

**New England Fishery  
Management Council  
EBFM development  
CMOD Workshop  
Denver, CO**

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New England  
Fishery Management Council

## Existing NEFMC FMPs

The NEFMC proposes rules for fishermen operating in federal waters in the Northeast. There are nine separate fishery management plans (FMPs) in effect that apply to 28 marine and one anadromous species. Look for actions on essential fish habitat, or EFH, under Habitat.



# Interacting Species are now Covered by Separate Management Plans

Atlantic Mackerel  
Butterfish  
Longfin Squid  
Shortfin Squid  
Alewife  
Atlantic Menhaden  
American Shad  
Blueback Herring  
Summer Flounder  
Bluefish  
Golden Tilefish  
American Lobster  
Scup  
Smooth Dogfish  
Striped Bass  
Tautog  
Weakfish  
Black Sea Bass  
Surfclam & Quohog

Cod  
Haddock  
White Hake  
Pollock  
Yellowtail  
Flounder  
Winter Flounder  
Witch Flounder  
Windowpane  
American Plaice  
Halibut  
Redfish  
Ocean Pout

Spiny Dogfish

Sea Herring

Marine Mammals  
Sharks  
Tunas  
Swordfish

Silver Hake  
Red Hake  
Offshore Hake

Winter Skate  
Little Skate  
Smooth Skate  
Thorny Skate  
Barndoor Skate  
Clearnose Skate  
Rosette Skate

Blackbelly Rosefish  
Chain Dogfish  
Cunner  
Cusk  
Fourspot Flounder  
John Dory  
Lumpfish  
Northern Searobin  
Octopus  
Striped Searobin

Monkfish

NEFMC

Shared

MAFMC  
ASMFC

MMPA  
HMS

Unmanaged

Interactions also exist among species within management plans

- NEFMC risk policy

*“(C) The benefits of protection afforded to marine ecosystems are those resulting from maintaining viable populations (including those of unexploited species), maintaining adequate forage for all components of the ecosystem, maintaining evolutionary and ecological processes (e.g., disturbance regimes, hydrological processes, nutrient cycles), maintaining the evolutionary potential of species and ecosystems, and accommodating human use.”*

