techniques; determine technical needs

“NMFS currently is developing a policy that would require regional FEPs.

This pilot project will provide a timely way to gather public input regarding the objectives and goals to be accomplished through the introduction of FEPs.

*The intent of the FEPs is to provide a framework for organizing information about the structure and function of ecosystems and **for developing ways to enhance decision-making when goals of single-species or fishery-by-fishery management approaches conflict.**”*

Four specified deliverables:

- **Attitudes/values survey**
- **Regional stakeholder meetings**
- **Technical needs and inventory of information**
- **Synthesis report**

Project objectives

1. Introduce concepts of ecosystem-based management to Council and public

Committee/Council presentations, conferences, etc.

2. Inform the broad (EBM) and narrow (EBFM) views of these concepts

White papers: Jurisdictional issues, Coastal pollution

3. Collect relevant information from stakeholders

Stakeholder workshops, Attitudes and values survey

- **Jurisdictional issues surrounding competing marine resource uses**
 - Offshore LNG
 - Aquaculture
 - Wind power
- **Coastal pollution and NE fisheries**
 - Pollution sites
 - Pollution effects

EBFM: Stakeholders

Questions:

- Who are our stakeholders?
- What are their views on EBFM, and how do those views differ from opinions on current management?

Strategies:

- Regional workshops
- Survey

Developing a sample frame

$$SU \cong \sum (NE, MA, SE, HQ) + CVDBS$$

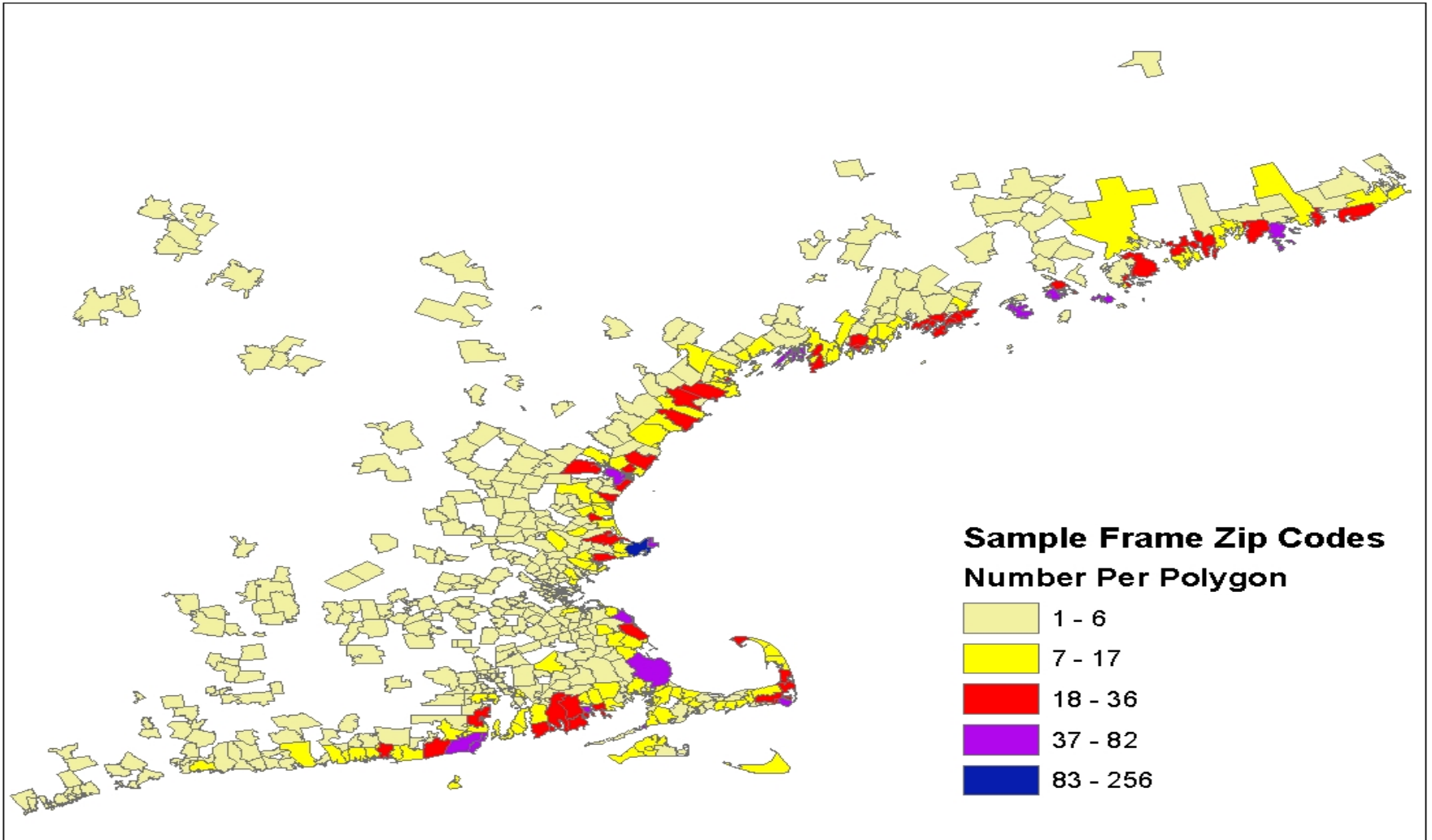
unique observations = 4,780

	<i>CT</i>	<i>MA</i>	<i>ME</i>	<i>NH</i>	<i>RI</i>	<i>VT</i>
<i>n</i>	208	2282	1611	263	401	15
	<i>SAFMC</i>	<i>MAFMC</i>	<i>NEFMC</i>	<i>NOAA_ HQ</i>	<i>NOAA_ VPS</i>	
<i>n</i>	48	202	1010	289	2919	

