# NOAA Ecosystem Goal

## Mission

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

## Expected Long-Term 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.

## Why a NOAA Ecosystem Goal?

The National Oceanic and Atmospheric Administration (NOAA) has significant responsibilities for managing ocean and coastal areas and living and non-living marine resources. These responsibilities include managing fisheries, ocean and coastal areas, vulnerable species and habitats, and protecting these resources and habitats from pollution and invasive species. To attain long-term sustainability of trust resources, NOAA is committed to moving toward an ecosystem-based approach to management of the Nation's coastal and marine ecosystems. This will require increased understanding of these complex systems as well as improved integration and collaboration.

Over the past several decades, NOAA has been collecting the knowledge, experience, and information needed to holistically manage marine and coastal resources, keeping the ecosystem in mind. NOAA's Ecosystem Goal focuses the efforts of four line offices on this ecosystem-based approach: NOAA's National Ocean Service (NOS), NOAA's National Marine Fisheries Service (NMFS), NOAA's Office of Oceanic and Atmospheric Research (OAR), and NOAA's National Environmental Satellite, Data and Information Service (NESDIS).

NOAA's vision is for a future in which society understands that healthy coastal and marine ecosystems are fundamental to our economic future.

## NOAA's Management Approach

| Current Management Efforts | Future Management Efforts |
|---|---|
| Individual species | Ecosystems |
| Small spatial scale | Multiple scales |
| Short-term perspective | Long-term perspective |
| Human: independent of ecosystem | Human: integral to ecosystem |
| Management divorced from research | Adaptive management |
| Managing commodities | Sustaining production potential for goods and services |

***For further information:***

Visit the Ecosystem Goal Web site: http//ecosystems.noaa.gov/
Contact the Ecosystem Goal Office: 301.713.9075

## What is an Ecosystem?

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

*Artist's rendering of an Alaska ecosystem and its major components. Ecosystems are full of complex connections between organisms, their environment, and the processess that drive the system. Image courtesy of Gulf of Alaska Ecosystem Monitoring and Research (GEM).*

## What is an ecosystem approach to management?

NOAA defines an ecosystem approach as one that is:

1) Collaborative and voluntary
2) Adaptive
3) Incremental
4) Regionally-directed
5) Takes account of ecosystem knowledge
6) Takes account of ecosystem uncertainty
7) Considers multiple external influences
8) Strives to balance diverse societal objectives

## NOAA's Ecosystem Goal Priorities

1) Integration and Outreach: Engage and collaborate with federal, regional, state, and local partners to achieve regional objectives through coordinated approaches.

2) Observe and Characterize: Develop and monitor a suite of ecological and socio-economic ecosystem indicators through collaboration with partners.

3) Research and Modeling: Coordinate and integrate a comprehensive ecosystem model to improve the scientific basis for ecosystem management decisions.

4) Management and Stewardship: Develop a holistic approach to management to protect, restore, and sustain healthy and productive use of regional ecosystems.

NOAA ECOSYSTEM GOAL

## Recent Activities

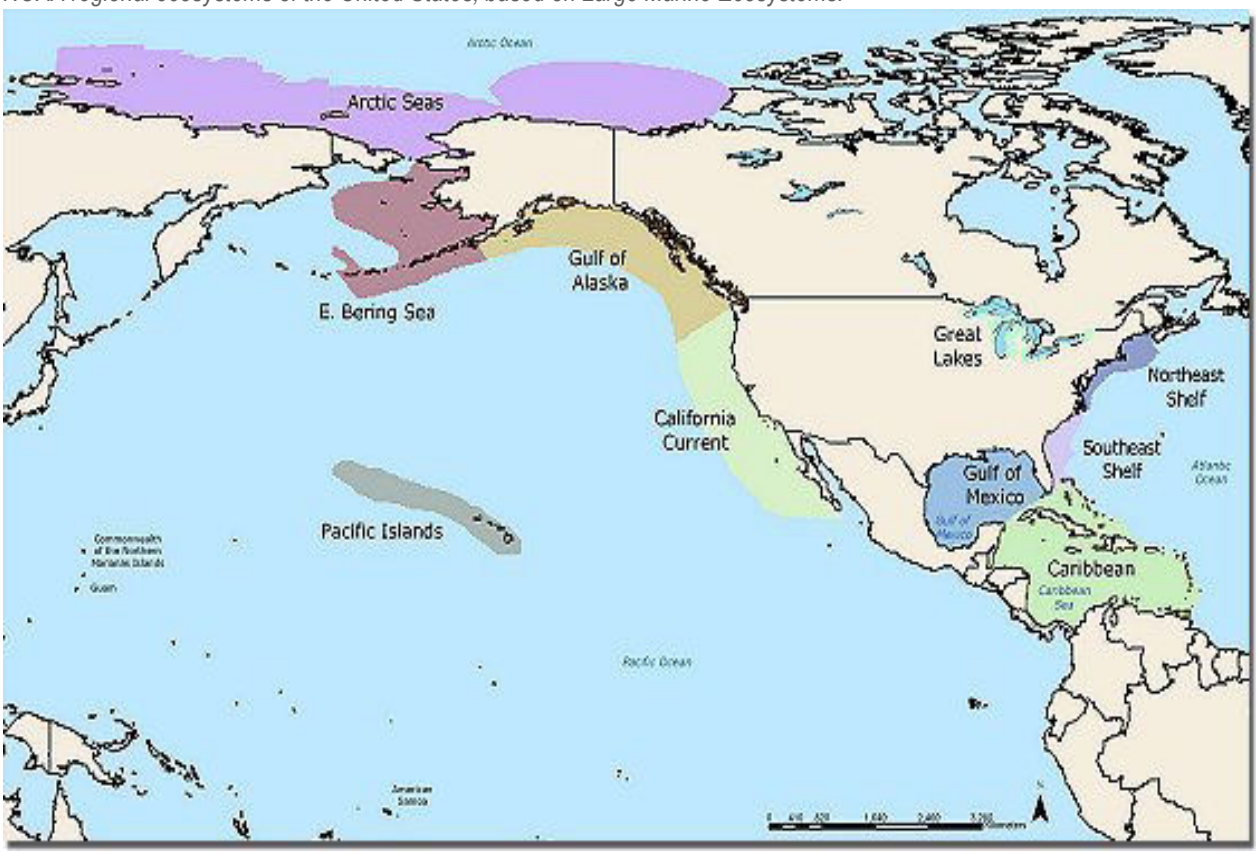
**Regional Ecosystem Delineation Workshop**
*31 August-1 September 2004*
*Charleston, South Carolina*