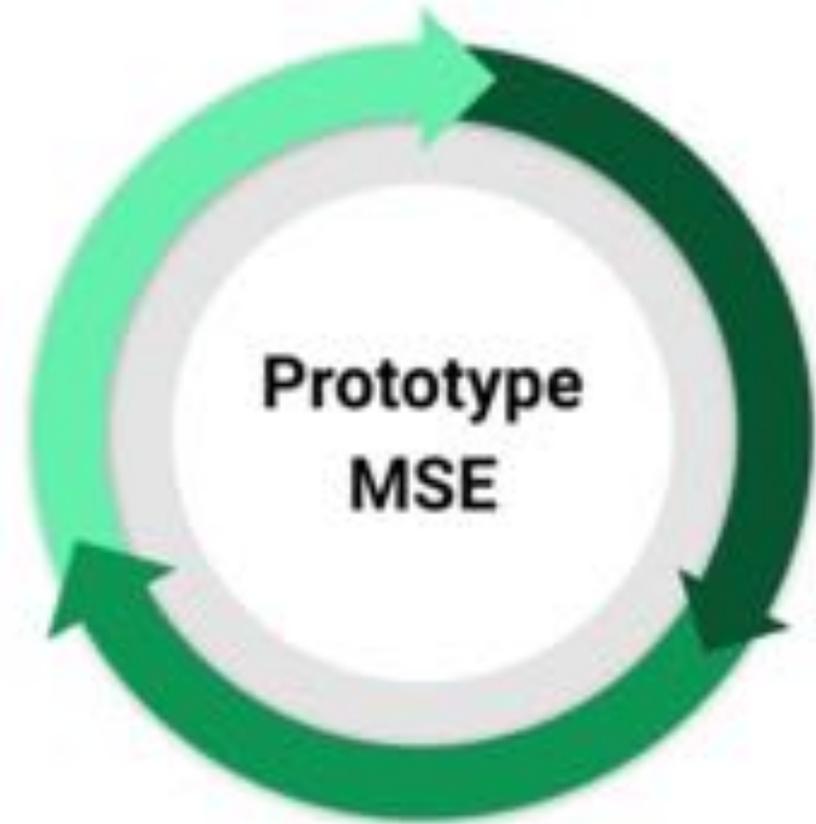
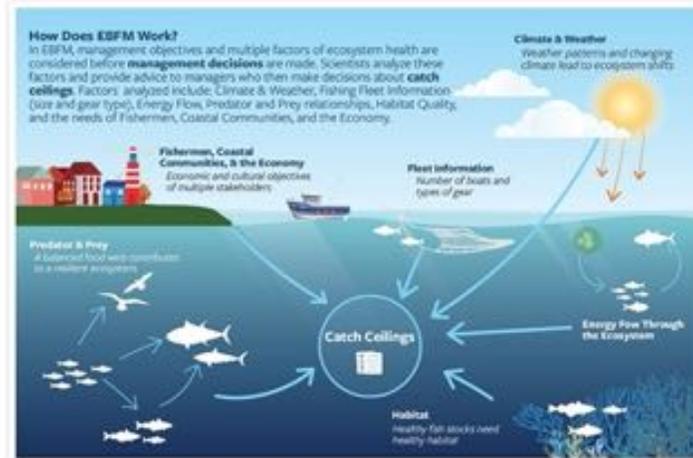
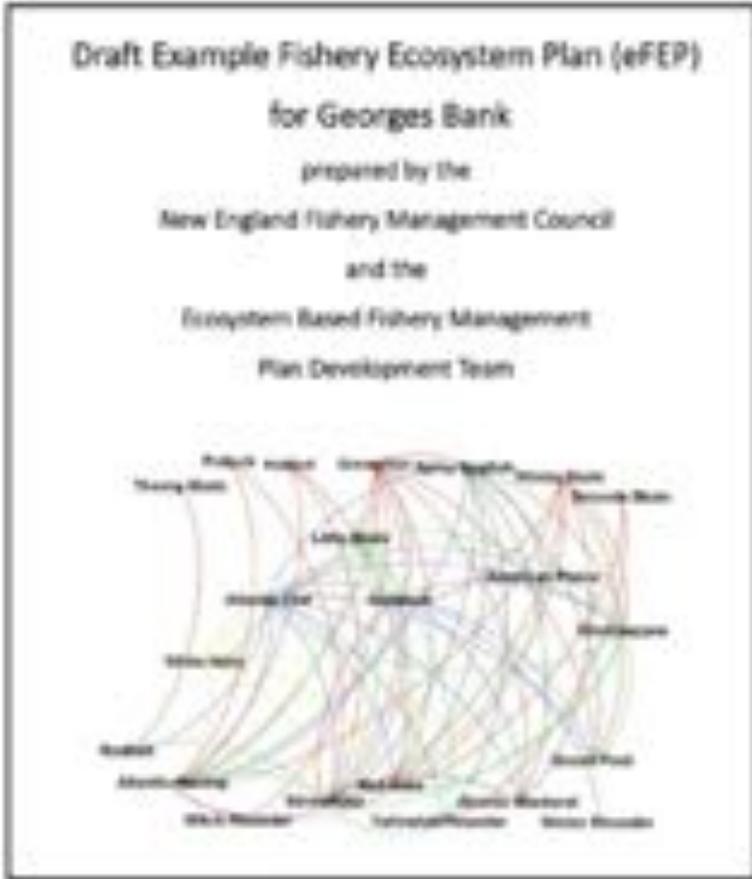
## Risk Policy

<b>Ecosystem Considerations: Trophic Interactions</b>	Describe any important trophic interactions related to the role of the stock in the ecosystem; Summarize important predator-prey interactions Discuss trends/variability over the last 10-15 years, and identify any new related data/analyses
<b>Ecosystem Considerations: Habitat</b>	ID habitat sensitivity/vulnerability issues for the stock; Describe any recent changes to important habitat for stock and/or changes to fisheries that impact stock habitat; Discuss trends/variability over the last 10-15 years, and identify any new related data/analyses
<b>Ecosystem Considerations: Climate</b>	Does the stock exhibit strong response to temperature? Has climate change affected the distribution of the stock? Discuss trends/variability over the last 10-15 years, and identify any new related data/analyses
<b>Other Important Considerations/Notes</b>	Discuss any other important considerations for evaluating risk to the resource and net benefits to the Nation.