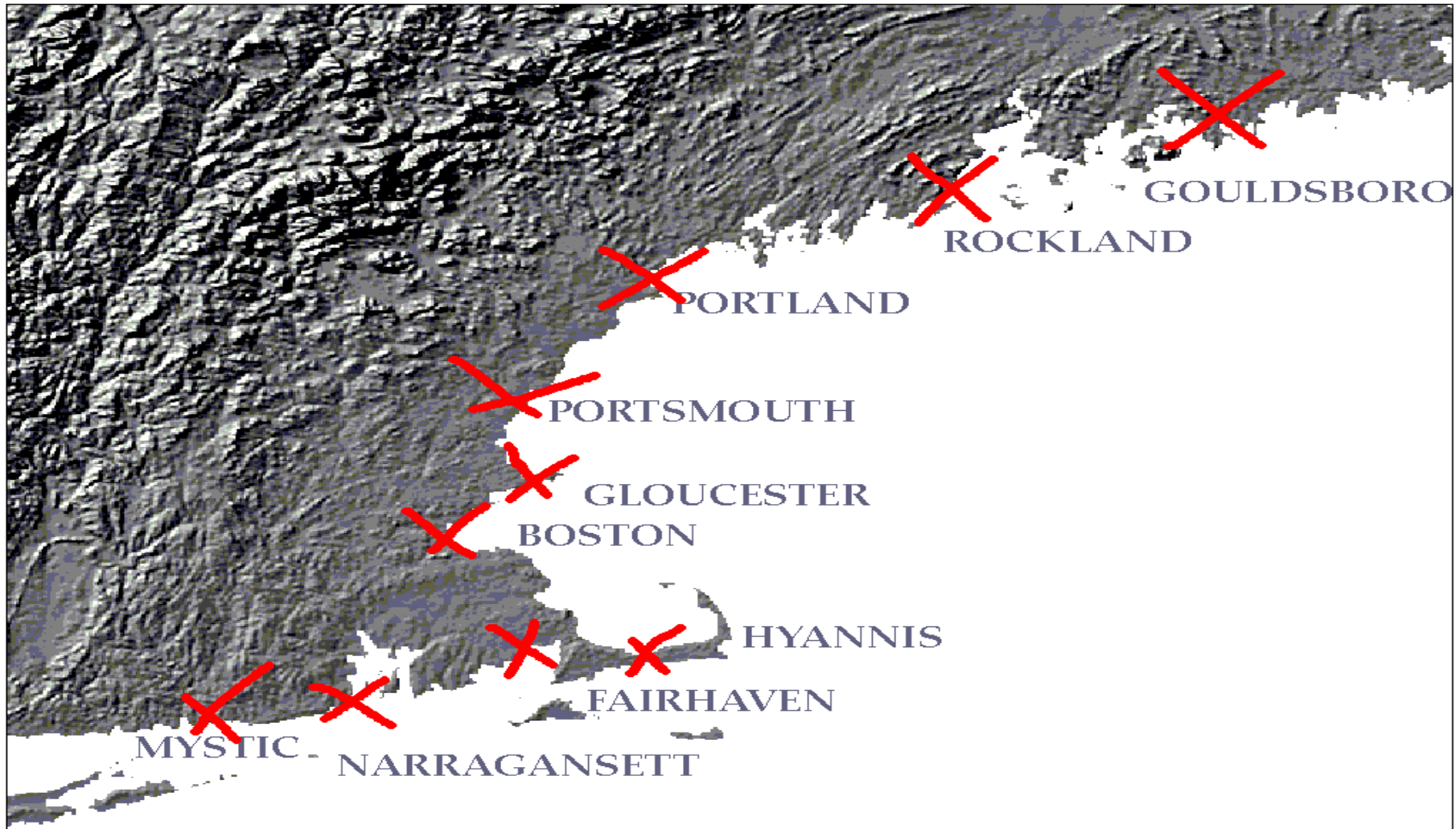
Sample frame

TYPE	Frequency	Percent
Fishery, commercial	2917	61.03
NGO	97	2.03
NOAA	95	1.99
Press	20	0.42
Science, non-government	20	0.42
Aquaculture	34	0.71
Fishery - charter	2	0.04
Commission	30	0.63
Consultant	3	0.06
Government, federal	116	2.43
Exporter	20	0.42
Government, other	14	0.29
Importer	98	2.05
Seafood	63	1.32
Academic	69	1.44
unclass	1182	24.73

