



# **NOAA's Ecosystem Approach To Management**

**Marine Protected Areas  
Federal Advisory Committee Meeting**

**Dr. Ned Cyr**

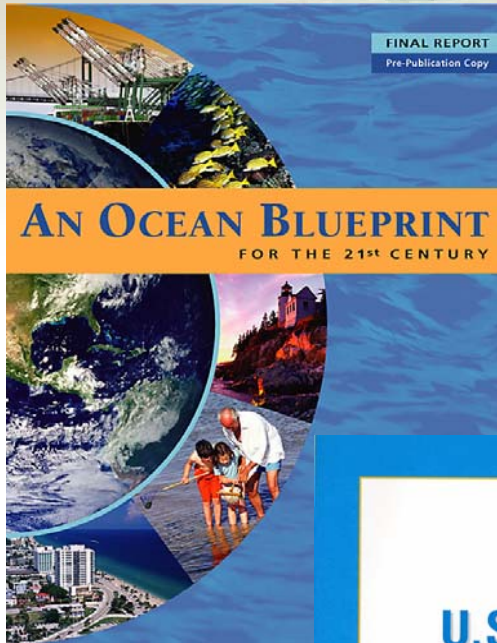
**NOAA Ecosystem Goal Team**

**April 26, 2006**

# Outline

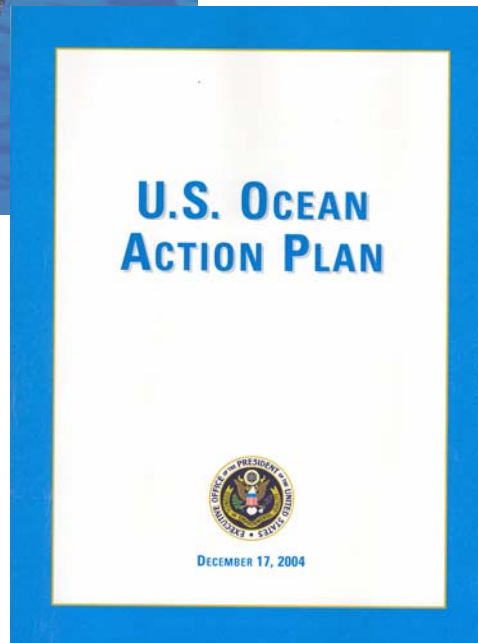
- **Federal Ecosystem Drivers**
- **NOAA Ecosystem Goal and Ecosystem Approach to Management (EAM)**
- **Current EAM Activities and Focus Areas**

# Federal EAM Stimulus



## U.S. Commission on Ocean Policy

- Better coordination and integration in managing our nations coasts and oceans
- Ecosystem based management to improve coastal and marine resource management



## President's Ocean Action Plan

- Ecosystem approach to management
- Committed to Gulf of Mexico and Great Lakes partnership
- Cooperative Conservation
- Established a new governance structure



NOAA can provide leadership to address these grades

Some are budget, some require governance change, all require better integration

## JOINT OCEAN COMMISSION INITIATIVE U.S. OCEAN POLICY REPORT CARD

### 2004

Subject	Grade	Comments (see full comments attached)
Initial Response To Commission Reports	A-	The President, Congress, and the Governors publicly embraced the major recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission. The President issued the U.S. Ocean Action Plan and established the Committee on Ocean Policy. Congress held hearings and introduced ocean-related legislation. Several Governors initiated regional and state strategies for coordinating ocean and coastal science and policy. These actions set high expectations for significant progress toward ocean policy reform.

