

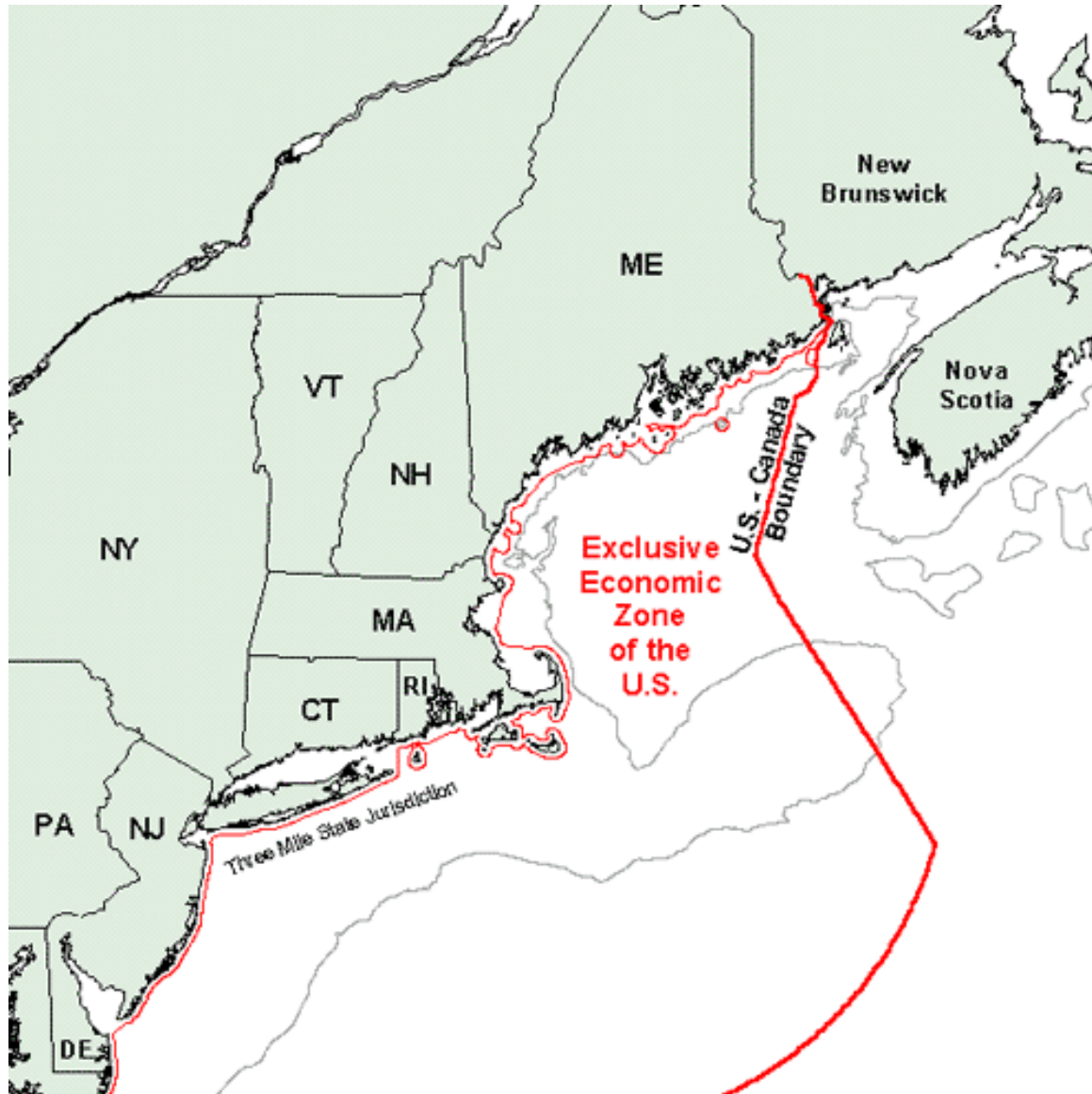
# **Ecosystem – Based Fishery Management for the New England Fishery Management Council**