Sample frame



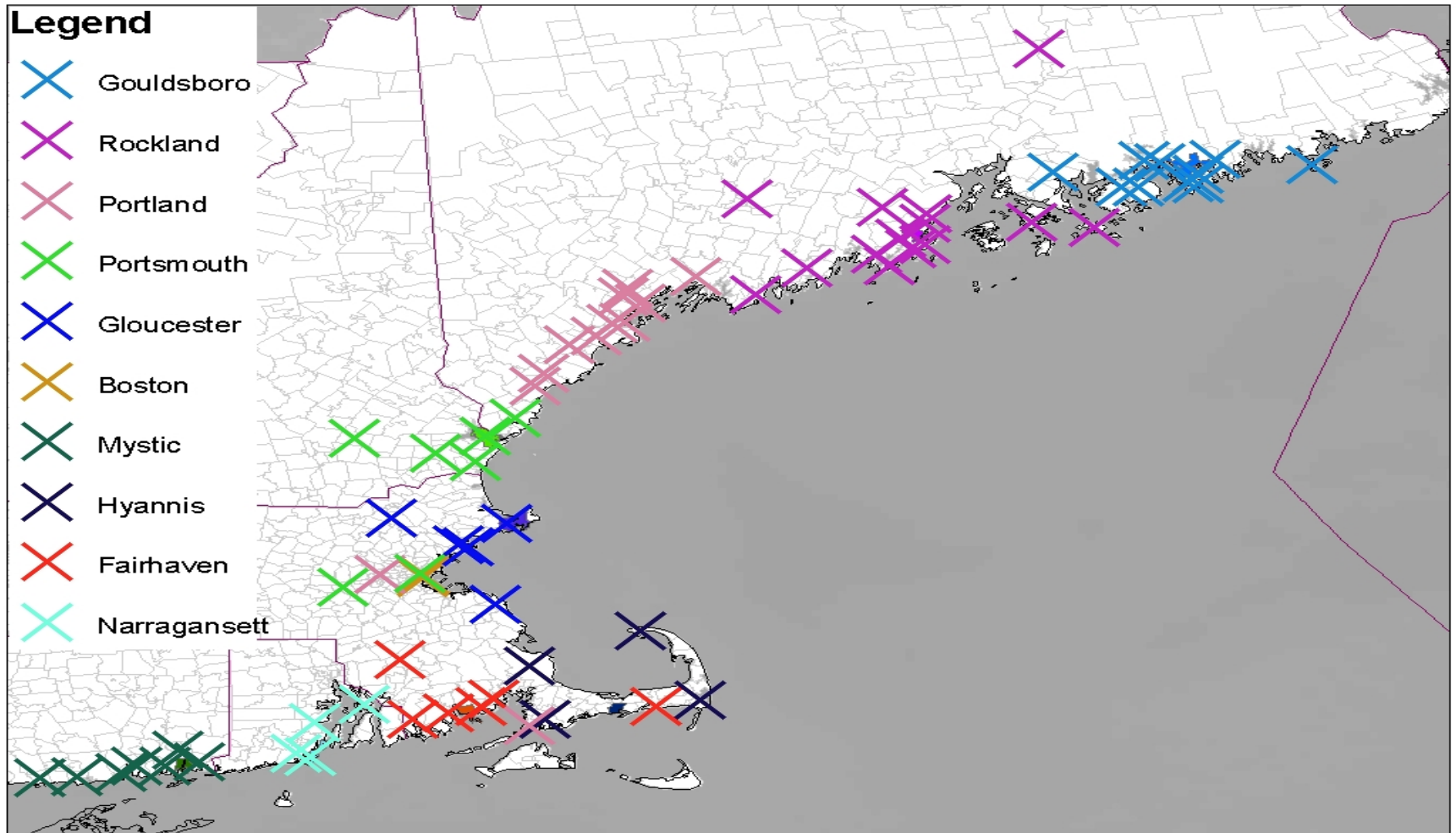
Workshops



Participation

Gouldsboro	17
Rockland	17
Portland	21
Portsmouth	11
Gloucester	15
Boston	9
Mystic	11
Hyannis	8
Fairhaven	15
Narragansett	11

Participation by region



Composition

	Acad/ research	Com. fisherm an	Dealer	Ind Rep	NGO	Public/ Other	Rec. fisherma n	State/ federal manager	State/ federal scientist	Stdnt
Gouldsboro	0%	53%	0%	12%	29%	0%	0%	0%	0%	6%
Rockland	12%	47%	0%	12%	24%	0%	0%	6%	0%	0%
Portland	24%	38%	0%	10%	0%	14%	5%	0%	5%	5%
Portsmouth	18%	27%	0%	9%	0%	9%	18%	9%	9%	0%
Gloucester	0%	47%	0%	13%	7%	0%	0%	27%	7%	0%
Mystic	0%	36%	0%	9%	27%	0%	0%	18%	9%	0%
Boston	33%	33%	11%	0%	0%	0%	11%	0%	11%	0%
Hyannis	0%	38%	0%	25%	0%	0%	0%	0%	38%	0%
Fairhaven	20%	67%	0%	7%	0%	0%	0%	7%	0%	0%
Narragansett	18%	0%	9%	27%	9%	0%	0%	9%	9%	18%
<i>Total</i>	13%	41%	1%	12%	10%	3%	3%	7%	7%	3%

Topics

- **Fishery management objectives**
- **Indicators of a healthy fishery**
- **Matching tools to objectives**
- **Delineating local ecosystem boundaries**
- **Capacity for local governance**

Objectives

“What are the objectives for fishery management in New England?”

