



NOAA's Ecosystem Approaches to Management



John H. Dunnigan, Ecosystem Goal Lead

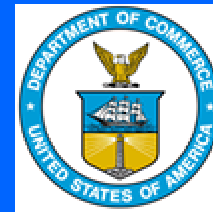
Presentation State Marine Fisheries Directors Meeting April 13 , 2005





Ultimate Ecosystem





Ecosystems Definitions

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





What is an Ecosystem Approach to Management?



- **Collaborative**
- **Incremental**
- **Adaptive**
- **Geographically Specified**
- **Accounts for Ecosystem Knowledge and Uncertainty**
- **Considers Multiple External Influences**
- **Balances Diverse Societal Objectives**



Ecosystem Approach to Management: NOAA's Vision



Collaborative





NOAA's Vision

Incremental
"evolution not revolution"

From



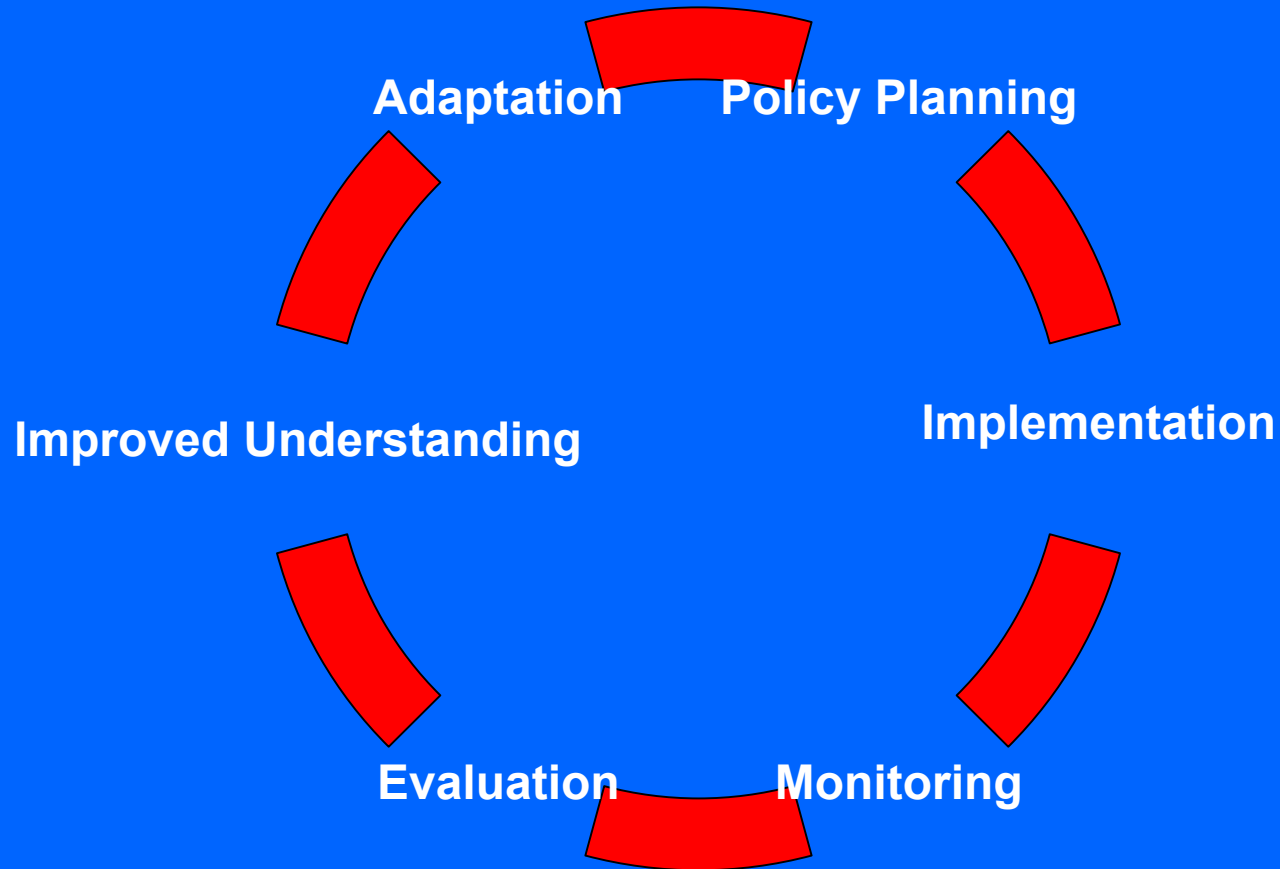
To





NOAA's Vision

Adaptive

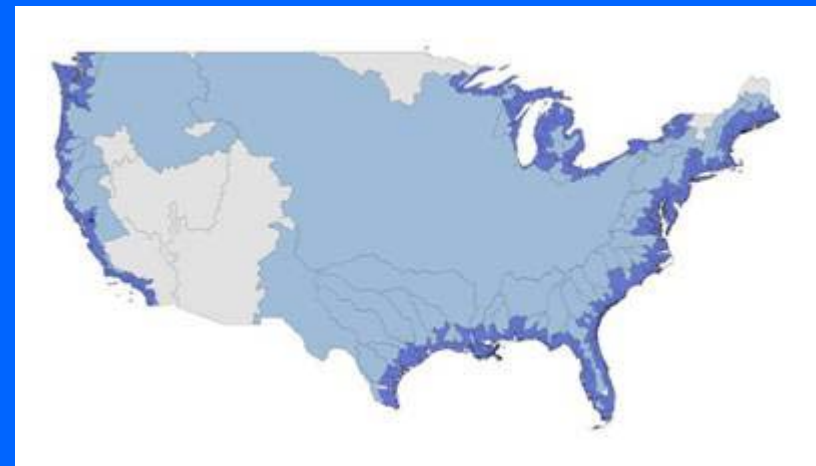




NOAA's Vision

Geographically specific management areas

- NOAA, collaborating with stakeholders and partners, plan a joint strategy to meet desired ecosystem productivity and benefits based on NOAA's 10 regional ecosystems





NOAA's Vision



Accounts for ecosystem knowledge and uncertainty

- Considering baseline assessments, NOAA and its partners understand the cumulative impacts of their activities on ecosystems





NOAA's Vision



Considers multiple external factors





NOAA's Vision



**Balances diverse
societal objectives**





Ecosystem Approach to Management: A Paradigm Shift



Current Management Efforts

Individual Species

Small spatial scale

Short-term perspective

Humans: independent of ecosystem

Independent coastal/watershed and ocean resource management

Management not integrated with science



Future Management Efforts

Ecosystems

Multiple Scales

Long-term perspective

Humans: integral part of Ecosystem

Integrated coastal/watershed and ocean resource management

Management integrated with science resulting in adaptive management



Ecosystem Approach to Management: A Paradigm Shift

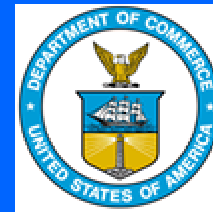


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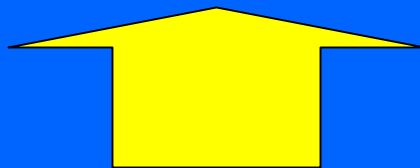




NOAA's Strategic Goals

MISSION

Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management



Ecosystem Goal Strategy

Integration and Outreach

Observe and Characterize

Research and Modeling

Management and Stewardship



Ecosystem Goal Strategies

- ❑ **Integration and Outreach**: Improve internal and external coordination on a regional scale. Integration builds on NOAA's expertise and assets with federal, regional, state and local partners to sustain healthy ecosystems.