Workshop participants included five NOAA line offices; ten additional federal agencies; academics; NGOs; fishery management councils and commissions; state coastal zone managers from five states; and three members of the U.S. Commission on Ocean Policy.

As a result of this workshop, NOAA defined 10 ecosystems based on the Large Marine Ecosystem (LME) model. NOAA's defined ecosystem regions extend from coastal areas to the seaward boundaries of continental shelves and the outer margins of the major current systems. These ecosystems include:

- Arctic Seas
- California Current
- Caribbean
- East Bering Sea
- Great Lakes
- Gulf of Alaska
- Gulf of Mexico
- Northeast Shelf
- Pacific Islands
- Southeast Shelf

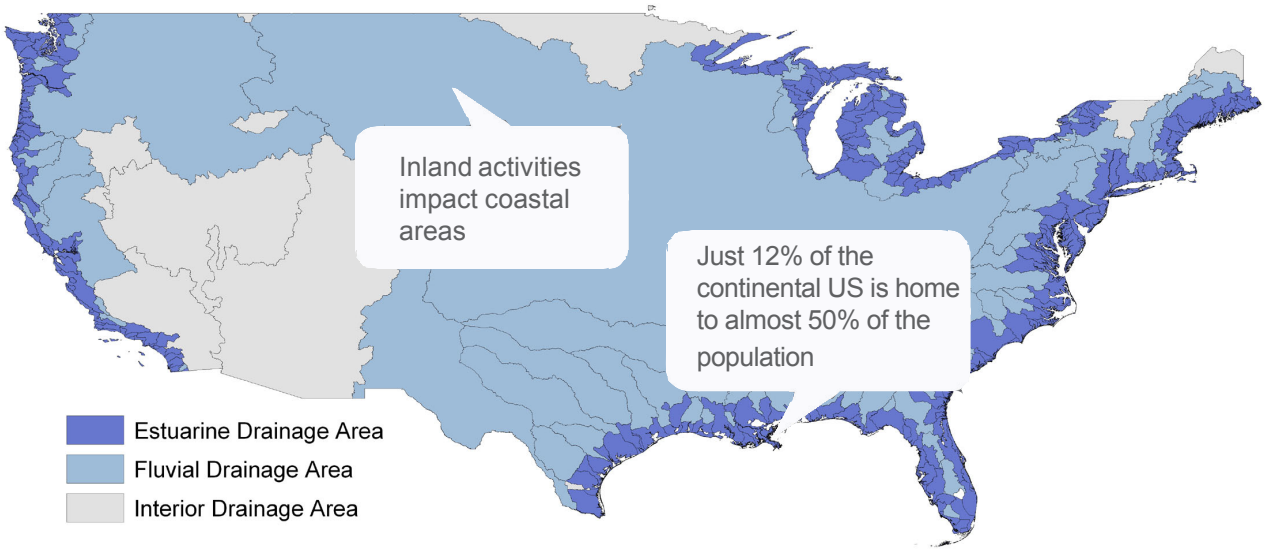
*NOAA regional ecosystems of the United States, based on Large Marine Ecosystems.*



Another result of the Delineation Workshop was NOAA's definition of inland boundaries. These boundaries encompass coastal watersheds and diadromous fish habitat.

Estuarine Drainage Areas (EDAs), illustrated in the map below, represent the inland extent of the marine ecosystem. Over 125 million Americans live and work within these boundaries. Based on these delineations, NOAA, through the Ecosystem Goal, plans to increase collaboration with its coastal partners.

*This map illustrates the Coastal Assessment Framework (CAF), a focal point of the 2004 Delineation Workshop. The CAF serves as a basis for defining inland boundaries of marine and coastal ecosystems.*




- Estuarine Drainage Areas (EDAs) comprise 12% of US land mass ($km^2$)
- Fluvial Drainage Areas (FDAs) comprise 69% of US land mass ($km^2$)
- Interior Watershed Areas (EDAs) comprise 19% of US land mass ($km^2$)

## Future Steps

NOAA's Ecosystem Goal will develop regional ecosystem teams to coordinate and integrate NOAA efforts internally and with NOAA partners.

These regional ecosystem teams will conduct regional stakeholder workshops to:

1) Determine sub-regions within each regional ecosystem
2) Revisit the inland boundary and other boundary issues for each ecosystem
3) Begin to establish agreed-upon ecosystem health and sustainability indicators
4) Initiate discussions regarding potential collaboration mechanisms