

Session No. 29

Course Title: Coastal Hazards Management

Session Title: Federal Policy II: Coastal Zone Management Act; Coastal Barrier Resources Act

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Time: 50 Minutes

Objectives:

- 29.1 To understand the Coastal Zone Management Act and its role in mitigating the impact of coastal hazards.
- 29.2 To understand the Coastal Barrier Resources Act and its role in mitigating the impact of natural hazards.

Scope:

The purpose of this session is to continue the exploration of the role of national policy in managing development in the coastal zone in general, and more specifically, the role of federal policy in mitigating the impacts of natural hazards in the coastal zone.

This session will deal with two of the most important national policies that directly affect the coastal zone: the Coastal Zone Management Act and the Coastal Barrier Resources Act. These are national policies formulated to affect the coastal zone of the United States in particular ways, with little or no effect on non-coastal areas of the Nation.

Readings:

Instructor and Student Reading:

Beatley, Timothy, et al. 2002. *An Introduction to Coastal Zone Management*, 2nd Edition. Washington, DC :Island Press, pp. 101-110; 137-156.

Power Point Slides:

PowerPoint 29.1 Map of approved Coastal Management Programs

PowerPoint 29.2 CZMA Section 302(j)

PowerPoint 29.3 Some of the CZMA requirements for a State Coastal Management Program: Excerpts from Section 306(a) and (d)(2) of the Coastal Zone Management Act of 1972

PowerPoint 29.4 Some of the CZMA requirements for a State Coastal Management Program -**continued**

PowerPoint 29.5 Some of the CZMA requirements for a State Coastal Management Program -**continued**

PowerPoint 29.6 The "consistency doctrine": Section 307 of the Coastal Zone Management Act of 1972

PowerPoint 29.7 The "consistency doctrine": Section 307 -**continued**

PowerPoint 29.8 Coastal Zone Enhancement Grants: Section 309(a)(2) of the Coastal Zone Management Act

PowerPoint 29.9 Kinds of Coastal Barriers

PowerPoint 29.10 Kinds of Coastal Barriers -**continued**

PowerPoint 29.11 What is included in the Coastal Barrier Resources System?

PowerPoint 29.12 What is included in the Coastal Barrier Resources system - **continued**

PowerPoint 29.13 Map of North Carolina Coastal Barrier Resources Act (CoBRA) Boundaries

PowerPoint 29.14 Map of South Carolina Coastal Barrier Resources Act (CoBRA) Boundaries

General Requirements:

In addition to the assigned readings, the students should be asked to look at the official websites for the Coastal Zone Management Act and the Coastal Management Program, as

well as the Coastal Barrier Resources Act and the Coastal Barrier Resources System (including the maps). They should also look up the website of a state coastal management program, preferably of the state in which they live.

As with Session 28, the instructor has the option of presenting the material in this session as lecture, or may assign students or teams of students to make class presentations. Instructions for student presentations appear in Handout 28.1 which can be found in Appendix A to Session No. 28.

Objective 29.1 To understand the national Coastal Zone Management Program and how it may affect the impact of natural hazards on the coastal zone.

Requirements:

The content should be presented as a lecture supported by PowerPoint slides and class discussion. Alternatively, the material may be presented as a student presentation followed by class discussion.

The following slides will be used during this objective:

PowerPoint 29.1 Map of approved Coastal Management Programs

PowerPoint 29.2 CZMA Section 302(j)

PowerPoint 29.3 Some of the CZMA requirements for a State Coastal Management Program: Excerpts from Section 306(d)(2) of the Coastal Zone Management Act of 1972

PowerPoint 29.4 Some of the CZMA requirements for a State Coastal Management Program -**continued**

PowerPoint 29.5 Some of the CZMA requirements for a State Coastal Management Program -**continued**

PowerPoint 29.6 The "consistency doctrine" : Section 307 of the Coastal Zone Management Act of 1972

PowerPoint 29.7 The "consistency doctrine": Section 307 -**continued**

PowerPoint 29.8 Coastal Zone Enhancement Grants: Section 309(a)(2) of the Coastal Zone Management Act

Remarks:

What Is the Purpose of the Coastal Zone Management Act?