- 431 total comments received
- Used iterative binning approach (logical framework analysis)

Sample raw data

- Create adaptive processes and structures
- Flexibility and adaptability of management to respond to system
- More flexibility in management rules and regulations
- Fresh fish-seafood quality
- Restore diversity in species and in nature of fisheries (consider multi-species fisheries) on local level
- Trophic balance
- Understand forage base and be sure management decisions protect it
- Maintain economic communities around fishing
- Consider coastal supply-side access
- Greater access-more opportunities in federal waters
- Many more participants in fisheries
- Consider economics - Encourage vessel downsizing without economic losses
- Lots of local boats

Data analysis:

- **Validity as an objective**
(405 of 431 valid)
- **Process vs. outcome orientation**
(267 process-oriented, 137 outcome-oriented)
- **Iterative binning:**
 - Themes: Social, biological, governance
 - Values => Actions

Values

1. **Delivering a quality product (9)**
2. **Diverse fishing opportunities (43)**
3. **Effective governance (183)**
4. **Healthy ecosystem (28)**
5. **Healthy fish stocks (20)**
6. **Healthy fishing communities (39)**
7. **Sound science (82)**

Values

...further binned into “actions”

<i>Value</i>	<i># Actions</i>
<i>Delivering quality product to consumers</i>	<i>1</i>
<i>Diverse fishing opportunities</i>	<i>5</i>
<i>Effective governance</i>	<i>10</i>
<i>Healthy ecosystem</i>	<i>4</i>
<i>Healthy fish stocks</i>	<i>3</i>
<i>Healthy fishing communities</i>	<i>6</i>
<i>Sound science</i>	<i>6</i>

Indicators

“What indicators can we use to know if we’re meeting our objectives?”

- 231 distinct indicators
- Binned in similar fashion to objectives (*validity, proc/out, value*)
- Not matching indicators to actions

Sample raw data

- Ability of fishermen to diversify
- Accident rates
- Age at maturity
- Age of fishermen
- Age structure of populations
- Changes in trophic structure
- Consistency of supply to market
- Early life history indices
- Economic benefits (incl. secondary) of comm fisheries
- Economic benefits (incl. secondary) of rec fisheries
- Emotional perspectives
- Markets--market disruptions
- Pollution
- Population age structure
- Quality of life--feeling that in charge of own destiny
- Safety index--insurance rates
- Species richness
- Vessel maintenance
- Weight-at-age

Indicators

Binned:

- Validity (215 of 231)
- Process (16) vs. outcome (191) - (24 unclas)
- Previously-derived values

<i>Delivering a quality product</i>	(3)
<i>Diverse fishing opportunities</i>	(27)
<i>Effective governance</i>	(18)
<i>Healthy ecosystem</i>	(59)
<i>Healthy fish stocks</i>	(30)
<i>Healthy fishing communities</i>	(68)
<i>Sound science</i>	(10)

Survey

Designed to elicit information relevant to:

1. Current approaches to management
2. Incorporation of ecosystem-level objectives

n = 116 (85 workshops, 31 APs)

Survey

Selected tabulated results

(6) How easy or difficult do you find participating in fisheries management decisions to be?

	Comm. wet	Comm. dry	Rec	Acad/ Mg/Sci	NGO/ Oth
(a) Very Easy	7%	3%	18%	14%	9%
(b) Easy	11%	15%	41%	34%	21%
(c) Difficult	61%	59%	32%	41%	56%
(d) Very Difficult	20%	24%	9%	10%	15%
Did Not Respond =	2	1	5	4	3

(7) In your opinion, how effective is fisheries management in New England for ensuring the long-term health of the fisheries you are most directly involved with?

