

The Challenge of Managing Coasts and Oceans

Timothy M. Hennessey

Department of Marine Affairs

University of Rhode Island

Key Principles and Concepts from National Reports:

- Ecosystem-based Management**
- Linkages between Coastal and Ocean Management**
- Measurable Water Pollution Goals**
- A Management Regime for Federal Waters**

Defining Boundaries: Large Marine Ecosystems

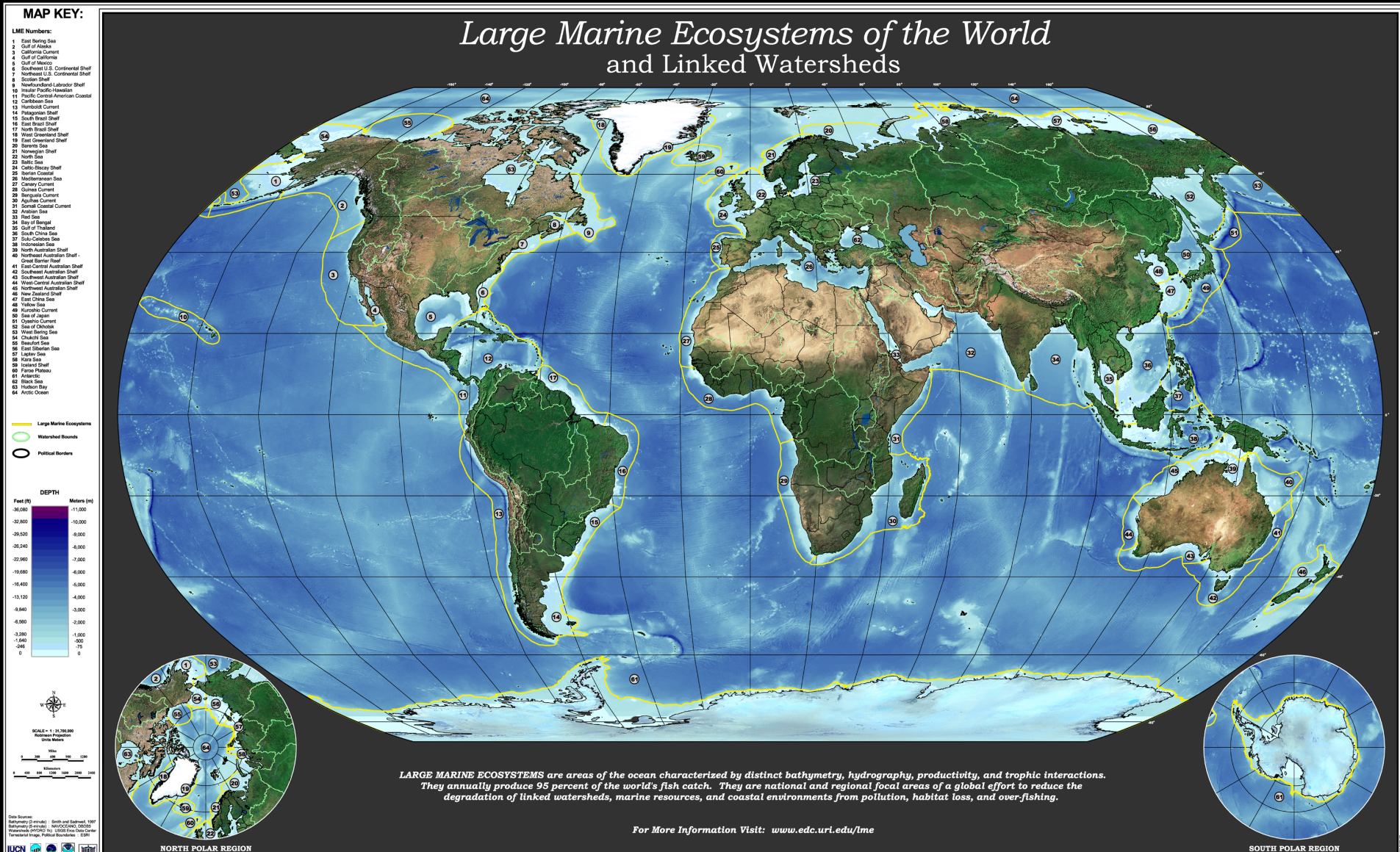


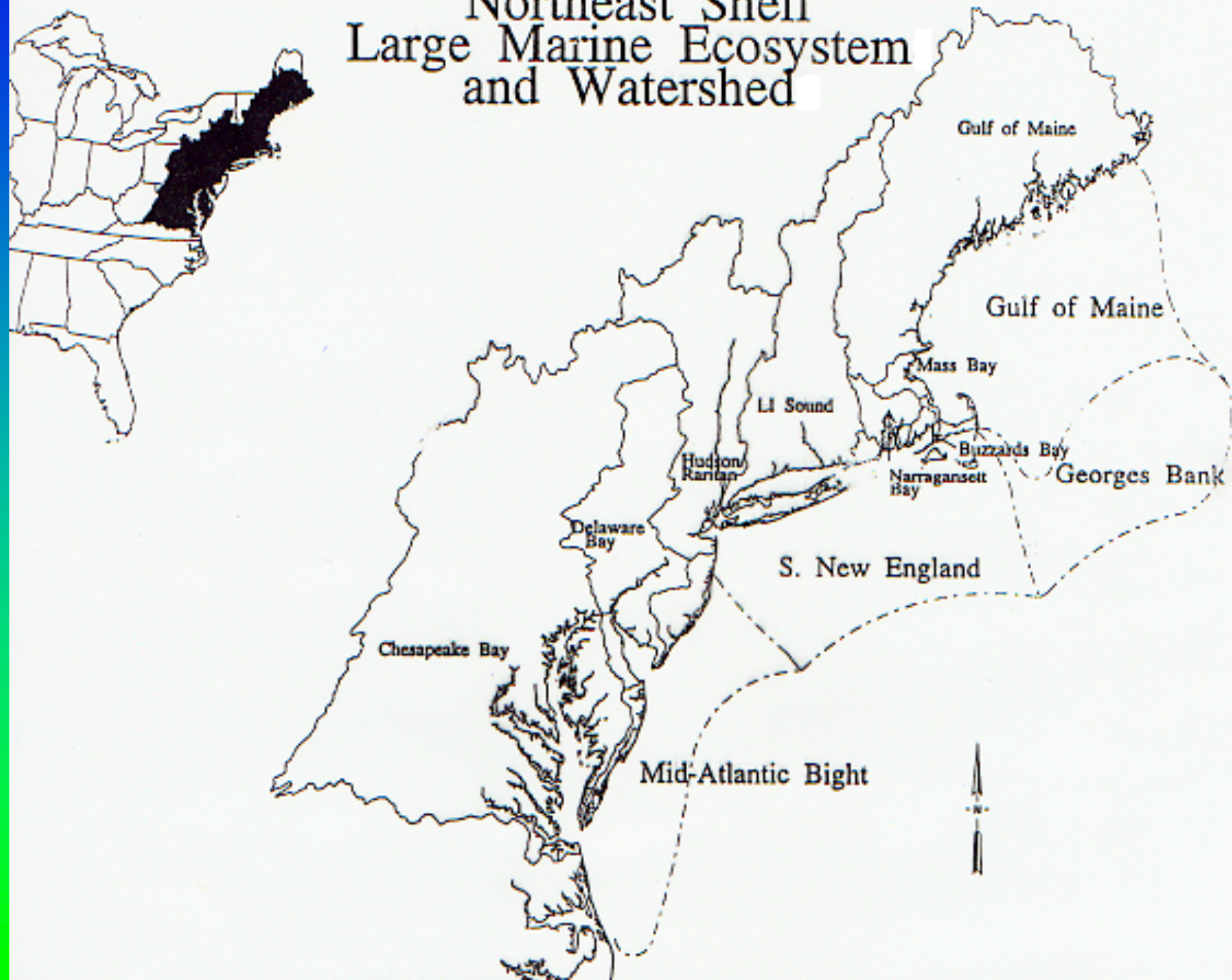
Figure 3.1 Large Marine Ecosystems Correspond to Natural Features

