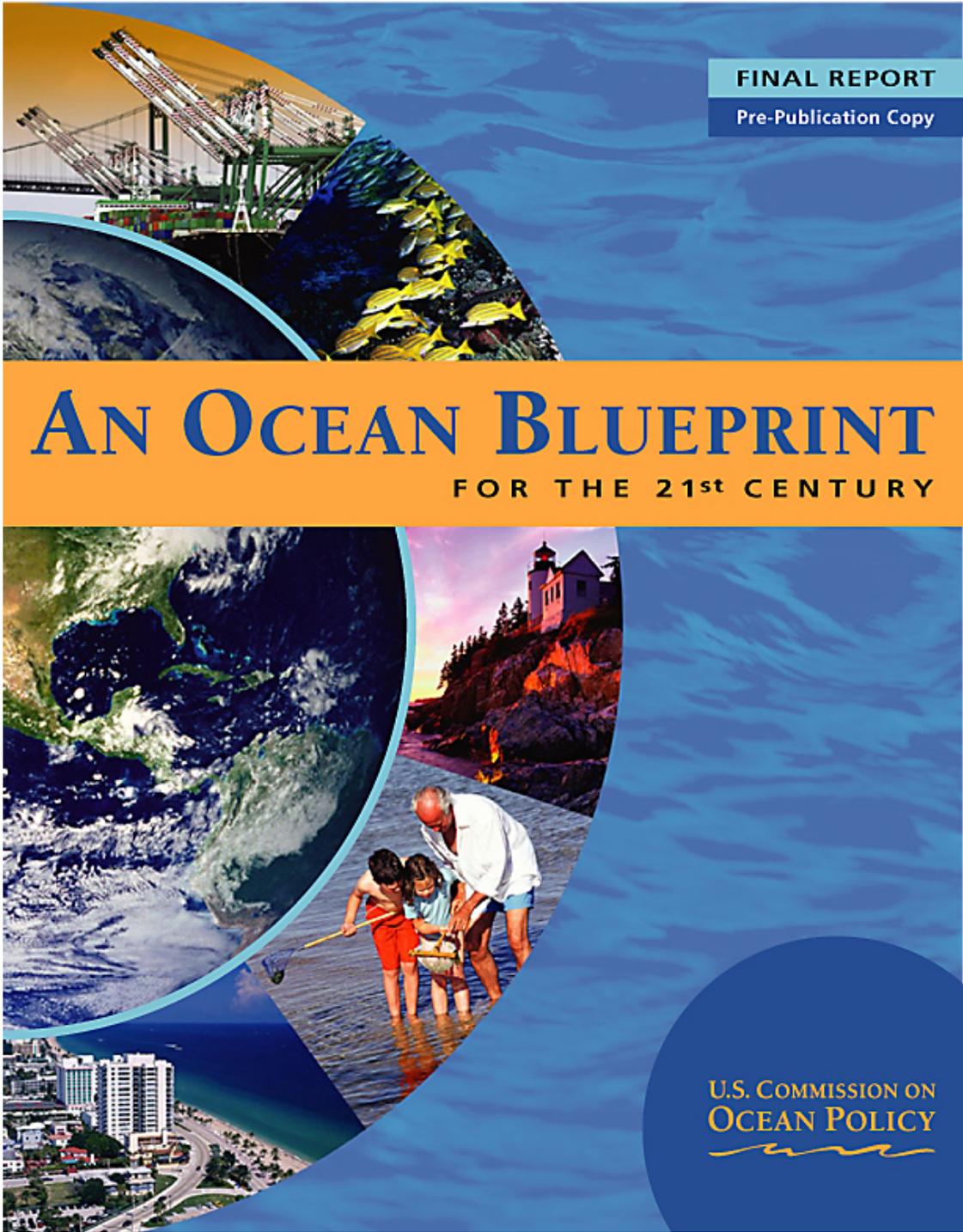


# The Next Steps for Coast Management

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FINAL REPORT

Pre-Publication Copy

# AN OCEAN BLUEPRINT

FOR THE 21<sup>ST</sup> CENTURY

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# *An Ocean Blueprint for the 21st Century*



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## What We Found

- Oceans and coasts are major contributors to the U.S. economy
- Ocean and coastal resources and ecosystems are in trouble
- The existing management structure is incompatible with the complexity of ecosystems



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# Balancing Economic Growth and Conservation Along the Coast

