Engineering With Nature

Overview of NMFS Mission Areas, Issues, Challenges, and Opportunities

Cathy Tortorici

National Marine Fisheries Service

Cathy.tortorici@noaa.gov

301.427.8495

October 5, 2016

Gloucester, MA

Organizational Perspective

National Marine Fisheries Service Mission

- Provides science-based conservation and management for sustainable aquaculture, marine mammals, endangered species, and their habitats.

- Core Mandate – Recover and conserve protected resources through the use of sound natural and social sciences and compliance with regulations.
  - **Endangered Species Act** - The ESA provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of ecosystems on which they depend.

  - **Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)** - The MSA is the primary law governing marine fisheries management in U.S. federal waters.
    - Essential Fish Habitat describes all waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity. NMFS works with regional fishery management councils to identify the essential habitat for every life stage of each federally managed species using the best available scientific information. Essential fish habitat has been described for approximately 1,000 managed species to date.

Organizational Perspective

National Marine Fisheries Service Strategic Plan

- Vision and Healthy Ocean Goal
  - Vision – Healthy ecosystems, communities, and economies that are resilient in the face of change
  - Goal – Marine fisheries, habitats, and biodiversity sustained within healthy and productive ecosystems

Organizational Perspective

National Marine Fisheries Service Strategic Plan

- NMFS Core Mandate – Recover and conserve protected resources through the use of sound natural and social sciences and compliance with regulations.

- Office of Protected Resources plan goals related to EWN:
  1. Stabilize the most critically endangered species and improve populations of those species nearing recovery – **Species in the Spotlight Initiative**
  2. Develop guidelines and tools to make protected species management decisions "Climate Smart"
  3. Maximize our effectiveness in implementing the ESA and MMPA
  4. Cultivate collaborators to recover and conserve protected species

Organizational Perspective

Habitat Enterprise Strategic Plan

- Vision - Ensure healthy ecosystems, sustainable living marine resources, and resilient coastal communities thrive through innovative solutions, management flexibility, adaptability, and science excellence. Its mission is to protect and restore habitat to sustain fisheries, recover protected species, and maintain resilient coastal ecosystems and communities.

- Habitat Enterprise Strategic Plan goals related to EWN:
  1. Conserve habitat for managed fisheries and protected resources.
  3. Increase resilience of coastal ecosystems, communities, and economies through habitat conservation.

- Habitat Blueprint - NOAA developed the Habitat Blueprint principles to increase the effectiveness of habitat conservation across the country.

Organizational Perspective

National Ocean Service Mission

- Leader in observing, measuring, assessing, protecting, and managing coastal, ocean, and Great Lakes areas. NOS provides science-based services to inform decision making, thereby positioning America's communities, economies, and ecosystems for the future.

- Three National Programs – the National Estuarine Research Reserve System, the Coastal and Estuarine Land Conservation Program, and the National Coastal Zone Management Program
  - Coastal Zone Management Act - Provides for the management of the nation's coastal resources, including the Great Lakes. Goal of the CZMA - Preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone.

Organizational Perspective

National Ocean Service Priorities

- **Coastal Resilience** – Identifying threats and vulnerabilities, planning, response actions, and recovery activities. Provide a range of authorities and capabilities in coastal and ocean science, navigation, observation, positioning, resource management, habitat conservation, decision support, technical assistance, and training to able communities to advance their resilience goals.

- **Coastal Intelligence** – Improve the public and private decision makers ability to make informed choices by providing observations (physical, chemical, biological), measurements, models, monitoring, assessment, analysis, and the forecasts, tools, products, and services that derive from that foundational geospatial data.

- **Place-based Conservation-** Conserve marine areas — and preserve the economic benefits of these special places to local communities — through coastal management and place-based conservation programs. These include Coastal Zone Management, the Coastal and Estuarine Land Conservation Program, the National Estuarine Research Reserve System, National Marine Sanctuaries, and the Coral Reef Conservation Program.

Issues/Challenges

Threats that ESA-listed Species Face

- Habitat loss
  - Land or water use
  - Environmental/Climate change
  - Pollution
- Human use conflicts
  - Ship strikes
  - Overharvest
  - Construction activities
  - Recreation

Issues/Challenges

Project Design and Implementation

- Engineering and Technical
  - Sediment contamination
  - Hydrology and hydraulics
  - Erosion and sedimentation
  - Habitat conversion/impacts
  - Regulatory compliance

- Financial and human resources
  - Agency technical expertise
  - Project management capacity

- Social
  - Recreational uses and commercial use conflicts
  - Landowner concerns
  - Aesthetic and sentimental changes values

Issues/Challenges

Points to Consider

- How do we best approach competing Regulatory Mandates (ESA/EFH/CWA)?
- How do we allow for “flexibility” where appropriate in our regulatory processes to support the EWN approach (how much risk/uncertainty are NMFS and the Corps of Engineers willing to accept?)
- How can best apply pre- and post monitoring to EWN projects to learn and move forward with this approach?
- How do we gain consistency within the Corps of Engineers and NMFS on utilizing the EWN approach?
- How can we “pilot” the EWN approach in a manner to eventually make it a standard practice for the Corps of Engineers (Regulatory and Civil works) and NOAA?