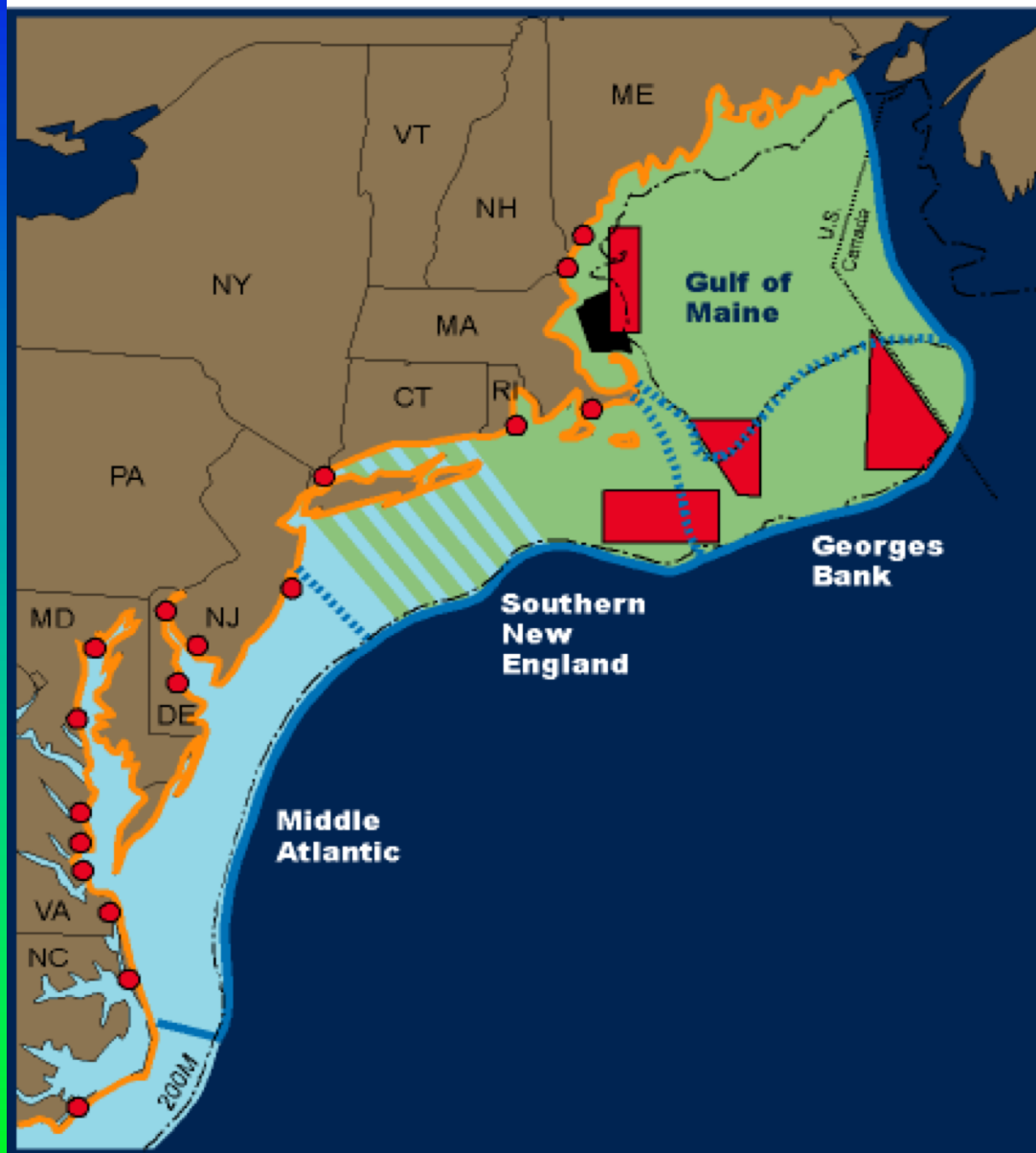


Ten large marine ecosystems (LMEs) have been identified for the United States. These LMEs are regions of the ocean starting in coastal areas and extending out to the seaward boundaries of continental shelves and major current systems. They take into account the biological and physical components of the marine environment as well as terrestrial features such as river basins and estuaries that drain into these ocean areas.

Source: University of Rhode Island Environmental Data Center, Department of Natural Resources.
<<http://mapper.edc.uri.edu/website/lmeims/viewer.htm>> (Accessed January 2004).