- In the early 1970's Congress passed the Coastal Zone Management Act of 1972 (CZMA) 16 U.S.C. 1451 *et seq*

[*PowerPoint 29.1*: Map of approved Coastal Management Programs]

- In passing the Act, the **legislature declared** that the **coastal zone** of the United States is of **tremendous importance to the entire nation**, not just to the individual coastal states, and that the **existing management programs** (largely state programs) were **not adequately managing** the coast.
- The Act establishes a national policy “to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation’s coastal zone for this and succeeding generations.”

How Does the CZMA Accomplish Its Purpose?

- The CZMA is administered by the US Department of Commerce, through the National Oceanic and Atmospheric Administration’s (NOAA) Office of Ocean and Coastal Resources Management (OCRM).
- One of the unusual aspects of the federal Coastal Zone Management Program (CZMP), which was established by the Act, is that it is **completely voluntary**. No state is required to participate, nor are they penalized if they choose not to participate.
 - Even though participation in the program is voluntary, **49 of the 50 states** have chosen to participate, and have federally approved Coastal Management Programs (the exception is Illinois).
- Rather than attempt to create a federal program to manage the coast, the CZMA **encourages the individual states to develop Coastal Management Programs** that would better manage the coastal zone.

[*PowerPoint 29.2*: CZMA Section 302(j)]

The CZMA Establishes a Flexible Program

- A state must respond to all of the requirements of the Act, but within that context, the **substantive content** of the state program is **left up to the state**.
 - This flexible approach was established in recognition of the great **differences in the nature of the coast** from state to state. For example,

Maine has a very different type of coastline than Georgia. (Recall the material presented in Sessions 2, 3, 4, and 5, which described the physical features of the coast)

- In addition, this flexible approach recognizes the many **social and political differences** evident in the coastal zone from state to state. (Recall PowerPoint slide 28.1 that showed the large number of political jurisdictions in the coastal zone; also recall the material presented in Session 11, "The Human Coast.")

CZMA Incentives for State Participation

- The Coastal Zone Management Act provides two strong **incentives for** states to formulate Coastal Management Programs:
 - The first incentive involves **grants**, authorized by Sections 305 and 306 of CZMA:
 - **Section 305** money is made available to the states to prepare their Coastal Management Programs (CMP).
 - **Section 306** money is made available to states to administer their approved Coastal Management Programs. The amount of the grant is based on "the extent and nature of the shoreline....covered by the program" and its population.
 - The second incentive is "**the consistency doctrine**," found in Section 307 of the CZMA, which will be discussed later in the session.
- Section 305 of the Act authorizes the Secretary of Commerce to make grants "to any coastal state" to "be used to develop a management program consistent with....**Section 306(d)(2)**..." of the Act.

[**PowerPoint 29.3** Some of the CZMA requirements for a State Coastal Management Program: Excerpts from Section 306(d)(2) of the Coastal Zone Management Act of 1972]

[**PowerPoint 29.4** Some of the CZMA requirements for a State Coastal Management Program -**continued**]

[**PowerPoint 29.5** Some of the CZMA requirements for a State Coastal Management Program -**continued**]

- **PowerPoint 29.3, PowerPoint 29.4** and **PowerPoint 29.5** contains excerpts of some of the most particularly relevant language from CZMA

Section 306(d)(2), but it would be instructive for the students to look at the entire section so they can get a feel for what a state coastal management program must include to qualify for Section 306 funding.

The Consistency Doctrine

- The second incentive to encourage the states to participate in the Coastal Zone Management Program is derived from **Section 307** of the CZMA, which reads in part:

all "federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved state management programs."

[**PowerPoint 29.6:** The "consistency doctrine": Section 307 of the Coastal Zone Management Act of 1972.]

[**PowerPoint 29.7** The "consistency doctrine": Section 307 -**continued**]

- The consistency provision covers activities and projects carried out **directly by a federal agency**, as well as activities and projects for which a **federal permit** or other form of approval is required.

Elements of a State Coastal Management Program

- The students should understand from the previous discussions of federalism that the federal **CZMA does not give the states legal authority to manage the coast**.
 - Instead, the CZMA “merely” (probably an understatement) **provides funds** to help the states to manage their coasts using existing state law in ways that **achieve national goals** as defined by Congress in the CZMA.
- The CZMA encourages the states to consider a number of substantive issues in their management programs, including:
 - providing public access to state beaches;
 - designating and managing areas of environmental concern;
 - improving water quality;
 - managing coastal hazards; etc.