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# New England



# Background

- 2008: New England Fishery Management Council (NEFMC) initiated process for EBFM plan
  - To be developed over next three – five years
- SSC drafted White Paper outlining
  - Need for EBFM
  - Strategy for implementation
  - Fisheries management under EBFM
  - Consequences for Council institutions
  - Next steps
- Based upon
  - August 2009 stakeholder workshop
  - SSC dialogue
  - Feedback from Council & staff



Mike  
Fogarty's  
Talk

June 2011  
Council Decision

# Need for EBFM

- International initiatives
  - Numerous recommending EBFM
- National initiatives
  - 2000 & 2004 Oceans Act & Policy - need to better connect human activities & ecosystems
  - 2005: Joint Oceans Commission –need for EBFM legislation & re-authorizing MSA
  - 2010: National Ocean Policy - national council, priority objectives (incl. EBM, marine spatial planning & regional management)

# Current NE Management Situation

- Lead / shared authority for 9 FMPs
- 6 single – species plans
- 3 multiple (not multi-) species
  - Northeast Groundfish Plan: 20 stocks covering 12 species
  - Small Mesh Fishery Plan: 3 hake species
  - Skate Plan: 7 species

**Process “Rich”**

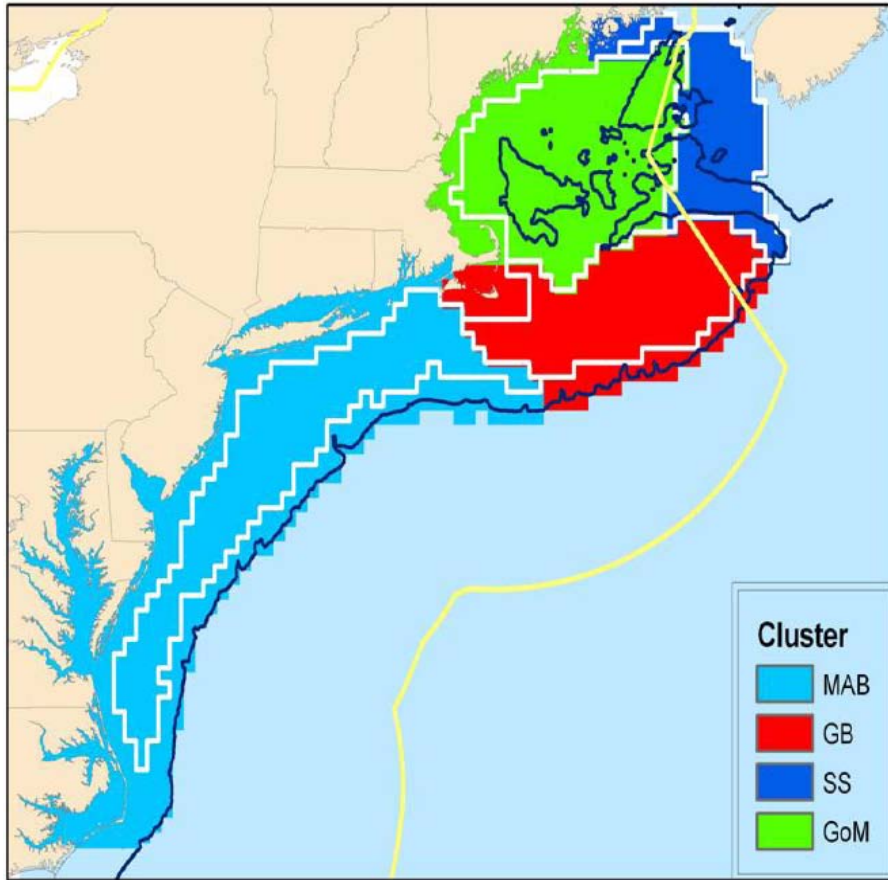
# Fisheries Management under EBFM

- Extensions to single – species FMPs will lead to system that is too complex & data hungry
- Move from stock to place-based management
  - Ecosystem production Units (EPUs)
  - EPUs can produce certain amount of fish dependent upon nutrient supply, temperature, etc
  - Sustainable harvesting achievable if safeguards in place & vigilant about changes in environmental / ecological conditions affecting production