Northeast Shelf Large Marine Ecosystem and Watershed





Examples of Management Jurisdictions of the Northeast Shelf Ecosystem

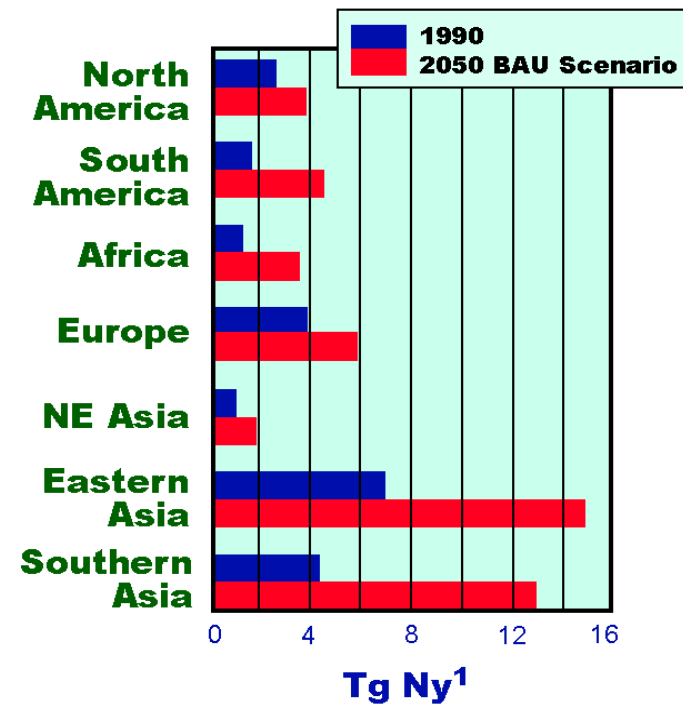
-  New England Fishery Management Council Region
-  Mid Atlantic Fishery Management Council Region
-  Shared Jurisdiction
-  Northeast U.S. Continental Shelf LME
-  LME Subdivisions
-  Marine Protected Areas (Fisheries)
-  Stellwagen Bank National Marine Sanctuary
-  Coastal Condition Assessments
-  NERRS Locations