### 2005

Subject	Grade	Comments (see full comments attached)
National Ocean Governance Reform	D+	Development of the U.S. Ocean Action Plan and establishment of the Committee on Ocean Policy are significant actions, but to date the tangible results have been limited given the scope of the challenges facing our nation. Despite pending legislation and efforts of the Committee, legislative and administrative reforms addressing organizational deficiencies in NOAA and mandatory interagency coordination and integration of ocean-related programs have been inadequate. Moreover, the steps taken to date do not embody the governance reform principles put forth by the Joint Ocean Commission Initiative.
Regional and State Ocean Governance Reform	B-	Promising ocean governance efforts are underway in a number of regions and states. The Joint Initiative encourages more regional collaboration and calls on additional states to demonstrate a commitment to ocean governance reform. The federal government should do more to facilitate and support ocean governance reform efforts in regions and states and should strive for better coordination among federal agencies at the regional level.
International Leadership	F	While some positive steps have been taken regarding international leadership on ocean issues, our continued failure to become a party to the United Nations Convention on the Law of the Sea hampers our ability to enhance and protect our national security interests and to demonstrate international leadership. Despite overwhelming support from a diverse array of interests, the Senate has yet to schedule the convention for a floor vote, and more vigorous support from the Administration is needed.
Research, Science, and Education	D	Doubling the ocean research budget and significantly increasing the support for ocean science and education are fundamental to improving our understanding and management of the oceans and coasts. The lack of an integrated ocean observing system capable of providing decision makers with important information compromises our nation's capacity to manage the oceans. The absence of an ocean and coastal stewardship ethic and a sluggish effort to coordinate the public education and outreach activities needed to enhance such an ethic hamper support for reform and funding.
Fisheries Management Reform	C+	Broad bipartisan support has been garnered for a Senate bill to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act, and the Joint Initiative applauds the effort to reach out to Commissioners and other stakeholders during the development of the bill. The Joint Initiative appreciates the Administration's thoughtful consideration of fisheries management reform in its bill and subsequent input to the Senate bill. The House should build on and strengthen the Senate bill to reflect the full suite of fisheries management principles articulated by the Joint Initiative and work with the Senate to make reauthorization of the Magnuson-Stevens Act a reality this year.
New Funding for Ocean Policy and Programs	F	Funding for essential ocean programs, outlined above, remains woefully insufficient and is far outpaced by current and future challenges. Failure to provide even the modest funding increases recommended by the Commissions, compounded by funding rescissions in important ocean programs, jeopardizes the economic and ecological benefits our nation receives from its oceans and coasts. New investment must be made so that we can address ocean and coastal issues effectively.

