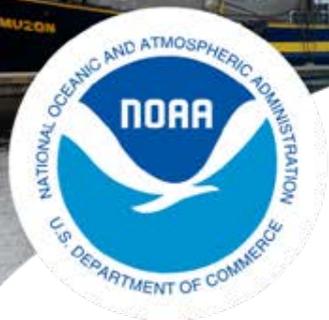




Regional Perspectives on Ecosystem Management



NOAA
FISHERIES

Greater Atlantic
Regional Fisheries Office

John Bullard

NEFSC Ecosystem & Climate Science Program Review

June 6, 2016



NOAA FISHERIES

GARFO Strategic Plan

Seven Strategic Goals



1. Sustainable Fisheries
2. Protected Resources
3. Habitat Conservation
4. Community Resiliency
5. Aquaculture
6. Organizational Excellence
7. Customer Service/External Communications

Community Resilience & Sustainable Fisheries

- Incorporate climate change, ocean acidification, and ecosystem information in GARFO program activities
- Build regional capacity and expertise in Climate/EBM
- Establish plan to resolve management issues that threaten community resiliency, including avenues by which ecosystem approaches and climate change can be integrated into more traditional single species management

Management Challenges

- We are just beginning to understand the impacts of climate change on marine resources
- Management is complicated – Involves a lot of cooks (Councils, Commission, TRTs, etc.)
- Management process is slow – May not be able to respond/adapt as quickly as necessary
- There are a lot of “unknowns” that impact our management ability (e.g., is cod moving out of our region or can we rebuild it?)



Management Impacts

- Fisheries management
 - e.g., Blueline tilefish, black sea bass, American lobster
- Protected species (*including Candidate species and Species of Concern*)
 - e.g., Right whale (Western North Atlantic), river herring
- Habitat protection
 - e.g., Omnibus Habitat Amendment and restoration efforts



Management Impacts - Blueline Tilefish

- Fishery has expanded northward and beyond the extent of SAFMC's jurisdiction and Federal regulations
- Expansion may be due to northerly shift in stock, increase in productivity in northern areas, or increase in northerly fishing effort
- NMFS implemented emergency rules to apply recreational and commercial harvest limits to the fishery while the MAFMC develops an FMP to expand management from Virginia northward



Photo: Anne Richards, NEFSC/NOAA

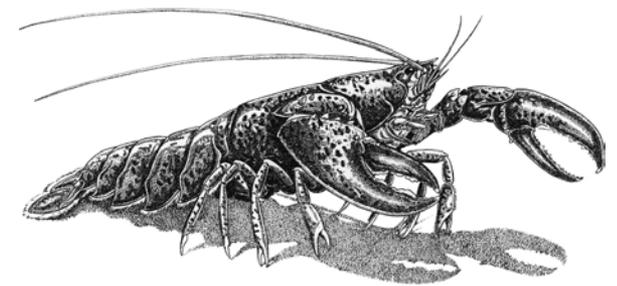
Management Impacts – Black Sea Bass

- Poleward shift and biomass increase
- Concerns with increased predation on species already compromised by climate change (e.g., American lobster)
- Distribution inconsistent with historical state harvest allocations
- MAFMC and ASMFC examining how to address the changes in distribution
- Re-evaluating or re-establishing allocations will be controversial and require collaboration between NMFS, MAFMC, and ASMFC



4. Management Actions - American Lobster

- Southern New England stock, at southern end of species' range, is depleted and in recruitment failure
- Collapse due in part to increased water temperatures at southern end of range
- Further declines are expected and even a closure of the fishery cannot guarantee improved conditions
- ASMFC is developing an addendum which considers harvest reductions to protect biomass and promote egg production



Graphic: NOAA

Management Impacts - Right Whale

- Changes in predator-prey relationship
 - Distributional shifts in right whale abundance may be influenced by shifting copepod distributions
- Right whale distributional shifts can impact population estimates with impacts to MMPA (e.g., Atlantic Large Whale Take Reduction Plan) and ESA (e.g., Section 7 consultations)
 - Critical to determine if right whale distributional shifts are linked to shifts in copepod abundance
- GARFO and HQ funded several NEFSC studies to develop an understanding of the effect of climate change on copepod distribution in the Northeast U.S. and how the change impacts right whale distributions
 - Important to NMFS continued efforts to recover and conserve right whales and their ecosystems
 - Effort currently underway



Management Actions - River Herring

- Rangewide occurrence and affected by multiple stressors
 - Importance: ecosystem component (e.g., forage fish), cultural and economic
 - Primary threats: dams, incidental catch in fisheries, climate change, predation and water quality
- Freshwater conditions need to be considered along with marine
 - River flow and temperature could be effecting juvenile recruitment
 - River herring may be spending more time in estuaries than previously thought
- Highly adaptable
 - Adaptability fostered by coastwide considerations of all threats
- Engaged in unprecedented proactive conservation effort with ASMFC, as well as U.S. and Canadian partners

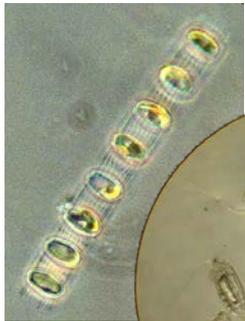


Linking Science and Management

- EBFM discussions occurring at NEFMC and MAFMC
- Habitat Climate Change Policy
- Developing a regional policy on the habitat impacts of climate change and issues that need to be considered in providing habitat conservation advice
- Working with Office of Habitat Conservation in the development of a national policy
- Fishing community resiliency and social vulnerability
- Northeast Regional Action Plan to support National Climate Science Strategy

Wrap-Up

- Challenges and opportunities on both resources and communities
- Multiple factors affecting communities and resources: fishing, habitat, species interactions, social and economic factors



Climate Change And Variability

Wrap-Up

- Plans for moving forward contained in NERAP and Strategic Plans
- Management impacts to fisheries, protected species and habitat
- Partnerships are key both internally and externally

Mid-Atlantic Fishery Management Council