Dead Zone of the Gulf of Mexico LME

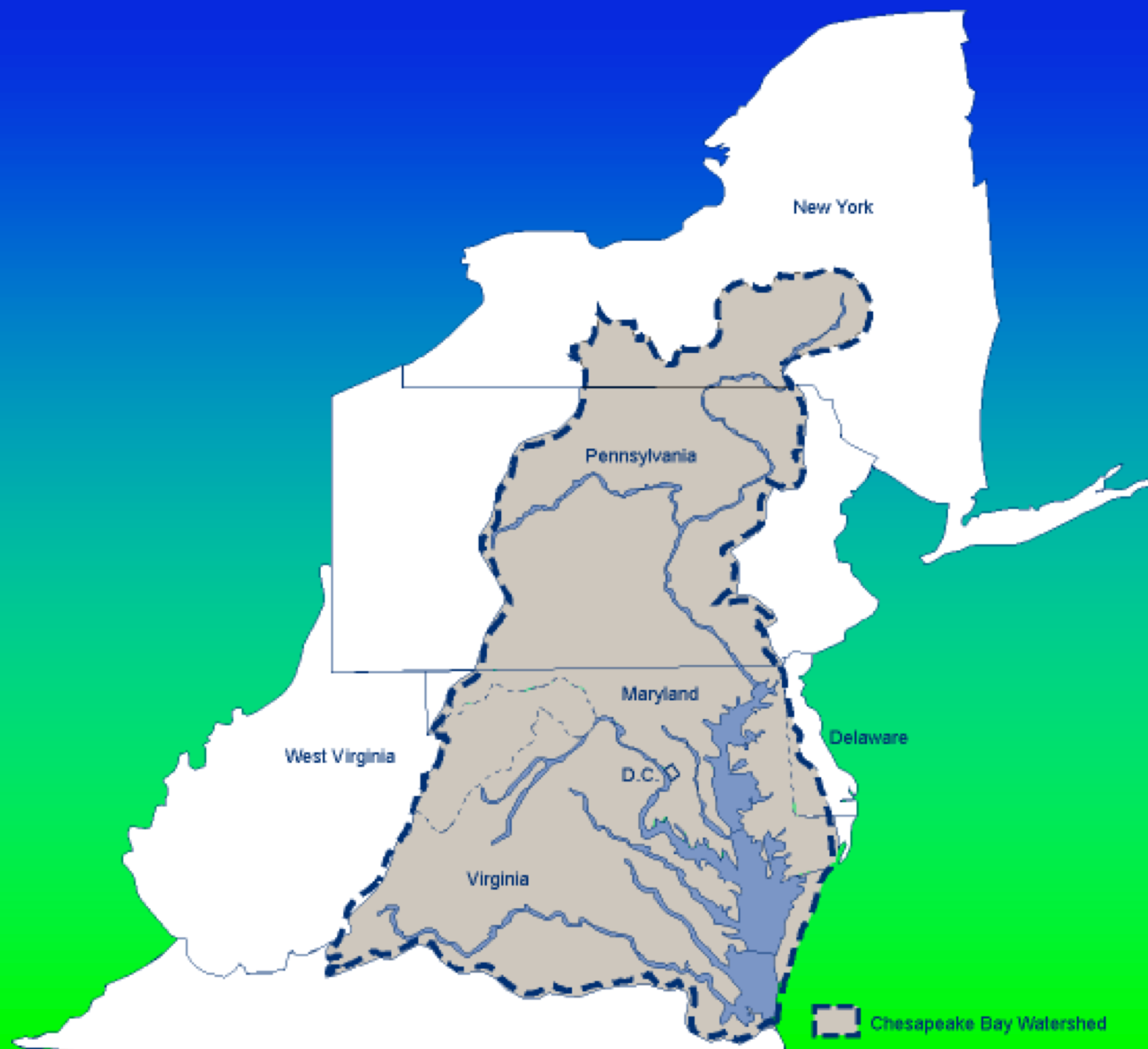


The Dead Zone reached a record high of 7,728 square miles in 1999

DIN Export by Rivers for World Regions



