

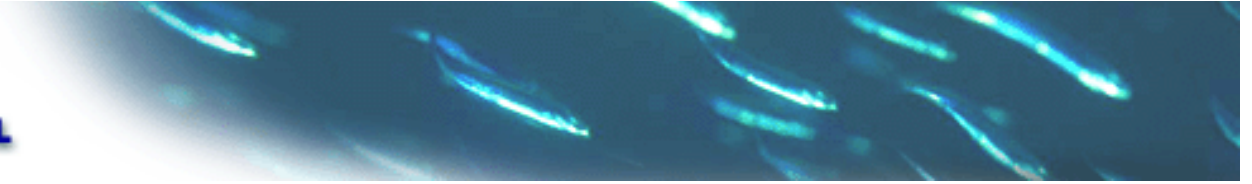


Ecosystem-based approaches to fishery management

With an introduction to the New
England Council's pilot project

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NEFMC Ecosystems Project Leader



EAFM: Presentation Overview

- **What is it?**
- **Why now?**
- **What's this pilot project?**
- **When does something actually happen?**



The name game

What is it?

Fisheries management

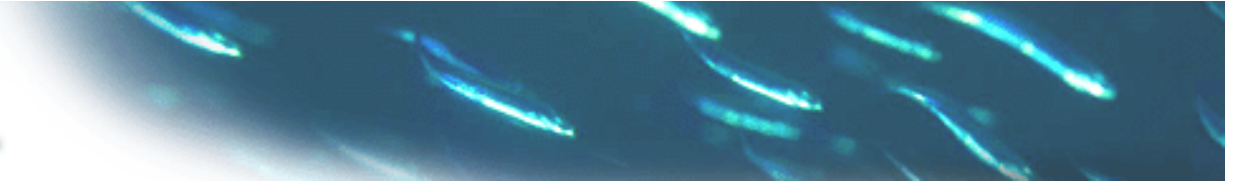
Ecosystem management

Ecosystem approach to management

Ecosystem-based fisheries management

Ecosystem approaches to fisheries
management

Integrated management



What is it?

Definitions

- 21 different definitions (and counting)
- All are ecologically based
- Nearly all have “social and economic” caveat
- Most include explicit recognition of people within the ecosystem



NOAA's definition

What is it?

- An ecosystem approach to management is a geographically specified and adaptive process which (a) takes account of ecosystem knowledge and uncertainties, (b) considers multiple external influences, and (c) strives to balance diverse societal objectives

Ecosystems Principals Advisory Panel (1999)

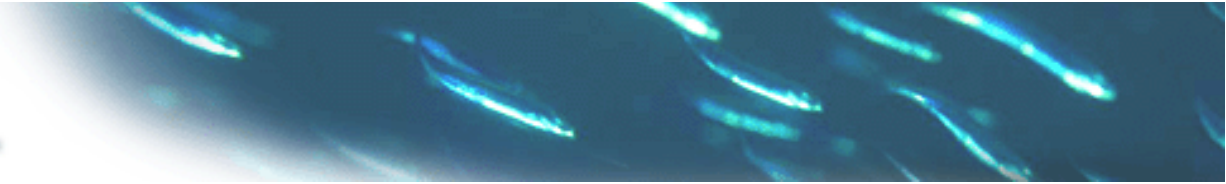


MAFAC definition

What is it?

- *Ecosystem-based Fisheries Management* occurs when personal, social, political, and management decisions are made considering ecological information.
- An ecosystem-based approach requires attention to ecosystem integrity, interagency cooperation, spatially explicit management measures, and time-series data for multiple species and habitats.

MAFAC Ecosystem Approach Task Force (2003)

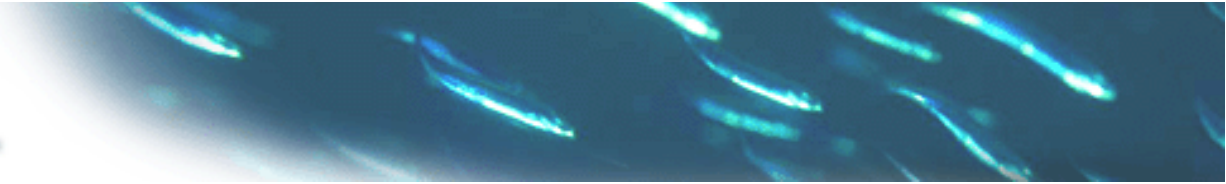


European Fisheries definition

What is it?

