



# National Sea Grant College Program

Sea Grant  
50  
YEARS

*What is Ecosystem based management  
(EBM) and why do we need it?*

*Sea Grant Week 2016  
12 October 2016*



# PANEL MEMBERS

- Margaret (Peg) Brady, chair, National Ocean Policy EBM workgroup
- Jason Link, Senior Scientist for Ecosystem Management, NOAA Fisheries
- Betsy Nicholson, North Regional Director for NOAA's Office of Coastal Management, National Ocean Service

# Outline

- Introduction
- Operational Ecosystem-Based Management
- Advancing Ecosystem-Based Management Through the Northeast Ocean Plan
- Questions for the panelists.
- Discussion: Explore opportunities for expanding Sea Grant involvement.

# Background



- Increased use of and pressure on natural marine resources
- Influence of human activities and their impacts to marine ecosystems condition and services
- Shortcomings of conventional (single user sector or single species) approaches to management

(Costanza et al. 1997; Jackson et al. 2001; Halpern et al. 2008)



# Ecosystem-based management

## Key elements:

- Informed by science
- Connections and linkages between and within ecosystems as well as with social and economic systems
- Cumulative impacts of multiple activities
- Adaptive management strategies
- Multiple objectives among services or sectors
- Trade-off evaluations

Dynamic, adaptive, and iterative management approach that changes based on the spatial scale of the natural resource managed

(McLeod et al. 2005; 2009; McLeod & Leslie 2009; Link 2010)



# History of marine and coastal EBM in the U.S.

- PEW Ocean Commission (2003) and USCOP (2004)
  - Absence of an integrated holistic management approach for marine and coastal natural resources and call for comprehensive EBM.
- Executive Order 13366 (2004)
  - Committee on Ocean Policy - coordinated activities of federal agencies regarding ocean-related matters in an integrated and effective manner to advance environmental, economic, and security interests.
- OPTF (2009)
  - Charged with organizing a comprehensive policy approach by implementing EBM.
- Executive Order 13547 (2010)
  - EBM has foundational approach to address conservation, economic activity, users' conflict, and sustainable use of ecosystem services across sectors
- NOP-IP (2013)
  - Describes specific actions that federal agencies will take to address key challenges for ocean, coasts, and Great Lakes by adopting EBM strategies
  - NOP EBM-Subgroup to provide policy advice on EBM strategies and technical representation from NOC federal agencies
- ORAP (2013)
  - Recommended improved clarity and understanding of EBM's concepts, practices, and principles across participatory groups.

(Fluharty 2012; NOC 2013; ORAP 2013)



## **Definition of EBM adopted by the National Ocean Council for the purposes of federal implementation. (ORAP guidelines, 2013)**

*“ EBM is an integrated approach to resource management that considers the entire ecosystems, including humans. It requires managing ecosystems as a whole instead of separately managing their individual components or uses. EBM considers all the elements that are integral to ecosystem functions and accounts for economic and social benefits as well as environmental stewardship concerns. It also recognizes that ecosystems are not defined or constrained by political boundaries. The concept of EBM is underpinned by sound science and adaptive management as information or changing conditions present new challenges and opportunities ”*



Courageous, 1974 & 1977 America Cup winner

# Panel Objectives

- Provide an overview of on-going initiatives employing EBM strategies.
- Explore and identify opportunities for expanding Sea Grant's involvement with respect to EBM implementation.

# PRESENTATIONS

- Jason Link
- Betsy Nicholson

# Questions & Discussion



Castle Hill Lighthouse, Newport, Rhode Island