Hazard Mitigation through State Coastal Management Programs

- In 1990 Congress added several additional activities that states may fund with CZMA authorized-grants including:

"Preventing or significantly reducing threats to life and destruction of property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level rise." (Section 309 CZMA)

[**PowerPoint 29.8:** Coastal Zone Enhancement Grants: Section 309(a)(2) of the Coastal Zone Management Act]

- With this amendment, Congress made **explicit** the need to mitigate the impacts of natural hazards as a part of state coastal management programs.
- Some states have been quite **creative** in establishing activities within their coastal management programs that are effective in **mitigating the impacts of natural hazards**.
 - These include:
 - *Shoreline management and retreat* e.g. setbacks, regulation of shoreline development, and shoreline stabilization.
 - *Regulating shore-hardening structures* e.g. seawalls, revetments, groins, and other shore "stiffening" structures.
 - *Managing reconstruction* of buildings damaged by a coastal hazard.
 - *Managing "unbuildable" lots* (lots that are unbuildable because of their proximity to hazards.
 - *Building codes and construction standards.*
 - *Coastal wetlands protection*
 - Policies to address *sea level rise*
 - *Land acquisition programs* (particularly multiple objective programs, such as combining beach access with the acquisition of unbuildable lots)

- Encouraging or requiring *local land use planning* that includes mitigation.
 - Encouraging or requiring the formulation of *Special Area Management Plans* that deal with coastal hazards.
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- **In summary:** the Coastal Zone Management Act offers financial and technical assistance to the states to formulate and implement Coastal Management Programs. Some critics feel that the program has not been as effective as it might have been due to political, institutional and fiscal limitations; but few, if any, would claim that the coastal zone is not better managed now than it would have been if the Coastal Zone Management Act had not been adopted.

Objective 29.2 To understand the Coastal Barrier Resources Act and its role in mitigating the impact of coastal hazards.

Requirements:

The content should be presented as a lecture supported by PowerPoint slides and class discussion. Alternatively, the material may be presented as a student presentation followed by class discussion.

The following slides will be used during this objective

[**PowerPoint 29.9** Kinds of Coastal Barriers]

[**PowerPoint 29.10** Kinds of Coastal Barriers -**continued**]

[**PowerPoint 29.11** What is included in the Coastal Barrier Resources System?]

[**PowerPoint 29.12** What is included in the Coastal Barrier Resources System - continued]

[**PowerPoint 29.13** Map of North Carolina Coastal Barrier Resources Act (CoBRA) Boundaries]

[**PowerPoint 29.14** Map of South Carolina Coastal Barrier Resources Act (CoBRA) Boundaries]

Remarks:

Development follows Infrastructure: The Reasoning Behind CoBRA

- It is a truism amongst students of urban growth and development that **development follows infrastructure**.
- Developers commonly wait until roads, power, potable water, and other capital improvements are in place before they proceed with development projects. This is especially true in fragile coastal areas where **infrastructure is often more expensive**, and extensive bridges and causeways are necessary.
- In common practice, these requisite improvements are put in place with the use of **public funds**, most often provided by the federal and state governments.
 - It is also common practice that when (*not if*, in most cases) these improvements are damaged by natural hazards they are **repaired or replaced** using public funds.
- **Arguments** against this type of public investment are many, and include such observations as:
 - The provision of publicly-funded infrastructure leads to a never-ending **cycle of build and repair**, build and repair, etc.
 - Public improvements make **vulnerable areas more attractive for development**, placing more lives and structures at risk from the impact of natural hazards.
 - Publicly-funded infrastructure operates in effect as **a subsidy for development** available only to the wealthy.
- The Coastal Barrier Resources Act (CBRA), passed in 1982 and amended in 1990 (16 U.S.C.1531 *et seq*), attempts to counter this trend in certain coastal areas.
- **CoBRA prohibits the expenditure of federal funds** for roads, wastewater systems, potable water supplies and disaster relief (including insurance under the National Flood Insurance Program) in areas that are **within the Coastal Barrier Resources System (CBRS)**.

The Nature of Coastal Barriers

[PowerPoint 29.9 Kinds of Coastal Barriers]

[*PowerPoint 29.10* Kinds of Coastal Barriers -continued]

- Coastal barriers in general include: islands, spits and mangrove marshes. (Recall slides from Session 3)
- It has been said that coastal barriers are to the mainland what a bumper is to a car.
 - The coastal barriers absorb much of the wind, wave and tidal energy before the energy moves onto the mainland.
- The barriers also provide habitat for a variety of wildlife and are, obviously, very attractive to humans (especially given the advent of air conditioning and refrigeration).
- The coastal barriers, by and large, consist of unconsolidated sediment (sand, gravel, etc). This makes the beaches delightful, but treacherous and very unstable for building.