**US Commission on Ocean
Policy 2004 recommends that
the CZMA be amended to
expand boundaries to include
watersheds**



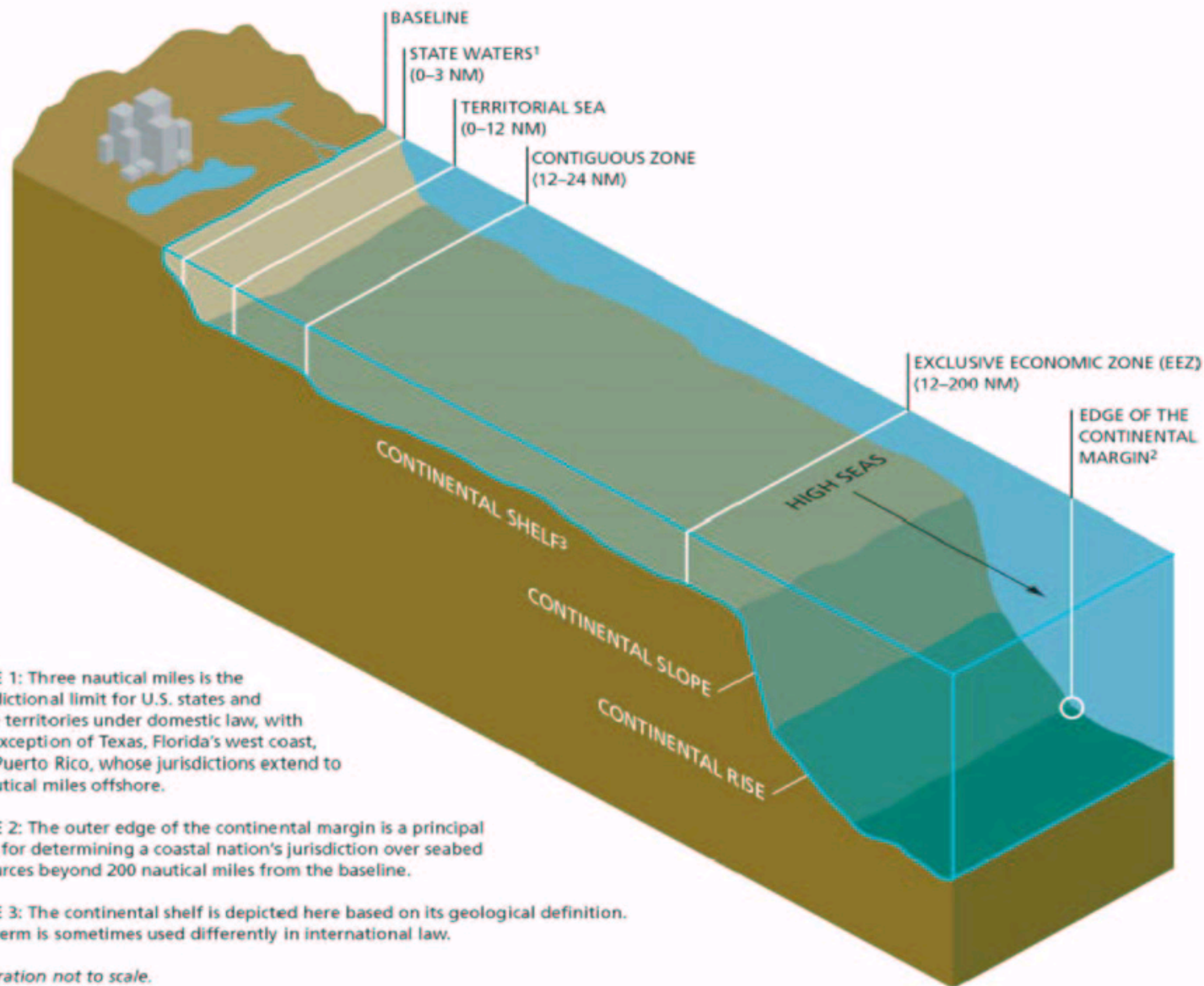
The Chesapeake Bay Tributaries Strategy: A Model of Regional Management