- Ecosystem-based management considers all the components of the ecosystem (biological, chemical and physical) and their interactions. This includes an appreciation of natural ecosystem dynamics *AND* it explicitly recognizes that man is part of the system and seeks to include stakeholders in setting management goals.

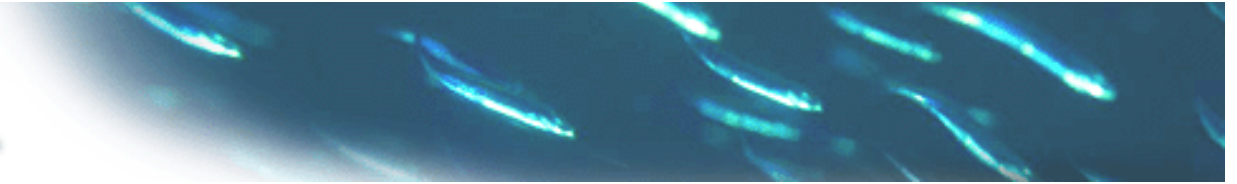
European Fisheries Ecosystem
Plan Project (2004)



What is it?

Ecosystem approaches: Science

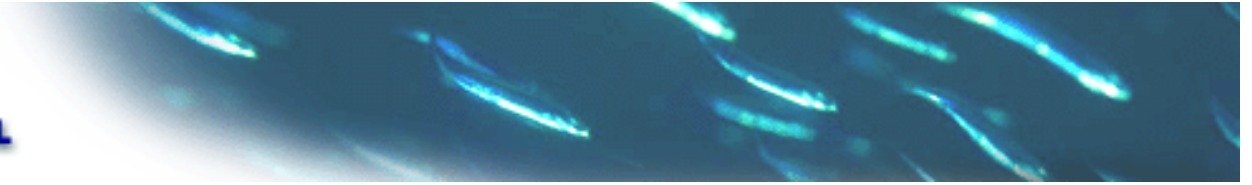
- State-of-the-art fishery-dependent effort and observer monitoring supporting spatial management
- Continued reliance on fishery-independent surveys with improved monitoring of survey catchability and calibration to existing time series
- Greater use of cooperative research to address monitoring & research priorities and to encourage industry “ownership” of science supporting management
- Incorporation of formal adaptive science/management approaches for issues without clear resolution
- Development of practical measures of biodiversity to manage for its protection, while minimizing catch foregone
- Incorporation of more complete social and economic data, including costs, revenue and behavioral aspects of effort allocation



What is it?

Ecosystem approaches: Management

- Explicit incorporation of stakeholder views
 - Objectives
 - Means
- Matching management tools to expected outcomes
 - Feedback/monitoring loop
- Incorporating societal objectives in determining tradeoffs
 - Between fisheries
 - Within multi-species fisheries

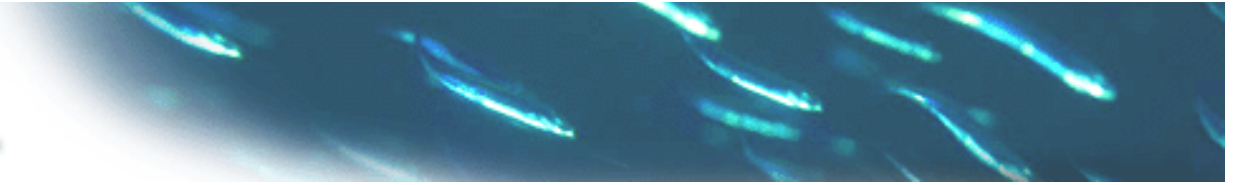


What is it?