# Developing an Ecosystem Plan for Georges Bank

## Development strategy



### EBFM Public Outreach Materials

#### EBFM Workshops – Supporting Documents

- EBFM Outreach in Support of Upcoming NEFMC Workshops
- Meeting Notice with all Workshop Dates
- Register for the Workshops > [HERE](#)
- EBFM Workshops Press Release

#### Introductory Video

- EBFM Introductory Video – Stakeholder Perspectives

#### Infographics

- What is EBFM?
- Georges Bank Ecosystem Production Unit



# eFEP

- **Describes a high-level framework that we believe is a possible way forward**
- **End result may be somewhat different than the one described**
- **Framework to manage fisheries in a way that is**
  - **More adaptive to changes in the ecosystem production,**
  - **More flexible for fishermen to make better choices about where and how to fish, and**
  - **Sets limits on catch that are more consistent with achieving a broad range of objectives and improved ecosystem services.**
- **Georges Bank was chosen because ecological science and modelling has focused here**

# Purpose of the eFEP

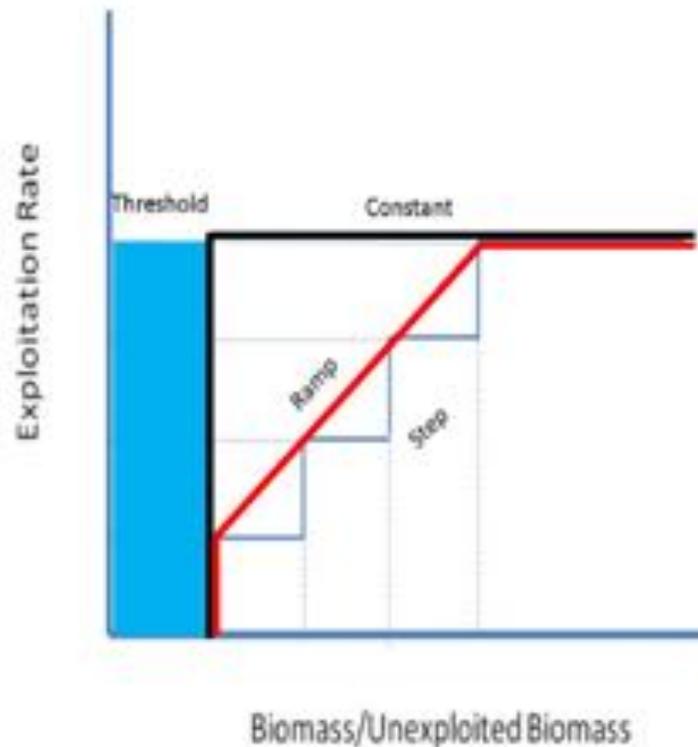
- **Explain how a different type of management system could work**
- **Structure and focus discussion on the possibilities**
- **Starting point for further evaluation**