# Ecosystem Production Units

- Place – based management
  - Spatial ecosystems connected to use / management
- EPU's based upon food web processes
  - East Gulf of Maine-Scotian Shelf **Transboundary**
  - West-Central Gulf of Maine **NEFMC**
  - Georges Bank-Nantucket Shoals **MAFMC**
  - Middle-Atlantic Bight **Links to ASMFC**
- Subregions to address specific issues
  - deep – water at shelf break

# EPU



EPU boundaries dynamic

Starting point for EBFM  
governance needs

EPU focus of management &  
monitoring of cumulative  
ecosystem impacts of fisheries

**Swept Area Seabed Impact (SASI) Model**  
Tool to assess cumulative impacts on habitat





# Benefits to Council

- Simplification of management structures
- Coordination of management actions for stocks, protected species, biodiversity & habitat
- Comprehensive consideration of fishery & biological interactions
- Ecosystem constraints on rebuilding
- Climate change implications
- Coordination with State EBM efforts including Northeast Regional Ocean Council

**Increased stewardship from broader participation**

# Human Dimension

- Shift from single to multi-species approach
  - necessitate change in how human dimensions to fishing approached
- Greater need for analyses
  - human resource use, projecting future needs / changes, vulnerability & resilience of human communities
- Greater participation in decision – making
  - fisheries trade-offs
  - co-management