We are doing it (kind of)

- Aspects in current management
 - Council process
 - Protected species
 - Bycatch
 - Habitat

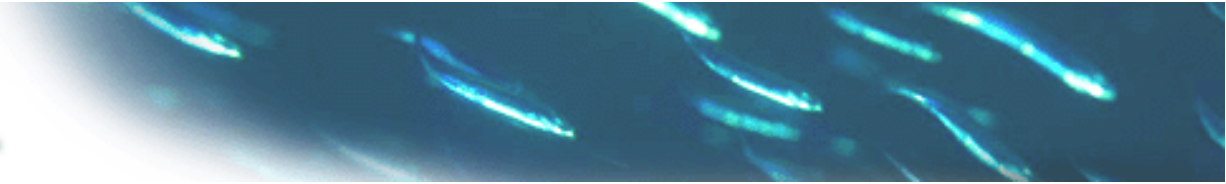
Need to take a holistic approach



Drivers

Why now?

- U.S. Commission on Ocean Policy
 - New, coordinated National Ocean Policy framework to improve decision making
 - Cutting edge ocean data and science translated into high quality info for managers
 - Education to foster marine stewardship
- Pew Oceans Commission
- Action Plan
- MSFCMA, MMPA, ESA



NOAA's Strategic Goals

Ecosystems

Protect, restore, and manage the use of coastal and ocean resources through ecosystems-based management

Climate

Understand climate variability and change to enhance society's ability to plan and respond

Weather and Water

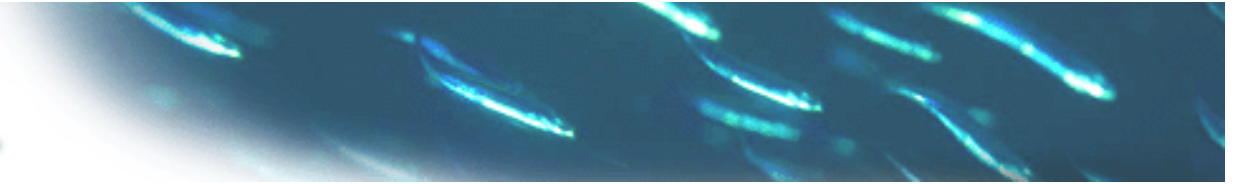
Serve society's needs for weather and water information

Commerce and Transportation

Support the Nation's commerce with info for safe, efficient, and environmentally sound transportation

Organizational Excellence and Mission Support

Provide organizational excellence, infrastructure, and mission support

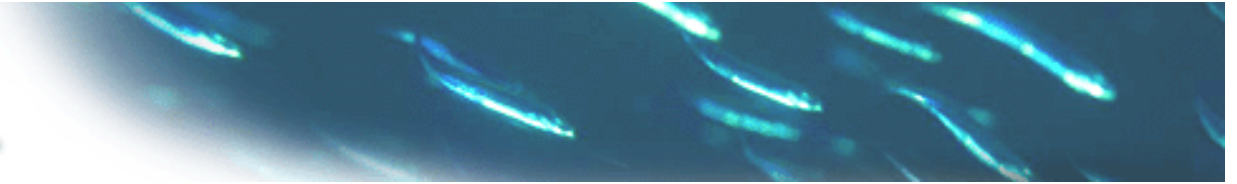


NOAA Fisheries Strategic Goals

Why now?

Derive the optimal sustainable value to society and future generations from the regional marine ecosystems under our stewardship

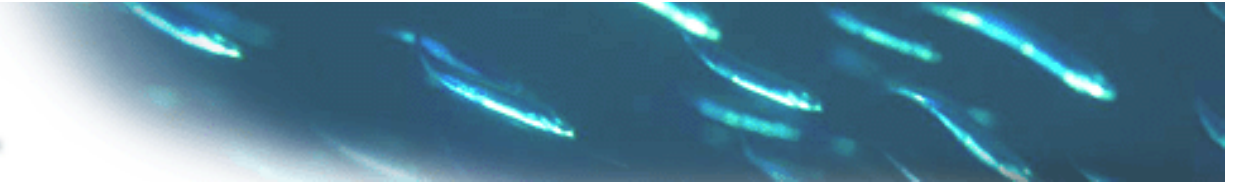
- Ensure sustainability of resources
- Conserve biodiversity
- Maintain economic, social, and cultural access to resources



NEFSC Vision Statement

Why now?