# NOAA's Strategic Goals

## NOAA's Vision:

An informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions

**Ecosystem**

**Climate**

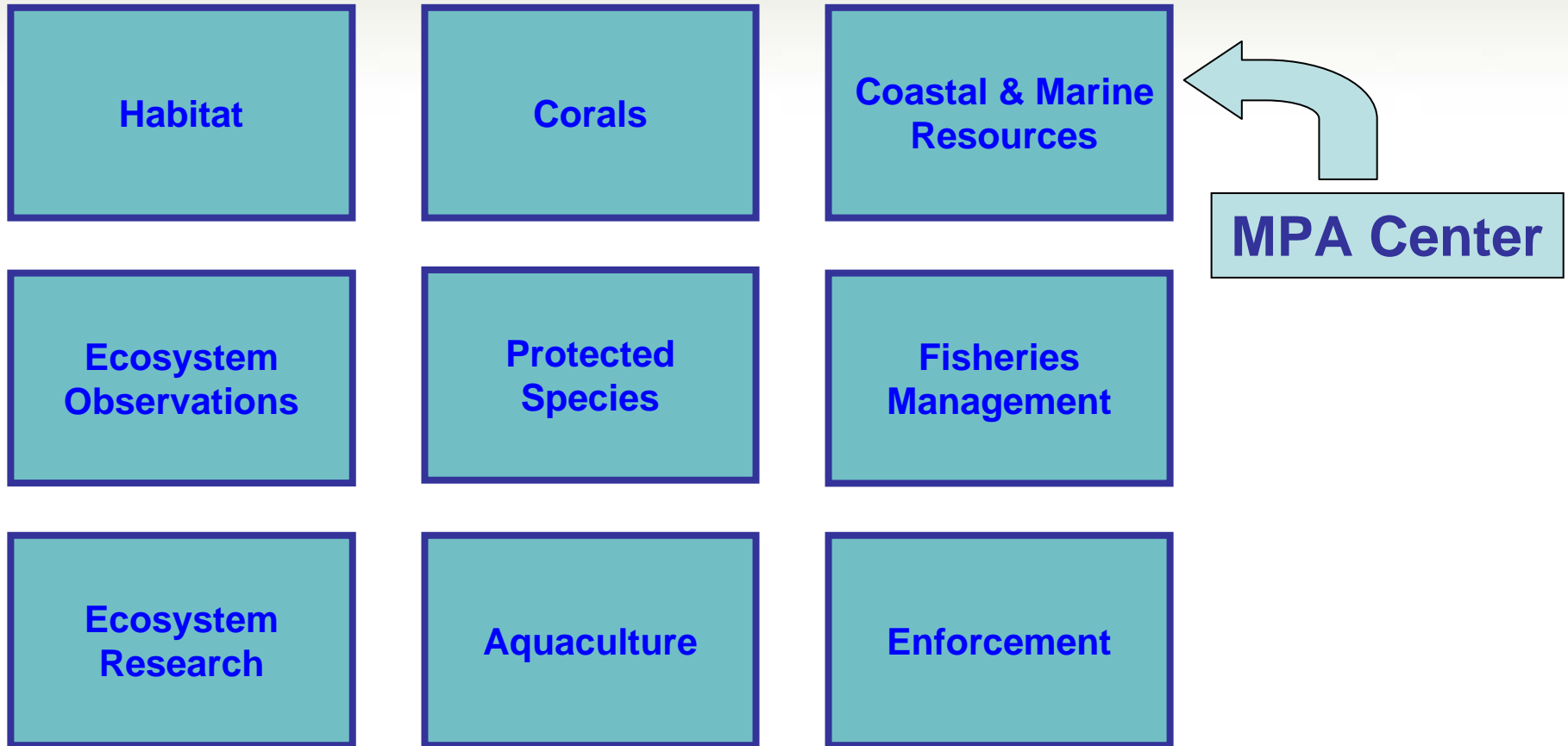
**Weather &  
Water**

**Commerce &  
Transportation**

**MISSION:** Protect, restore and manage the use of coastal and ocean resources through an ecosystem approach to management

**OUTCOMES:** (1) Healthy and productive coastal and marine ecosystems that benefit society. (2) A well informed public that acts as a steward of coastal and marine ecosystems