Future Opportunities

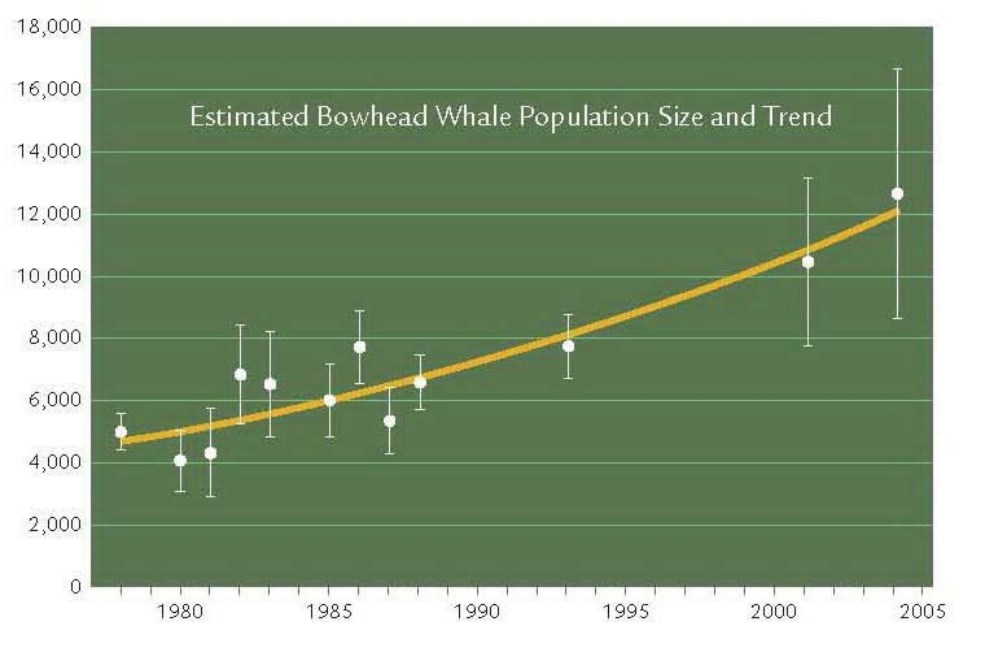
Recovery - Goal of the ESA

- NOAA Fisheries charge: recover species so that they are no longer at risk of extinction
- To do this, we:
  - develop and implement Recovery Plans (ESA section 4)
  - conduct interagency consultations (ESA section 7)
  - coordinate with and provide grants to states (ESA section 6)
- It is a long-term challenge, and we can't do it alone

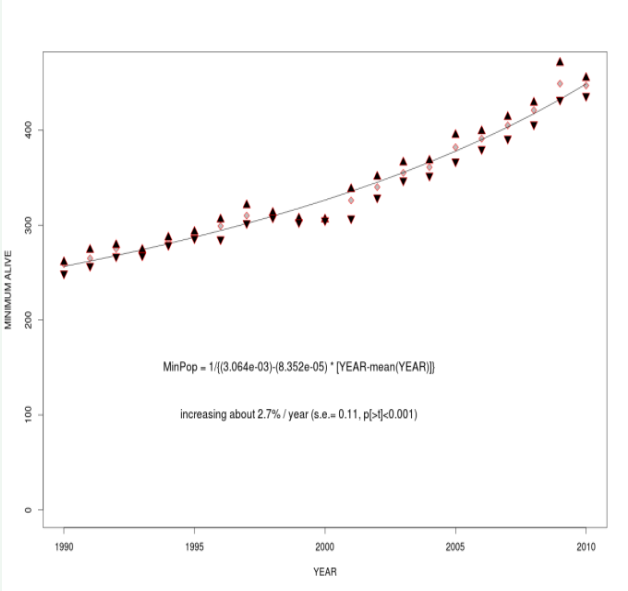
Future Opportunities

The Endangered Species Act At Work

- Delisting of Eastern Population of Steller sea lion due to recovery
- 820,000 fall Chinook pass Bonneville Dam – double the 10 year average
- Humpback population annual growth
- 3 – 7% - Just delisted 9 DPSs
- Monk seal recovery program