# Stock complexes/Fishery functional groups



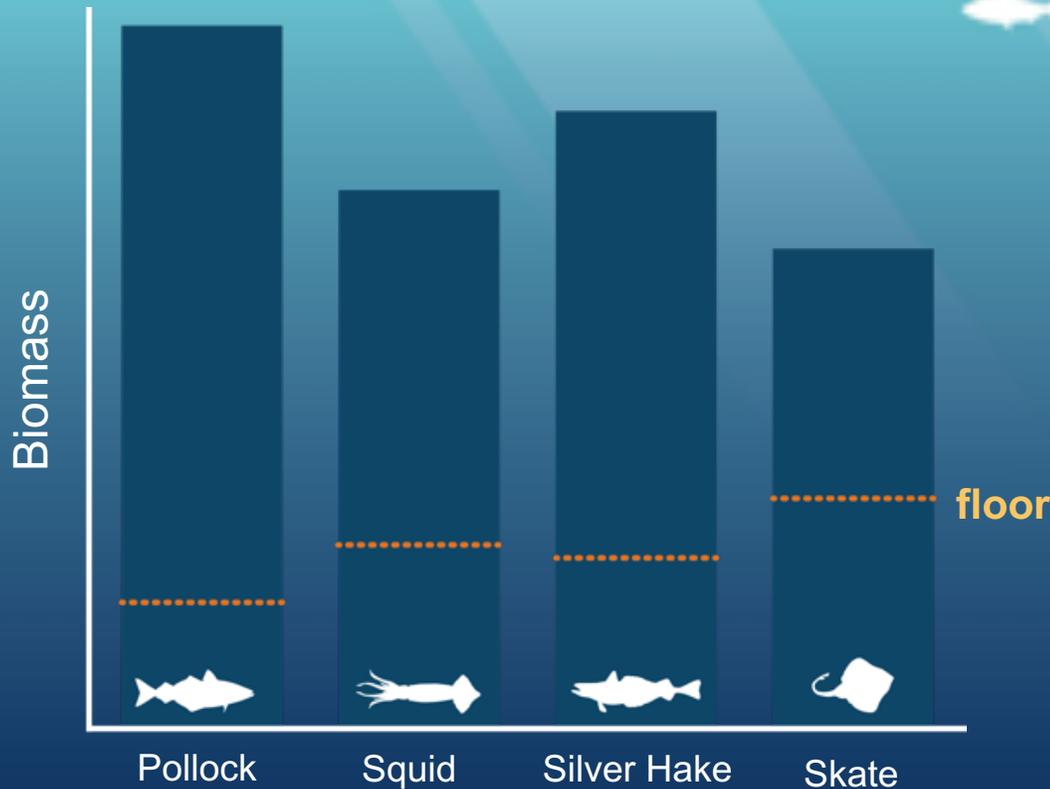
# Stock complex harvest control rules

ToR 6: Review harvest control rules embodying the proposed floors and ceilings approach using the ceiling reference points in ToR 5 to cap removals at the Ecological Production Unit and Functional Group levels, while ensuring that no species biomass falls below the single species floor reference points.



- Two main forms of harvest control rules:
  - 1) Threshold exploitation
  - 2) Ramp-down exploitation

# Species Biomass Floors



1. The total amount (biomass) of an individual species is not allowed to decline below a set limit, the floor.
2. The floor is different for each species.
3. Floors determined based on the unique characteristics of each species and how many need to remain in the EPU to ensure long term species health.

# NEFMC's EBFM Approach

<b>Single Species Stock Assessments and Management</b>	<b>NEFMC Ecosystem Based Fishery Management Approach</b>
<ul style="list-style-type: none"><li>• <b>Ignore species interactions:</b><ul style="list-style-type: none"><li>- Food web</li><li>- Bycatch</li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>Species interactions taken into account in grouping of species into species complexes</b></li></ul>
<ul style="list-style-type: none"><li>• <b>Driven by reference points (Fmsy, Bmsy, MSST) ignoring species interactions:</b><ul style="list-style-type: none"><li>-Highly uncertainty</li><li>-Moving targets</li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>Recognizes that reference points are dynamic and takes account of uncertainty in the design of management</b></li></ul>
<ul style="list-style-type: none"><li>• <b>Mixed stock fisheries must cope with imbalance in allowable catches, sometimes choke stocks</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Management of aggregations of species that are caught together lessens mixed stock fishery problems</b></li></ul>