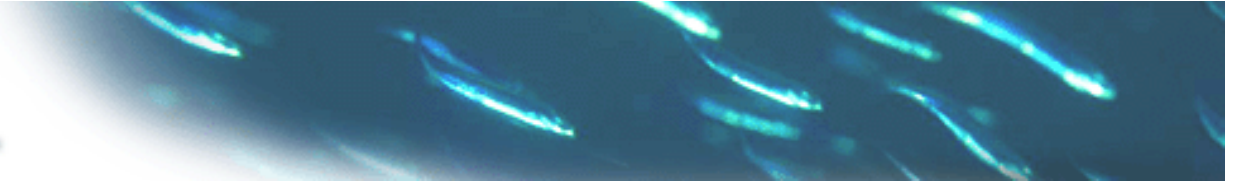
“Conduct **ecosystem-based** research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources, and to generate social and economic opportunities and benefits from their use.”



NEFSC Mission Objectives

Why now?

- **Research and Monitoring**
- **Scientific Advice**
 - Develop and provide the scientific foundation for management programs that has an **ecosystem-based** framework
 - Enhance society's capability to respond to changing ecosystem conditions and to manage risk by developing science-based decision tools.
- **Education and Outreach**

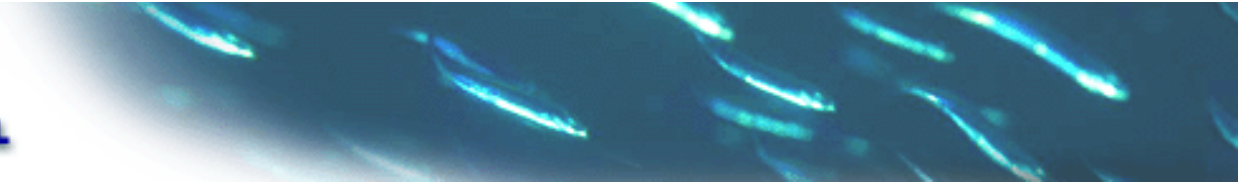


Why now?

Timing

- Management in NE is evolving:
 - From...single species rebuilding
 - To...integrated multi-fishery management
- As stocks grow, interactions will increase
 - Scallops
 - GB Haddock
 - Dogfish

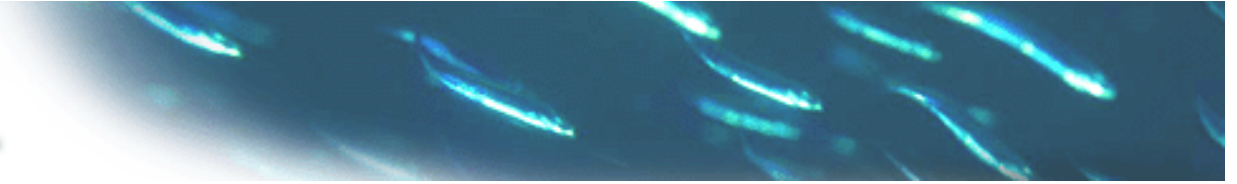
Unique opportunity: Science and management must both be equipped to respond



NEFMC Pilot Project

What pilot project?

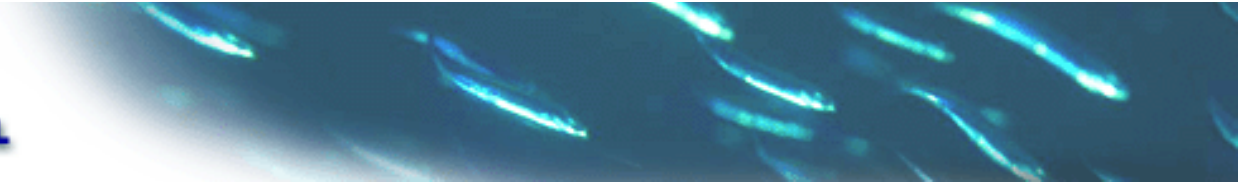
- **2 million grant in FY 2005 budget**
 - NOS
 - NOAA Fisheries
 - **Four Councils**
 - Gulf Coast FMC
 - South Atlantic FMC
 - Mid-Atlantic FMC
 - New England FMC
- **Initiate public participation in developing EAFM**



NOS

What pilot project?