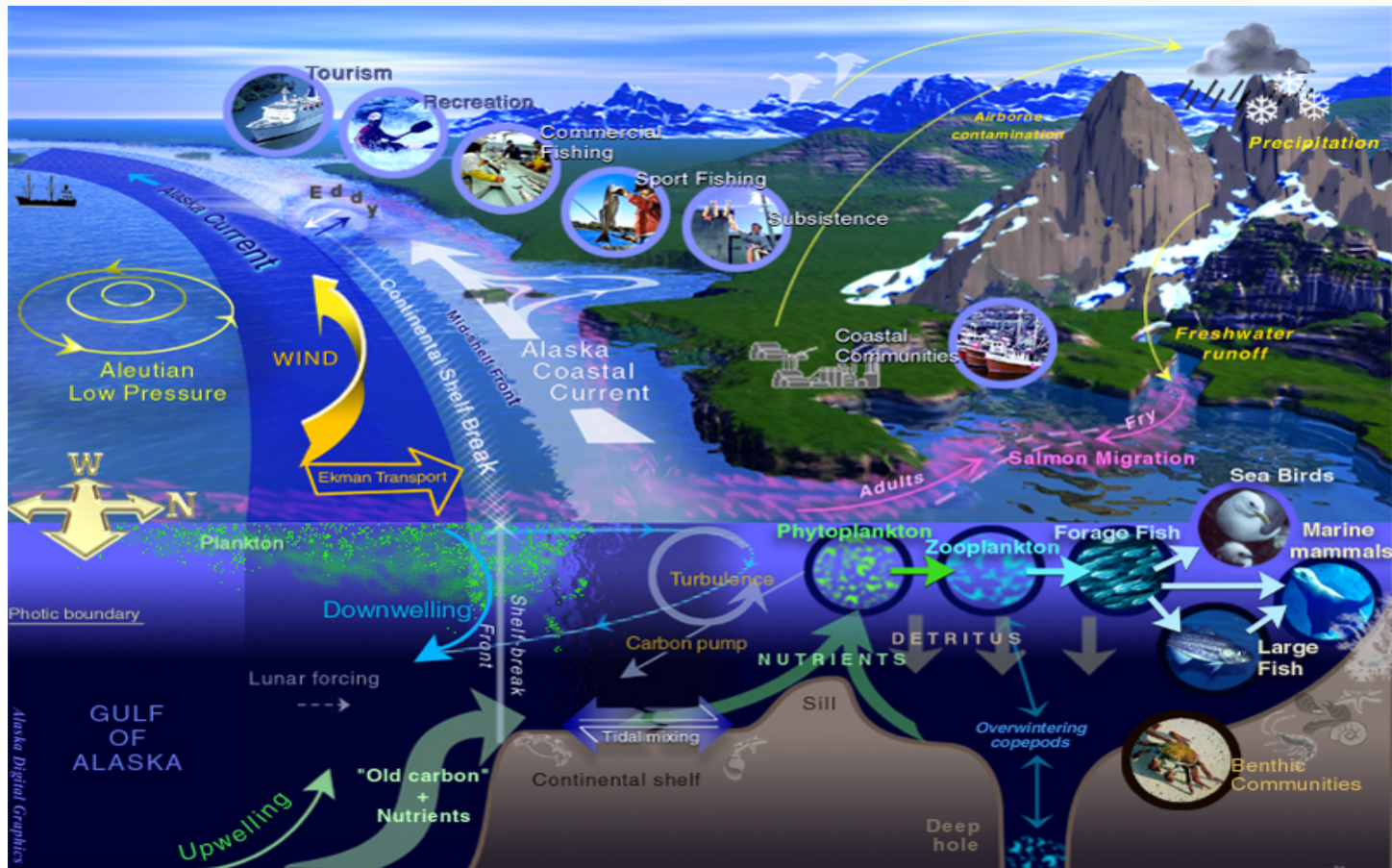
# NOAA's Ecosystem Goal Programs





# What is an Ecosystem?

An **ecosystem** is a geographically specified system of organisms, including humans, their environment, and the processes that control its dynamics.