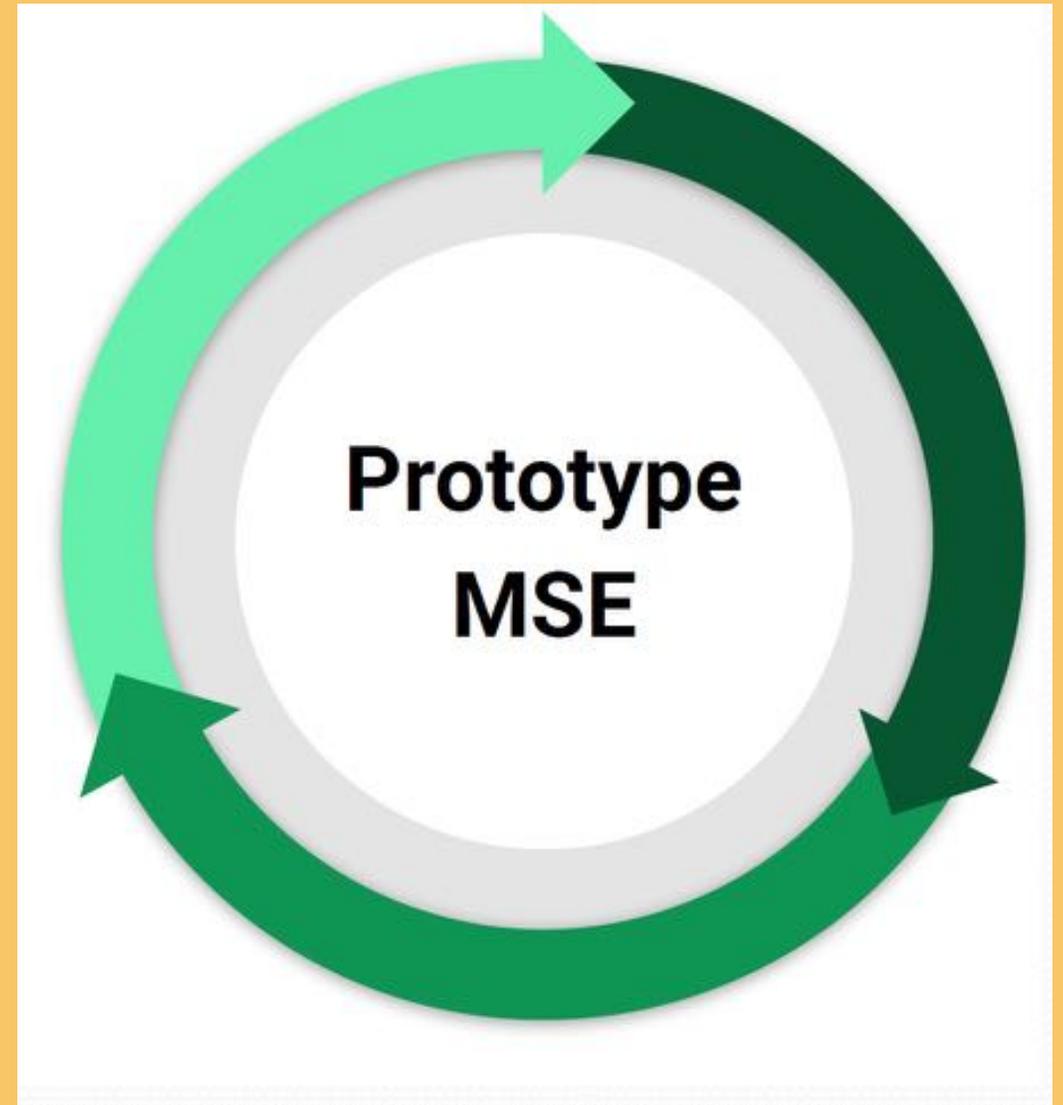
# Public information workshops

- The purpose of the workshops is to
  - Engage with and educate fishery stakeholders,
  - Using the eFEP and communications materials that have been developed about the concepts of EBFM, and
  - Promote stakeholder participation in further development of EBFM.



## Prototype MSE(pMSE) purpose

- Showcase a simplified prototype MSE framework and demonstrate how MSE will be used to evaluate EBFM management strategies
- Identify supporting data sources and develop the models and analyses that will support a full EBFM MSE
- Not intended to be actionable in a fishery ecosystem plan, but the results should be used as the basis for a full MSE



# The Process For Considering Change