NA right whale – 2.6% growth



Bowhead whale population growth
Est > 3% annually since 2001

Future Opportunities

NMFS's Community-based Restoration Program

- Nationally competitive grants and technical assistance program
- Goals:
  - support recovery of endangered and threatened species
  - contribute to sustaining and rebuilding managed species
  - promote ecosystem and community resiliency
- Funds and technical assistance provided to states, national and state-based non-government organizations, local community-based groups
- Community engagement/stewardship

Future Opportunities

Habitat Restoration Opportunities

Tidal flow restoration to coastal wetlands

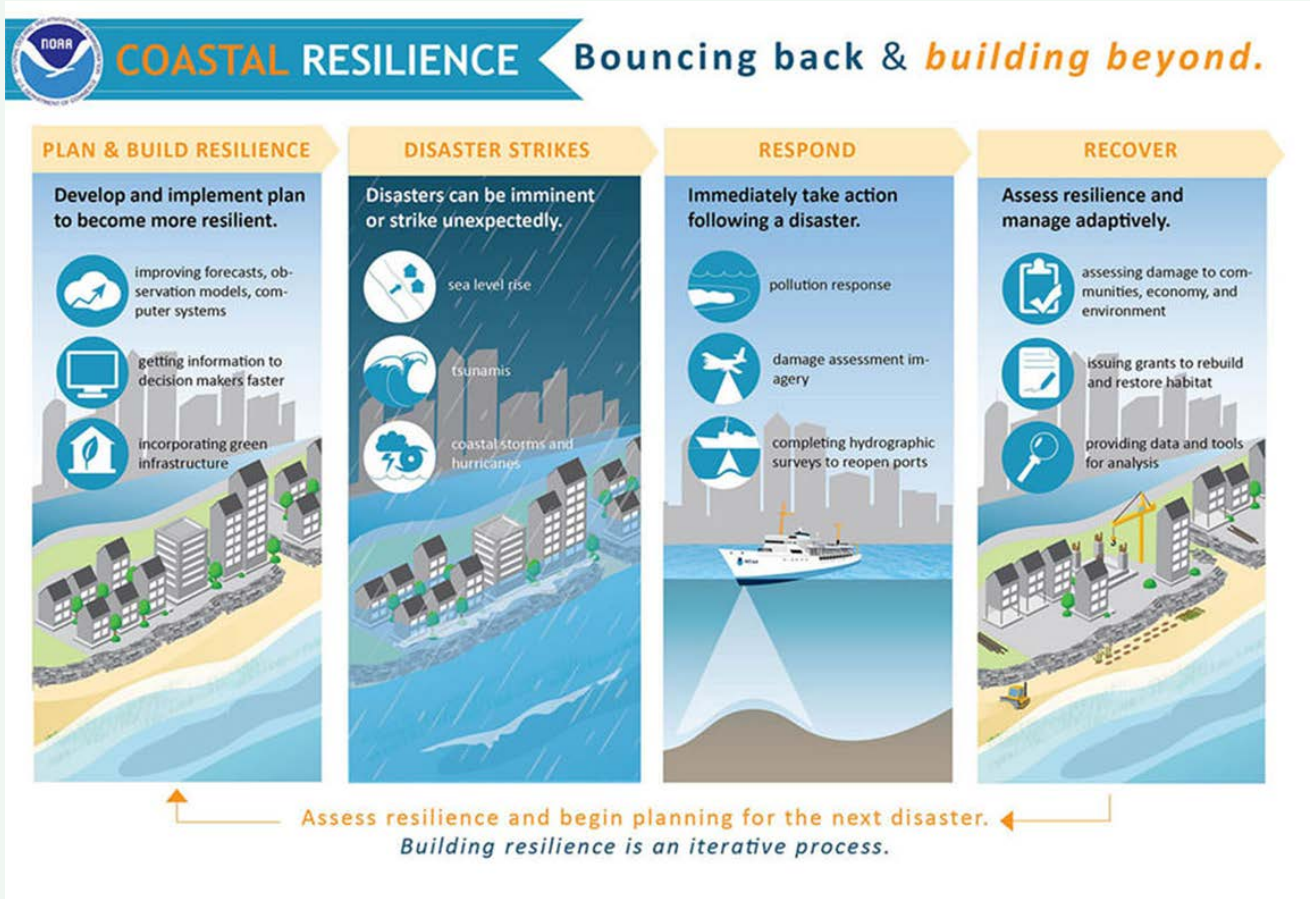
Shellfish restoration – focused on oyster restoration

Fish passage – restoration of diadromous fish through dam removal

Coastal ecosystem resiliency

Future Opportunities

The Construct of Coastal Resilience



Future Opportunities

Place-based Conservation