# Ecosystem Mandates: A Paradigm Shift or Evolution?

**Focus on Managing  
Ecosystem parts**

**Focus on Ecosystem Relationships,  
Processes, and Tradeoffs**

**Individual Species**

**Multiple Species**

**Narrow Perspective & Scale**

**Broad Perspective & Scale**

**Human Activities Evaluated for  
Individual activities**

**Humans Integral to Ecosystem**

**Resource Management by Sectors**

**Integrated Resource  
Management**

**Scientific Monitoring Programs  
Focused narrowly**

**Adaptive Management Based  
On Scientific Monitoring**

**Single Use and Purpose  
Observations**

**Shared and Standardized  
Observations**

**Current Mandates**

**Future Mandates**

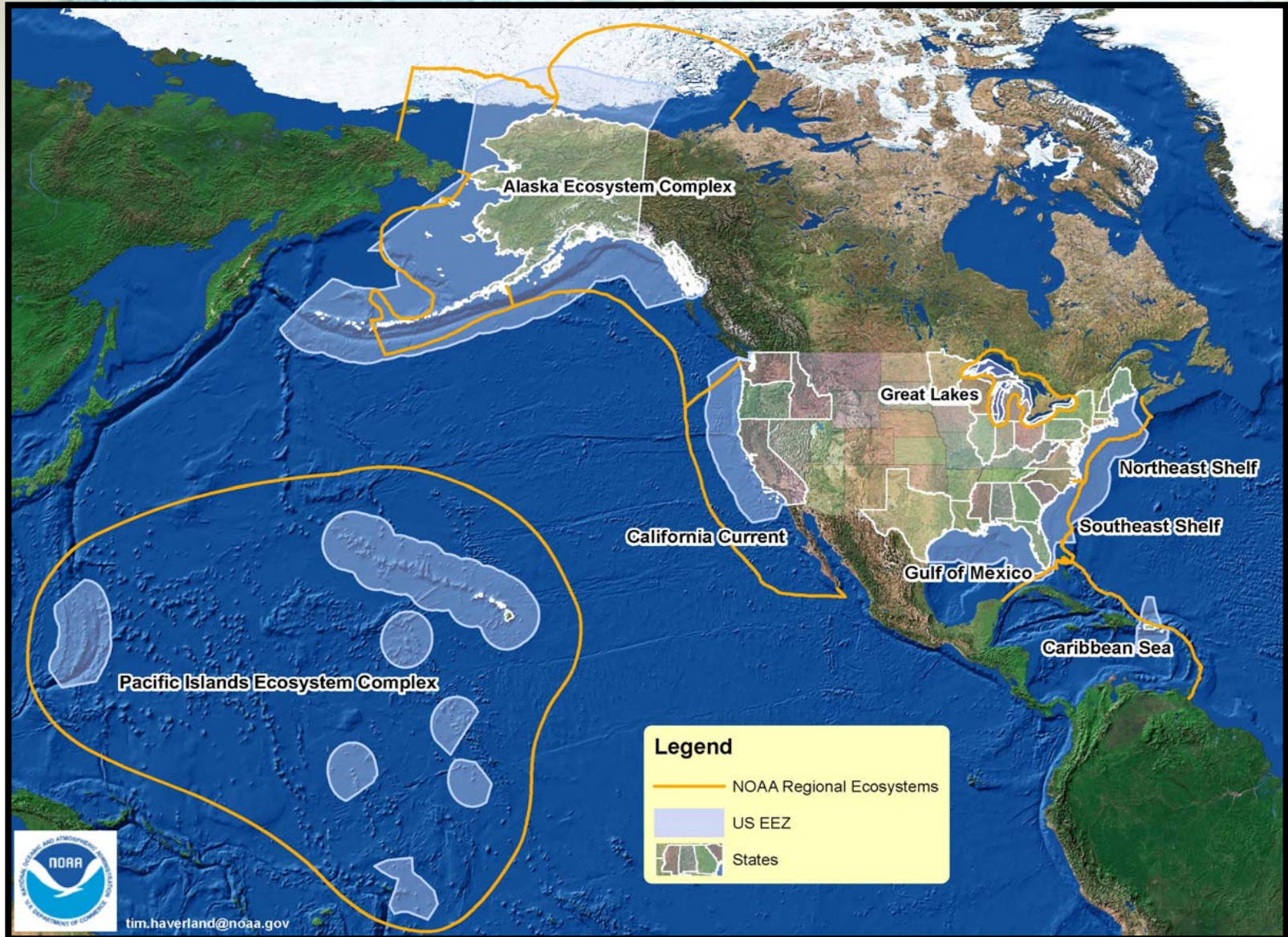


# **Ecosystem Approach to Management**

## **Seven Characteristics:**

- **Adaptive**
- **Collaborative**
- **Incremental**
- **Takes account of ecosystem knowledge and uncertainties**
- **Considers multiple external factors**
- **Strives to balance diverse societal objectives**
- **Geographically specified**

# NOAA Regional Ecosystems





# Ecosystem Challenge Areas

## NATIONAL CHALLENGES

Habitat loss, degradation, and fragmentation  
 Coastal development for public health, welfare, and safety  
 Sustainable fisheries and dependent communities  
 Conserve and recover protected species  
 Pollution  
 Harmful algal bloom impacts on Living Marine Resources and human health  
 Invasive species  
 Climate change

### Alaska

- Impacts of sea ice reduction dependent living marine resources
- Tribal access for subsistence uses
- Management of marine mammals cooperatively with Alaskan native
- Stellar Sea Lion recovery

### California Current

- Fishing gear impacts and by catch
- Pacific salmon recovery
- Impaired water quality in watersheds and salmon habitat loss
- Public access
- Increased pinniped and human interactions

### Pacific Islands

- Marine Debris
- Bycatch and entanglement of sea turtles and seabirds
- Conservation of Monk Seals and humpback Whales
- Coral Bleaching