The Coastal Barrier Resources System (CBRS)

- The Coastal Barrier Resources System consists of **585 "units"** of land that was undeveloped at the time the legislation was passed.
- Units in the System were mapped using **criteria developed by the US Fish and Wildlife Service** and approved by Congress.
- The total amount of land in the Coastal Barrier Resources System is nearly **1.3 million acres**, with about **1,200 miles of shoreline**.

[*PowerPoint 29.11* What is included in the Coastal Barrier Resources System?]

[*PowerPoint 29.12* What is included in the Coastal Barrier Resources System - continued]

- The CBRS System also includes 274 "**Otherwise Protected Areas.**" These are areas that are protected by some other legislation or management system.
 - "Otherwise Protected Areas" include **National Seashores**, which are owned and managed by the National Park Service. Park Service lands are protected by the legislation that applies to the specific Seashore. The CoBRA simply provides an additional deterrent to the development of these areas.

How Effective is CoBRA?

- It is important to recognize that the purpose of the Coastal Barrier Resources Act is merely to prevent federal funds from being spent within the CBRS. The Act applies only to the areas delineated in the CBRS and does not restrict activities of the private sector or state or local governments within the CBRS.

[**PowerPoint 29.13** Map of North Carolina Coastal Barrier Resources Act (CoBRA) Boundaries]

[**PowerPoint 29.14** Map of South Carolina Coastal Barrier Resources Act (CoBRA) Boundaries]

- Some argue that the fact that **many of the "units" have been developed** in spite of the Act demonstrates its **failure**.
- Others argue that since the purpose of the Act is simply to **prevent federal funds from being invested** in these areas, which has indeed been accomplished (for the most part), that the Act has **served its purpose**.
- Some critics have pointed a **major flaw** in the Coastal Barrier Resources Act that manifests itself in the context of recovery from a natural hazards disaster:
 - The Act **exempts** *"maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger system or network..."*
- Two issues have proved to be difficult in the administration of this portion of the Act:
 - The first issue involves the meaning of *"essential link in a larger system or network..."*?
 - The second issue involves the question of whether federal money can be used to fund the cost of the *"replacement"* of a damaged improvement, while private funds, or state and local funds, can be used to *expand* the improvement?

Class Discussion

- At this point, the instructor may wish to invite class discussion of the Coastal Barrier Resources Act and its effectiveness in stalling development on barrier islands. How effective has the Act been in keeping people and property out of these areas that are especially vulnerable to coastal natural hazards?

- Based on the provisions in CoBRA regarding the exemptions discussed above, does the Act open the door to expanded development of barrier islands using federal funds, despite the clear intent of Congress when it passed the legislation?

- The following example may help illustrate the issue for discussion purposes:

Suppose an 18-inch water line runs through a CoBRA unit. The pipe connects development on one end of the unit to a water supply on the other end of the unit. Now suppose the pipe is damaged in a coastal storm. Does CoBRA allow federal funds to be used to pay for the cost of replacing the 18-inch pipe? Can other funds, such as private financing or state and local government funds, be used to expand the pipe from 18 to 24 inches? What about the potential for more intense development that is made possible by the increased water capacity in the 24-inch pipe?

- Discuss the issues revolving around the provision of infrastructure on barrier islands that does not involve federal funding. Remember, CoBRA speaks only to activities of the federal government in specified CBRS units. Many local coastal communities wish to increase job opportunities and expand their tax base by encouraging development. Many states are eager for the same economic benefits, and are willing to invest in large infrastructure projects such as bridges and causeways to connect remote barrier islands with the mainland. Furthermore, some private developers are able to secure financial backing to allow them to construct their own infrastructure, such as roads, water and sewer. Because of the attractiveness of coastal barriers as vacation destinations, they are assured of a return on their investment. However, this development is extremely vulnerable to natural hazards. Who picks up the tab when structures are damaged? The state? The local government? The developer? The investors? The property owners? Discuss these issues.
 - The fact that federally-backed flood insurance is disallowed in CBRS units is often a more successful deterrent to development on coastal barriers. However, when expensive development is damaged by a natural hazard, should property owners expect recompense for their losses from the federal government? Should taxpayers subsidize development in hazardous coastal areas?
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