## Challenges

- Economic growth and population are concentrated in coastal areas
- Habitats and water quality are being degraded
- People and property are at risk from natural hazards
- Natural sediment flows are disrupted
- Long-term economic viability of oceans and coasts is threatened



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# Balancing Economic Growth and Conservation Along the Coast

## Solutions

- Use ecosystem- and watershed-based management approaches
- Enhance the management capacity of state and local governments
- Consolidate federal coastal programs



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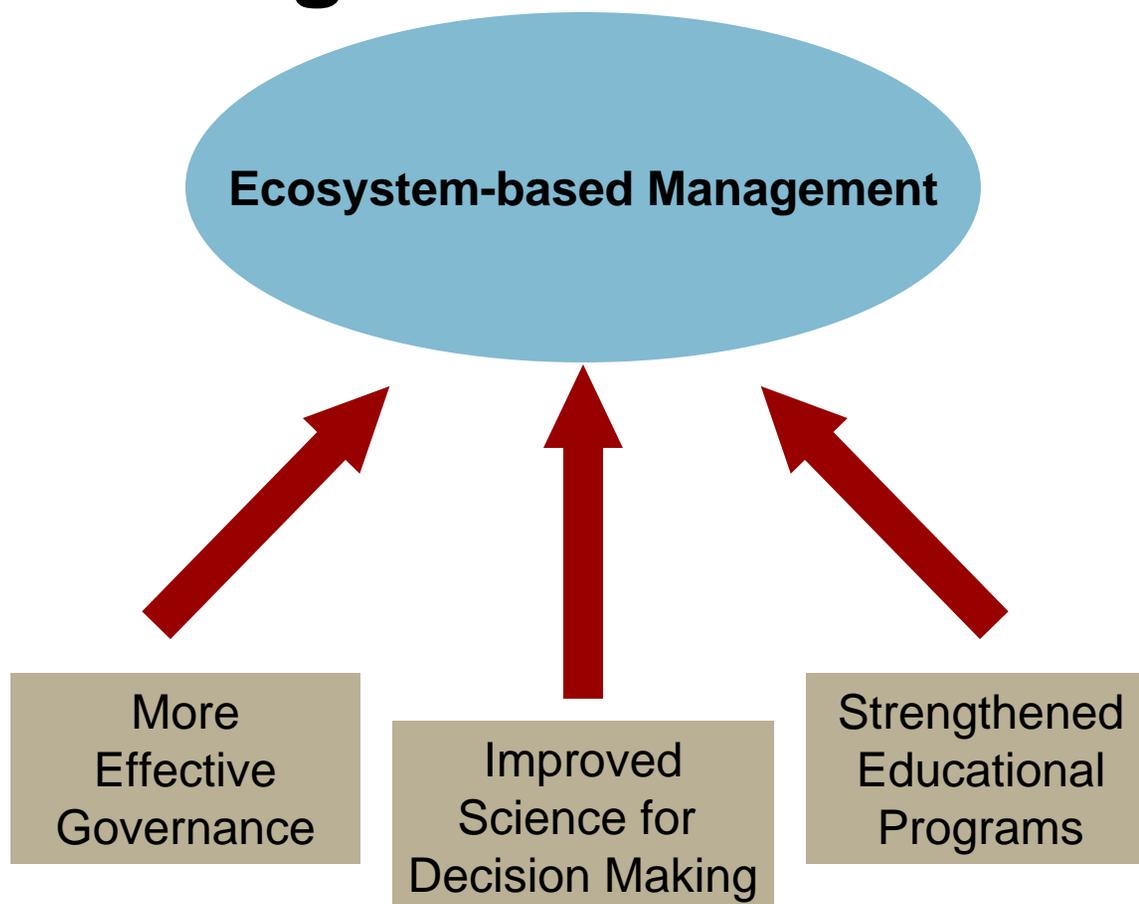
# Balancing Economic Growth and Conservation Along the Coast

## Solutions (continued)

- Link coastal and watershed management
- Improve coordination of habitat conservation and sediment-related programs
- Integrate the marine transportation system with land based activities



# Cross-cutting Themes





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## **Ecosystem-based Management**

- Managing human activities and their potential impacts on species or resources
- Multispecies and across physical boundaries
- Includes watersheds coastal and ocean regions
- Account for interactions between policies and management actions and cumulative impacts

# Ocean ecosystems provide many services, most of which are undervalued

- Food
- Medicines
- Recreation & tourism
- Trade
- Education & research
- Water purification
- Shoreline protection
- Nutrient cycling
- Moderation of climate
- Cultural, spiritual, and religious values