### Gulf of Mexico

- Hurricane Recovery
- Sea turtle by catch in trawl and long line fisheries
- Bycatch in the red snapper and shrimp fisheries
- Inadequate sewage capacity
- Pollution related marine mammal strandings
- Offshore oil and gas production

### Great Lakes

- Toxic pollution
- Restoration of Great Lakes Areas of Concern

### Northeast

- Overfished groundfish stocks, fishing gear impacts, and bycatch
- Right Whale ship strikes and entanglements
- Urban runoff

### Southeast

- Addressed sea turtle bycatch by recovery actions and take reduction plans for Kemp's ridley turtles and Humpback Whales. Both populations now stabilizing or increasing
- Protected large tracts of habitat for fish and wildlife through CELC Program, including a 10,700-acre parcel in South Carolina
- Engaged stakeholder community and other agencies to delineate regional ecosystem boundaries and enhance strategy to implement ecosystem approaches

### Caribbean

- Coral bleaching and disease
- Recovery of coral species
- Urban Runoff
- Sea turtle recovery
- Growth of tourism industry placing demands on limited resources

# EAM Focus Areas for NOAA

- **NOAA External Ecosystem Task Team - ecosystem science recommendations**  
**<http://www.sab.noaa.gov/Reports/reports.html>**
- **Advance regional approaches within a national framework**
- **Coordinate and integrate observing activities**
- **Promote integrated ecosystem assessments, ecosystem modeling, and regional science planning**
- **Coalesce around a uniform set of national indicators; and supplement with ecosystem-specific indicators**
- **Build more collaboration with partners and stakeholders**

# **NOAA and MPA Center: How do you Advance EAM?**

- 1. MPAs as Reference Sites**
- 2. MPAs are EAM on a small scale**
- 3. Connectivity**
- 4. Stakeholder Involvement**
- 5. Integration and Networking**





Thank you.

# BACKUP SLIDES

# External Ecosystem Task Team

Convened by NOAA's Science Advisory Board to recommend changes for how NOAA conducts and organizes ecosystem science programs.

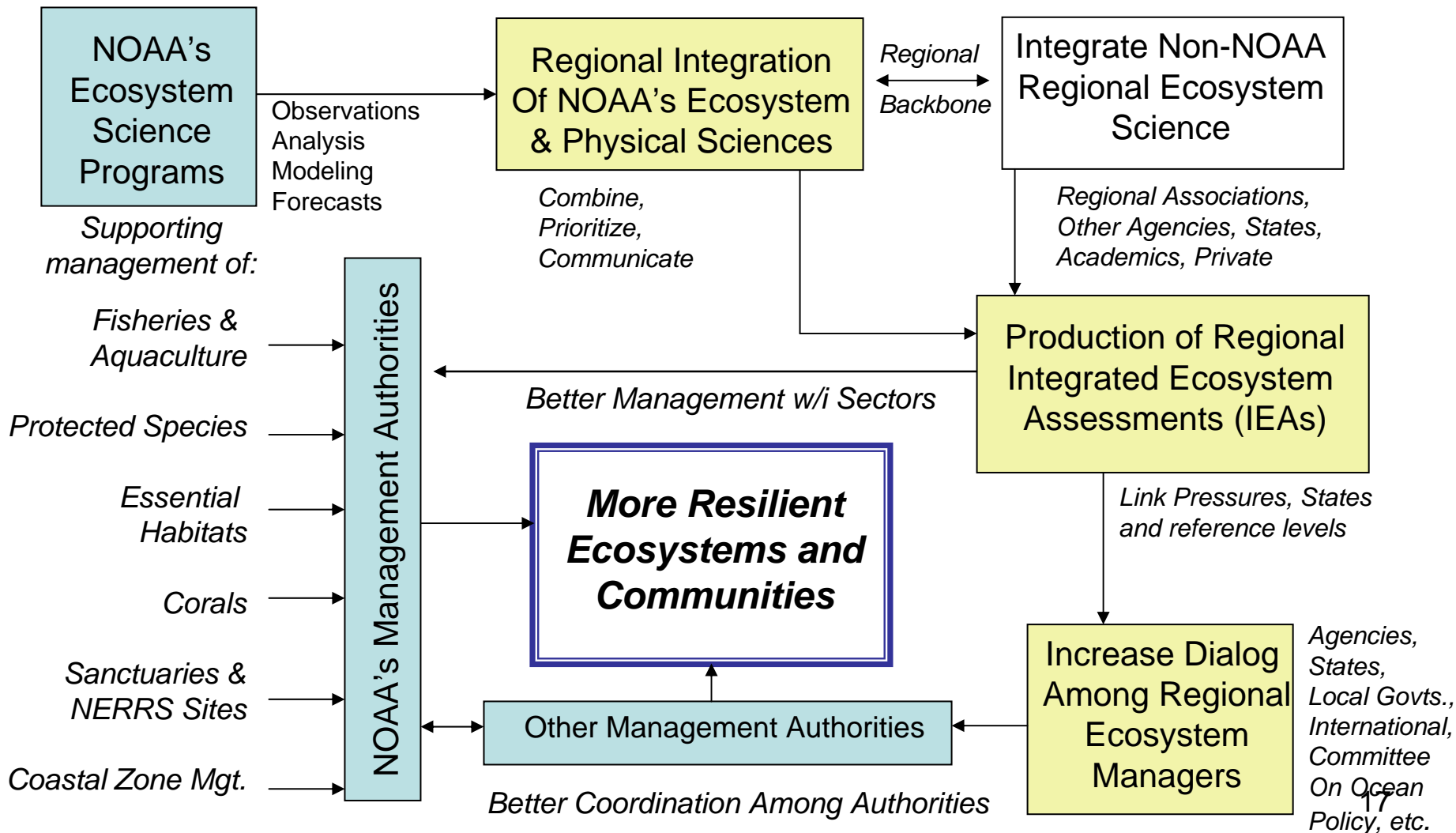
## Preliminary recommendations:

- Emphasize the regional collaboration of NOAA's cross-Line Office activities
- Collaborate on the production of regional integrated ecosystem assessments.

# NOAA's Role in Building More Resilient Marine & Coastal Ecosystems and Communities

*Current Efforts*

*New Processes and Products, Leading to Better Outcomes*



# Examples of EAM

## Conservation of the Bering Sea/Aleutian Islands and the Gulf of Alaska marine resources

- NOAA Fisheries and the North Pacific Fishery Management Council
- Foster a management regime that maintains sustainability of marine resources and the supporting ecosystems
- Programmatic SEIS and amendments resulted in a new EAM policy
- Alternatives addressed at the grass roots level using council committees and consensus-based decision making
- Includes scientifically validated ecosystem indicators



# Examples of EAM

## U.S. Antarctic Marine Living Resources Program

- Supports U.S. participation in the Commission and Scientific Committee of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- Emphasizes directed research to manage the Antarctic and several sub-Antarctic areas since 1984
- Effects of harvesting and associated activities on target, dependent, and related species and populations
- Management by consensus is both a success and a challenge

# Examples of EAM

## Elkhorn Slough Tidal Wetland Plan

- Elkhorn Slough NERR collaboration with a wide variety of partners to address the watershed
- Development of Plan containing hydrological management strategies accomplished through strategic planning team, science panel, community review, and agency review
- Development of success factors validated in joint meetings in order for decision-makers to hear the scientific discussions

# Examples of EAM

## Habitat Restoration in Louisiana

- NOAA Fisheries (F/HC) is the lead for the Secretary of Commerce on habitat restoration conducted under the Coastal Wetlands Planning Protection and Restoration Act (CWPPRA or Breaux Act) Program.

## Coral Reef Task Force -Local Action Strategies

- In 2002, the U.S. Coral Reef Task Force (CRTF) adopted a resolution calling for the development of 3-year Local Action Strategies (LAS) by each of the 7 member states, territories and commonwealths (Florida, USVI, Puerto Rico, Hawaii, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands). The LAS are locally-driven roadmaps for collaborative and cooperative action among federal, state, territory, and non-governmental partners which identify and implement locally-relevant priority actions needed to reduce key threats to valuable coral reef ecosystems in each region.