	Comm. wet	Comm. dry	Rec	Acad/ Mg/Sci	NGO/ Oth
(a) Highly Effective	4%	0%	0%	0%	3%
(b) Effective	41%	52%	39%	55%	36%
(c) Ineffective	33%	39%	43%	35%	45%
(d) Highly Ineffective	22%	10%	17%	10%	15%
Did Not Respond =	5	4	4	2	4

Survey tabulated

(14) In your opinion, are large-scale, year round area closures beneficial for fisherman?

	Comm. Wet	Comm. Dry	Rec	Acad/ Mg/Sci	NGO/ Oth
(a) Yes	23%	26%	33%	31%	35%
(b) No	42%	35%	29%	24%	29%
(c) Not Sure	36%	39%	38%	45%	35%
Did Not Respond =	3	4	3	4	6

(15) Do you believe that preserving biodiversity contributes to a healthy commercial and/or recreational fishery?

	Comm. Wet	Comm. Dry	Rec	Acad/ Mg/Sci	NGO/ Oth
(a) Yes	68%	55%	85%	91%	81%
(b) No	9%	6%	7%	6%	0%
(c) Not Sure	23%	39%	7%	3%	19%
Did Not Respond =	2	2	0	1	1

Survey tabulated

(19) In your opinion, are tradeoffs between inter-connected fisheries addressed adequately in New England fisheries management?

	Comm. Wet	Comm. Dry	Rec	Acad/ Mg/Sci	NGO/ Oth
(a) Yes	4%	7%	5%	8%	3%
(b) No	81%	80%	86%	73%	76%
(c) Not Sure	15%	13%	10%	19%	21%
Did Not Respond =	9	5	6	7	4

SSC review (2007)

The SSC and SSAC jointly reviewed the Pilot Project in January of 2007

Recommended that the Council:

(1) Recognize that non-fishing activities have the potential to impact fisheries, & vice-versa. Therefore, the Council needs to actively seek linkages, including considering collaborative approaches with other agencies & jurisdictions, to foster ecosystems approaches to management (EAM)

SSC review

(2) More thoroughly incorporate ecosystems approaches & principles into the Council's fisheries management activities. Specifically, the Council needs to become more focused on taking advantage of what is already known as well as evaluating barriers to incorporating EAM

The SSC/SSAC recommendations recognize:

1. Incorporation of all marine ecosystem services is the ideal... (EBM)

- *Recognition of non-fishing impacts*
- *Collaborating with other agencies/jurisdictions*

2. ...but we should proceed now within the fisheries management and science realm (EBFM)

- *Incorporating ecosystem approaches and principles*
- *Focus on improving integration of existing knowledge*
- *Identifying avenues for further development*

EBM

Current regulatory structure is insufficient for true EBM

The NE Council should:

- Use NEPA, MFCMA to continue commenting on actions affecting marine fisheries
- Increase involvement in the coastal zone management forum
- Demonstrate “value” for including fisheries in non-fishing marine use discussions

Statutes with marine service use authority

Rivers and Harbors Act (1899)
National Environmental Policy Act (1970)
Marine Mammal Protection Act (1972)
Coastal Zone Management Act (1972)
Endangered Species Act (1973)
Clean Water Act (1977)
Outer Continental Shelf Lands Act (1978)
National Aquaculture Act (1980)
Deep Water Ports Act (2002)
Energy Policy Act (2005)
Magnuson-Stevens Reauthorization Act (2006)

- Stakeholder identification work not thorough, but may be over-emphasized for our region
- Differentiate btwn what is ideal and what is possible under current law
- What is the objective? What needs fixing?
- Journey of a 1,000 miles...

NEFMC questions for CCC meeting (March, 2009):

- (1) Has your Council implemented a formal ecosystem plan with attendant regulations that are substantively different than the regulations in place prior to the plan?
- (2) If yes, is the plan region-wide or area-based?
- (3) Has your Council developed ecosystem-based control rules that either compliment or supplant the current use of MSY/OY?
- (4) Is your Council actively engaged in marine spatial planning activities beyond EFH consultations?
- (5) Is your Council a designated member of a formal or informal regional governance structure?



www.nefmc.org/ecosystems