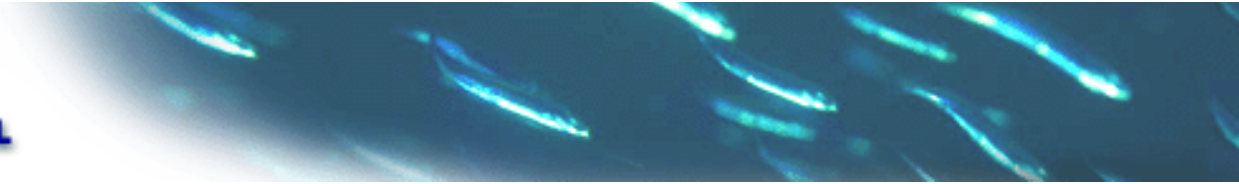
- Eco-GIS: Working with Councils and NOAA Fisheries to develop GIS tools
 - Aid scientists by increasing use of spatially explicit models
 - Aid managers by increasing integration/visualization
 - Management options
 - Potential outcomes



NOAA's three themes

What pilot project?

- 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
- Develop Quantitative Decision Support Tools
 - Develop tools to aid decision makers in evaluating management options (models and GIS)
- Conduct Technical Workshops
 - Establish dialog between science and management in applying ecosystem principles to fisheries; assess state-of-the-art techniques; determine technical needs



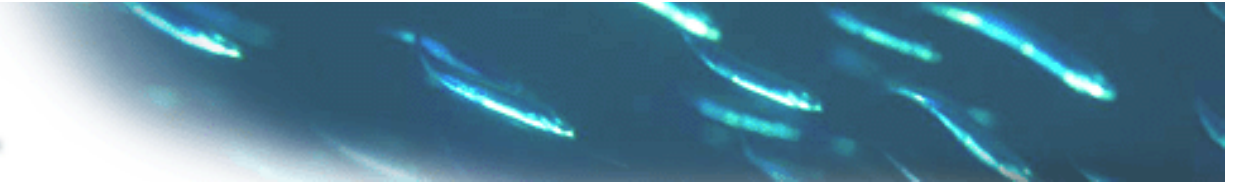
What pilot project?

NEFMC's four-prong approach

- Attitudes/values survey
- Regional stakeholder meetings

Both will solicit feedback from stakeholders on:

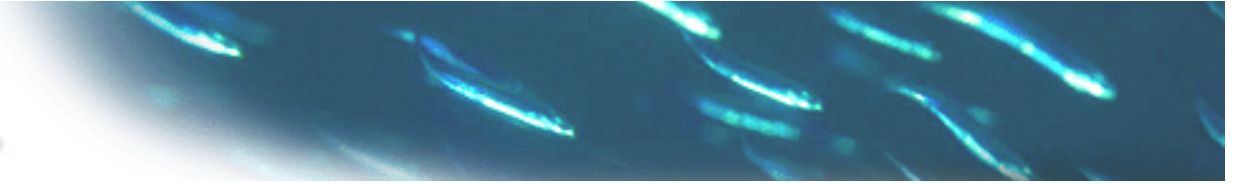
- Management objectives
 - Use of management “tools”
 - Balance and tradeoffs within NE fishery
- Technical needs and inventory of information
 - Synthesis report



When does
something happen?

Timeline

- First Ctte meeting in late March/early April
- Survey distributed in June
- Public meetings:
 - First round early summer
 - Second round early fall
- Survey results November '05
- Synthesis report Jan-Feb '06



The long-term objectives

When does
something happen?

- Catalog research and analysis needs
- Guidelines for EAFM from agency
- Pilot Fisheries Ecosystem Plan
- Changes to legislation



Final thoughts

- **Evolutionary, not revolutionary**
- **High degree of buy-in**
 - The agency has committed to ecosystem approaches for research and management
 - International support
- **Opportunities to improve management**
 - Stakeholder involvement a linchpin
- **Time is right**
 - Evolving management objectives