- **Three quarters of the pollution to Chesapeake Bay comes from non-point sources**
- **A tributaries strategy is developed independently by each bay state for major tributaries that drain from land in multiple states, such as the Potomac R. and the Susquehanna R.**

- Each state develops a plan for part of the watershed.
- These strategies are added together to assure the goals for nutrients and sediments are met for each river basin.
- The pollution reduction goals were cooperatively arrived at and adopted by the states in April 2003.
- Annual allocations for nitrogen, phosphorus, and sediments were set for the entire watershed and then subdivided into 9 river basins.
- These allocations were again subdivided by political boundaries, providing each of the bay states and the district with target allocations for each watershed in their jurisdiction.
- This yields 36 strategies for the 64,000 mi.² watershed.

**The states coordinate the strategy;
the Federal Government gives money through
the Chesapeake Bay Program, state
implementation grants, the Farm Bill and the
Clean Water Act Revolving Fund;
most of the necessary actions will be taken at
the local level.**

Figure P.1 Lines of U.S. Authority in Offshore Waters



NOTE 1: Three nautical miles is the jurisdictional limit for U.S. states and some territories under domestic law, with the exception of Texas, Florida's west coast, and Puerto Rico, whose jurisdictions extend to 9 nautical miles offshore.

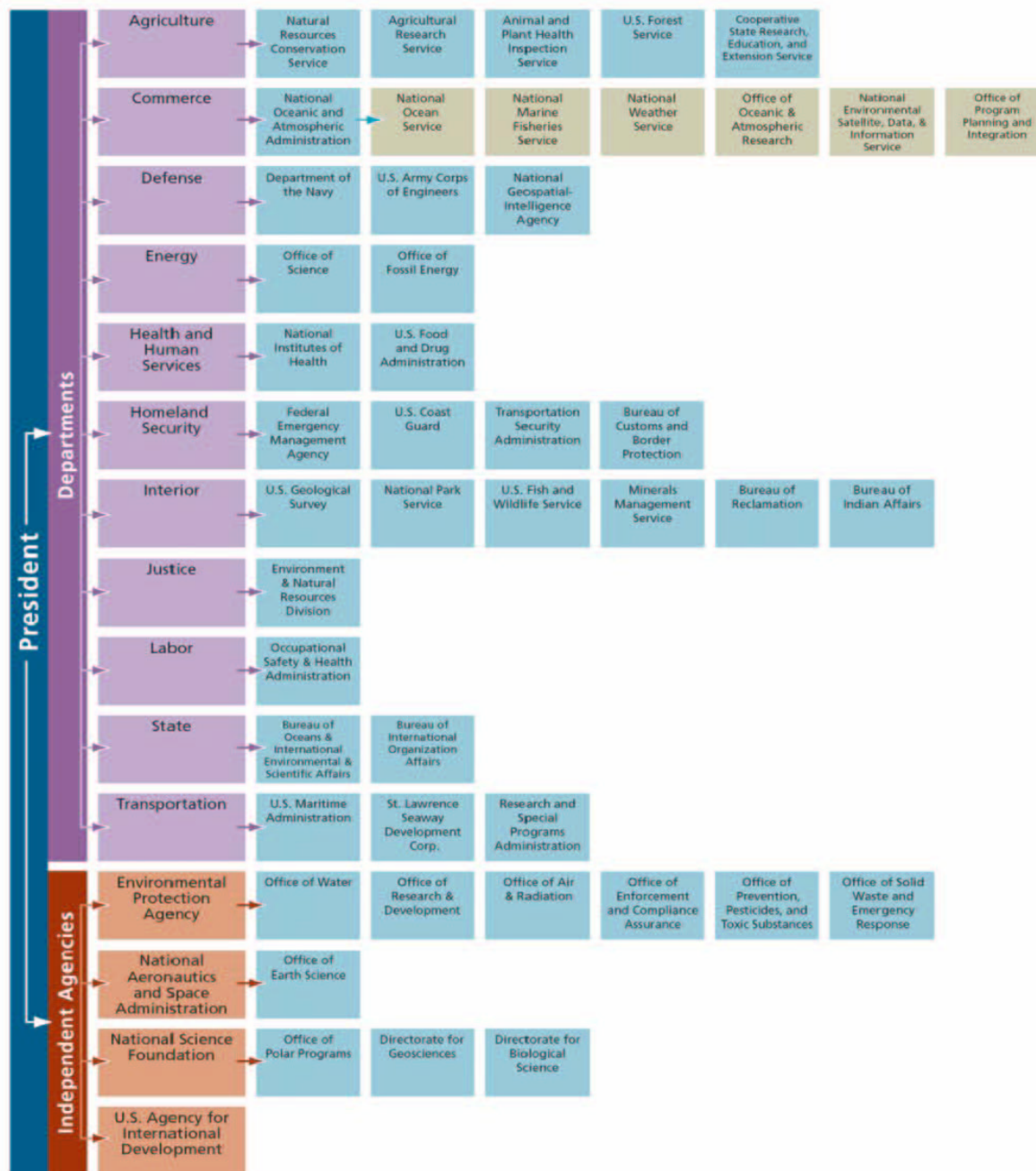
NOTE 2: The outer edge of the continental margin is a principal basis for determining a coastal nation's jurisdiction over seabed resources beyond 200 nautical miles from the baseline.

NOTE 3: The continental shelf is depicted here based on its geological definition. The term is sometimes used differently in international law.

Illustration not to scale.

Several jurisdictional zones exist off the coast of the United States for purposes of international and domestic law. Within these zones, the United States asserts varying degrees of authority over offshore activities, including living and nonliving resource management, shipping and maritime transportation, and national security. A nation's jurisdictional authority is greatest near the coast.

Figure 4.1 Ocean and Coastal Activities Are Conducted by Many Federal Departments and Agencies



The agencies and departments depicted have varying ocean and coastal responsibilities. Their number and variety make it clear that coordination is essential to effectively manage the nation's oceans and coasts.

Figure 5.1 Alignment of Federal Regions Is Essential for Communication



Shown above are the existing regional management areas for three federal agencies. Because these areas do not coincide, it is difficult for the agencies to coordinate and communicate about issues of common concern at the regional level. Furthermore, this lack of coordination impedes their ability to effectively interact with regional, state, territorial, tribal, and local entities on a regional basis.

The Ecology of Governance: Regional Ocean Councils

The region is the area from the inland coastal watershed to the offshore boundary of the EEZ

What areas are good candidates for regional management? The Chesapeake Bay, the Gulf of Mexico, the Gulf of Maine, the Northwest (Oregon, Washington and California)

Questions remain as to how federal and state programs and policies will be integrated and coordinated for these large areas.