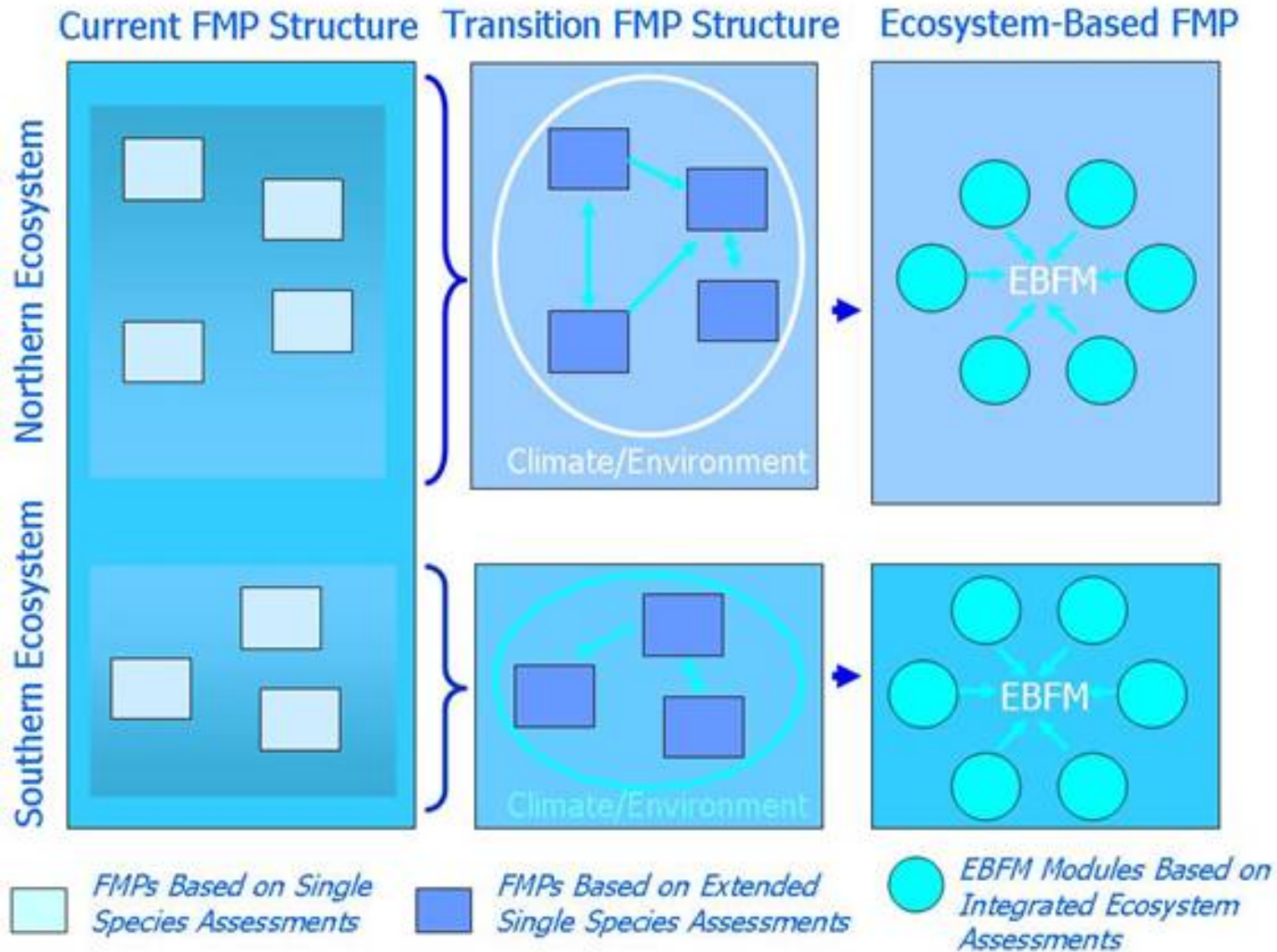
# Strategy for Implementation

## *How to transition a demanding agenda?*

- Acknowledge on-going management requirements
- Transition period
  - Current FMPs to begin to incorporate biological & technological interactions
  - Develop EBFM building blocks
- Full EBFM
  - 9 FMPs to be replaced by two EBFM Plans (GOM & GB)

**Adaptive & Flexible**

# FMP to EBFMP Transition



# Issues to Address for Full EBFM

- Prioritized conceptual & operational objectives
- EPU & associated Management Unit boundaries
- EPU production potential
- Allocation strategy
- Trade-offs in allocations
- Mix of management tools to use
- Monitoring & Assessment

Mike  
Fogarty's  
Talk

# Challenges & Opportunities

- Aligning stocks with EPU
  - cases where stock cross boundaries
- MAB EPU within MAFMC jurisdiction
- Need for dialogue with adjacent states & ASMFC
- Constituents (stakeholder & government) with historical interests
- Consultative process
  - Need for transparency & early stakeholder involvement
- National Standard guidelines & EBFM
  - Need to configure ecosystem RPs consistent with NS guidelines
- Cumbersome FMP plan development process
  - EBFM institutions likely to evolve with experience

**Similar issues with all US Fisheries Councils**

# Current Council Institutions

- Fishery Oversight Committees
  - 8 species committees
- Advisory Panels
- Plan Development Teams (PDTs)
- SSC
- Stock Assessment Workshops (SAW)  
or other assessment groups

# Institutions under EBFM

- PDTs
  - Focus of planning to be GOM & GB EPU
  - EBFM plan development may require PDT for each
  - During transition, existing groups to handle
  - Need to cross-walk current PDT activities with new EPU-based PDTs
  - Need to cross-walk FMPs with EBFM priorities
- SSC
  - Greater consideration of socio-economic consequences
- SAW
  - Need for peer-reviewed analysis on overall state & productivity of each EPU

**Evolution during transition**



# Next Steps

- Council
  - Design consultative processes
  - Dialogue with MAFMC, ASMFC & New England states on harmonization of EBFM efforts
- PDTs
  - Outline EBFM plan requirements
  - Design PDT structures for each EPU & dialogue with current PDTs to develop transition
- SSC
  - Prepare white paper on socio-economic analyses required by EBFM
  - Dialogue with NMFS & Council staff on stock assessment, EPU assessment needs & socio-cultural & economic assessment needs