- ❑ **Observe and Characterize**: NOAA's programs will evaluate changes in environmental conditions of regional and coastal resources and gain an understanding of the conditions, their cause and consequences to better inform management decisions
- ❑ **Research and Modeling**: Apply a multi-disciplinary and geographically focused research approach to improve the scientific basis for regional ecosystem decisions.
- ❑ **Management and Stewardship**: Identify, negotiate and implement strategies to protect, restore and sustain healthy and productive use of regional ecosystems. Increase public awareness and involvement to benefit and improve the health of regional ecosystems.



Integration and Outreach



- Form regional teams and conduct regional stakeholders workshops
 - Develop regional ecosystem health indicators
 - Identify sub-ecoregions, discuss inland boundary issues
- Evolve regional EAM collaborative mechanisms
- Well informed public to act as stewards



Observe and Characterize



- Economic survey and assessments across regions
- Characterize habitats that provide critical ecosystem functions
- Expand monitoring/observing systems beyond boundaries of NERRS and National Marine Sanctuaries to focus on ecosystems
- Expand knowledge of fish and protected species states and forecasts based on ecosystem approach



Research and Modeling



- Identify causes and impacts of changes to ecosystem conditions.
- Develop forecasts to predict ecological and socioeconomic impacts.
- Develop, improve, and deliver tools and technologies supporting ecosystem based management.
- Form regional teams to evolve research on ecosystem components into holistic ecosystem models over time.



Management and Stewardship



- Redirect stewardship responsibility based on advanced knowledge of ecosystem connectivity
- Base management decisions based on agreed upon ecosystem health indicators
- Balance ecosystem sustainability both biologically and socio-economically



Future Steps



- **Build coalition of partners**
 - Collaborating for success
- **Develop regional ecosystem teams**
 - Summer 2005
- **Conduct regional workshops**
 - Autumn 2005, spring/summer 2006
- **Improve internal ecosystem products and services**



Ecosystem Benefits

- Improved knowledge allows managers to make science-based decisions focusing on human and non-human impacts
- Better decision making will improve balance of multiple uses
- More efficient use of funds
- Thriving coastal and fishing communities, clean beaches, healthy, productive, and plentiful marine life



Ultimate Ecosystem



For more information:

<http://ecosystems.noaa.gov/>

Contact:

ecosystem.goal.comments@noaa.gov or

301-713-9075