# Scientific Consensus Statement on Marine Ecosystem-Based Management

- Grass roots effort among scientists to provide a clear statement defining EBM
- Consider the entire ecosystem, including humans.
- Integrated approach that focuses on **cumulative impacts of multiple sectors.**
- Goal: To maintain or restore an ecosystem to a healthy, productive, and resilient condition so that can provide the services to support human well-being

## Scientific Consensus Statement on Marine Ecosystem-Based Management

*Prepared by scientists and policy experts to provide information about coasts and oceans to U.S. policy-makers*

**Executive Summary:** The current state of the oceans requires immediate action and attention. Solutions based on an integrated ecosystem approach hold the greatest promise for delivering desired results. From a scientific perspective, we now know enough to improve dramatically the conservation and management of marine systems through the implementation of ecosystem-based approaches.

Coastal and ocean ecosystems are vitally important to U.S. interests and they are at risk. Over half of the U.S. population lives along the coast, and more than \$200 billion in economic activity was associated with the ocean in 2000.<sup>1</sup> Despite their economic significance, U.S. oceans, like those around the world, are changing in unprecedented ways. Recently, the Pew Oceans Commission and the U.S. Commission on Ocean Policy concluded that a combination of human activities on land, along the coasts, and in the ocean are unintentionally but seriously affecting marine ecosystems by altering marine food webs, changing the climate, damaging habitat, eroding coastlines, introducing invasive species, and polluting coastal waters. These changes threaten the ability of ocean ecosystems to provide the benefits Americans expect from marine ecosystems. Currently, each activity or threat is typically considered in isolation; coordinated management of cumulative impacts is rare. **Both commissions call for a more comprehensive, integrated, ecosystem-based approach to address the current and future management challenges of our oceans.** Both commissions describe ecosystem-based management as the cornerstone of a new vision for healthy, productive, resilient marine ecosystems that provide stable fisheries, abundant wildlife, clean beaches, vibrant coastal communities and healthy seafood for all Americans.

### WHAT IS ECOSYSTEM-BASED MANAGEMENT FOR THE OCEANS?

Ecosystem-based management is an integrated approach to management that considers the entire ecosystem, including humans. The goal of ecosystem-based management is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. Ecosystem-based management differs from current approaches that usually focus on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors. Specifically, ecosystem-based management:

- emphasizes the protection of ecosystem structure, functioning, and key processes;
- is place-based in focusing on a specific ecosystem and the range of activities affecting it;
- explicitly accounts for the interconnectedness within systems, recognizing the importance of interactions between many target species or key services and other non-target species;
- acknowledges interconnectedness among systems, such as between air, land and sea; and
- integrates ecological, social, economic, and institutional perspectives, recognizing their strong interdependences.

<sup>1</sup> U.S. Commission on Ocean Policy (2004) Appendix C: Living Near and Making a Living from the Nation's Coasts and Oceans

# International Comparison of Ecosystem-based Approaches

- Political Leadership
  - May be bottom up or top down
- Legislative Mandate
  - Establishes institutional mandate
- Overarching Policy
  - Change of direction from current practice
- Planning and Management Hierarchy
  - Development of objectives at various levels
  - Focus on outcomes for ecosystem services

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Working group: Bob O'Boyle (Can.), Ilse Kiessling (Aus.), Charlotte Mogensen (EU), Jonathan Peacey (NZ), Maggie Mooney-Seus and Andy Rosenberg (US)

# Planning and Management Hierarchy

Overarching Conceptual Objective	Link to National Policy Focus on Services	Conserve coastal wetland filtration and habitat services
Planning Area Conceptual Objective	Link Overarching Conceptual Objectives to Regional Priorities	Protect and restore wetland areas to pre-1960's levels
Planning Area Operational Objective	Account for Cumulative Impacts on services across sectors, Interactions between Management Actions	Severely limit area of wetland disturbance. Require mitigation of greater than 1:1. Restore X% over 10 yrs
Sectoral Operational Objective (e.g., pollution control, dredging, coastal development)	Develop management tactics that are coherent with other sectoral actions	Set aside remaining tracts of wetlands, create buffer zones, choose contiguous areas for restoration through mitigation requirements.

# Ecosystem-based Ocean Zoning

- Fit the pieces of management together within areas or zones. All human activities within the zone must be included.
- Base management goals on maintaining specific ecosystem functions or services rather than goods.
- Allow tactics to remain within sector plans as long as they are consistent with the ecosystem-wide goals and use the zonal structure.