## Next Steps (cont'd)

- Define Ecosystem Production Units (EPU)
- Identify priority issues & services associated with each EPU
- Define EBFM objectives for each EPU & identify risks of not achieving these
- Develop management strategies to achieve EBFM objectives
- Define EPU status & productivity reporting requirements & associated assessment tools required to monitor progress towards EBFM objectives

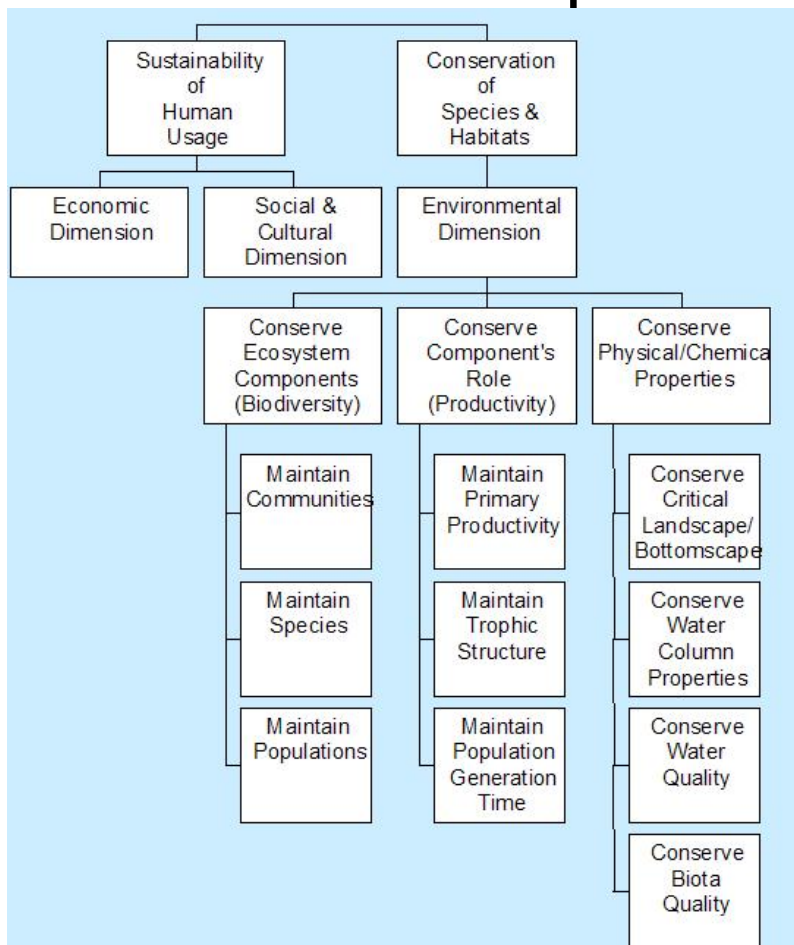
**Thank You!**

# EBFM Strategies

- Current management system not well configured to address biological & technological interactions amongst FMPs
- Biological interactions
  - If prey status robust, any one might sustain higher harvest rates
  - High predator biomass might call for lower prey harvest
  - Predatory – prey strategies to be incorporated in current FMPs
- Technological interactions
  - Bycatch & optimizing multiple objectives

# EBFM Objectives & Issues

- Objectives essential
  - High level conceptual
  - Low level operational (indicators + RPs)



**high level  
ecosystem  
conceptual  
objectives could  
involve  
biodiversity,  
productivity &  
habitat**

**Need for Socio – economic Objectives**

# Objective Setting

- Dialogue with Council on conceptual objectives
- Risk analysis to identify priority issues
- Cross-walk between priority issues & current FMPs to identify gaps
- Development of operational objectives

# Ecosystem Assessment

- Need to assess progress towards multiple objectives of EBFM
  - Tools to be developed during transition
- Short term
  - overviews of each EPU
  - Description of ecosystem structure & function
  - Ecosystem Overview Report for GOM
- Long term
  - integrated ecosystem assessment
  - Indicators of ecosystem health
  - Cumulative impacts against reference points