

*Environmental Science, Engineering and Technology*

# COASTAL ZONE MANAGEMENT

*Progress and Effectiveness*

Carla L. Perera  
Editor

NOVA

**ENVIRONMENTAL SCIENCE, ENGINEERING AND TECHNOLOGY**

# **COASTAL ZONE MANAGEMENT: PROGRESS AND EFFECTIVENESS**

**CARLA L. PERERA**  
**EDITOR**



---

**Nova Science Publishers, Inc.**  
*New York*

Copyright © 2011 by Nova Science Publishers, Inc.

**All rights reserved.** No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic, tape, mechanical photocopying, recording or otherwise without the written permission of the Publisher.

For permission to use material from this book please contact us:

Telephone 631-231-7269; Fax 631-231-8175

Web Site: <http://www.novapublishers.com>

### NOTICE TO THE READER

The Publisher has taken reasonable care in the preparation of this book, but makes no expressed or implied warranty of any kind and assumes no responsibility for any errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of information contained in this book. The Publisher shall not be liable for any special, consequential, or exemplary damages resulting, in whole or in part, from the readers' use of, or reliance upon, this material. Any parts of this book based on government reports are so indicated and copyright is claimed for those parts to the extent applicable to compilations of such works.

Independent verification should be sought for any data, advice or recommendations contained in this book. In addition, no responsibility is assumed by the publisher for any injury and/or damage to persons or property arising from any methods, products, instructions, ideas or otherwise contained in this publication.

This publication is designed to provide accurate and authoritative information with regard to the subject matter covered herein. It is sold with the clear understanding that the Publisher is not engaged in rendering legal or any other professional services. If legal or any other expert assistance is required, the services of a competent person should be sought. FROM A DECLARATION OF PARTICIPANTS JOINTLY ADOPTED BY A COMMITTEE OF THE AMERICAN BAR ASSOCIATION AND A COMMITTEE OF PUBLISHERS.

Additional color graphics may be available in the e-book version of this book.

### LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA

Coastal zone management : progress and effectiveness / [edited by] Carla L. Perera.

p. cm.

Includes index.

ISBN 978-1-61209-919-4 (hardcover)

1. Coastal zone management--United States. I. Perera, Carla L.

HT392.C625 2011

307.1'2097309146--dc22

2011004582

*Published by Nova Science Publishers, Inc. + New York*

**ENVIRONMENTAL SCIENCE, ENGINEERING AND TECHNOLOGY**

# **COASTAL ZONE MANAGEMENT: PROGRESS AND EFFECTIVENESS**

# **ENVIRONMENTAL SCIENCE, ENGINEERING AND TECHNOLOGY**

Additional books in this series can be found on Nova's website  
under the Series tab.

Additional E-books in this series can be found on Nova's website  
under the E-books tab.

## PREFACE

This book explores the background, progress and effectiveness of coastal zone management. Economic activity and people are increasingly concentrated in the coastal zone, as are important and often fragile natural resources. One way to address the resulting conflicts is through coordinated planning that attempts to foster wise development while protecting natural resources. In recent decades, pressures for both preservation and development have grown more intense at many locations, as people continue to migrate to coastal areas to take advantage of economic opportunities, to retire, and to pursue recreational interests.

Chapter 1- The Coastal Zone Management Act (CZMA) was first enacted in 1972, at a time when coordinated land use planning was generally supported in Congress. Planning was seen as central to protecting natural resources while fostering wise development in the coastal zone. Since 1972, pressures for both preservation and development have grown more intense as people continue to migrate to coastal areas to take advantage of economic opportunities, to retire, and to pursue recreational interests; as economic activities continue to concentrate in coastal locations; and as natural resources are threatened by the magnitude and location of these changes. The CZMA recognizes that many of these pressures are not compatible, and also that states (and in some states, local government) have the lead responsibility for planning and managing their coastal zones. The CZMA authorizes grants to states to develop and implement coastal management programs to address these pressures. The concepts behind the program combined with the modest grants have attracted 34 of the 35 eligible states and territories to participate. Although authorization for appropriations expired after FY1999, Congress continues to fund this program.

Chapter 2- In 1972, Congress enacted the Coastal Zone Management Act (CZMA) to protect the nation's coastlines from growing demands associated with residential, recreational, commercial, and industrial uses. The act encourages coastal states and territories to develop programs to manage and balance economic development and coastal protection. The National Oceanic and Atmospheric Administration (NOAA) administers the program and provides financial and technical assistance to participating states.

GAO was asked to provide information on (1) NOAA's methodology for awarding CZMA grants to the states, (2) the extent to which NOAA has processes for ensuring that grants are used in a manner that is consistent with the CZMA, and (3) the extent to which NOAA's state program evaluations and performance measurement system enable the agency to assess the effectiveness of the National Coastal Zone Management Program. GAO reviewed relevant laws, regulations, and documents and interviewed NOAA and the 34 state coastal program officials.

Chapter 3- The Coastal Zone Management Act (CZMA), passed in 1972, provides for management of our Nation's coastal uses and resources, and balances economic development with environmental conservation. Section 316 of the Act requires that the Secretary of Commerce report to Congress on the administrative progress of the Act biennially. This report addresses how the National Oceanic and Atmospheric Administration (NOAA) addressed these requirements, and/or where more information can be found outside of this report. The following table contains the required information per Section 316.

Chapter 4- The National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM) provides national leadership, strategic direction, and assistance to state and territory coastal management programs, estuarine research reserves, and other U.S. and international partners to sustain healthy coastal and ocean ecosystems. OCRM works with coastal resource managers in the states and territories, together with federal agencies, tribes, and other groups to improve scientifically based, comprehensive resource management. OCRM's work is mandated through by the Coastal Zone Management Act, the Marine Protected Area Executive Order, and the Coral Reef Conservation Act.

# CONTENTS

<b>Preface</b>		<b>vii</b>
<b>Chapter 1</b>	Coastal Zone Management: Background and Reauthorization Issues <i>Harold F. Upton</i>	<b>1</b>
<b>Chapter 2</b>	Measuring Program's Effectiveness Continues to be a Challenge <i>United States Government Accountability Office</i>	<b>35</b>
<b>Chapter 3</b>	Biennial Report to Congress on Administrative Progress of Coastal Zone Management <i>National Oceanic and Atmospheric Administration</i>	<b>93</b>
<b>Chapter 4</b>	Office of Ocean and Coastal Resource Management: Strategic Plan (2007-2012) <i>Carla L. Perera</i>	<b>163</b>
<b>Chapter Sources</b>		<b>179</b>
<b>Index</b>		<b>181</b>



In: Coastal Zone Management  
Editor: Carla L. Perera, pp. 1-33

ISBN: 978-1-61209-919-4  
© 2011 Nova Science Publishers, Inc.

## ***Chapter 1***

# **COASTAL ZONE MANAGEMENT: BACKGROUND AND REAUTHORIZATION ISSUES\***

***Harold F. Upton***

## **SUMMARY**

The Coastal Zone Management Act (CZMA) was first enacted in 1972, at a time when coordinated land use planning was generally supported in Congress. Planning was seen as central to protecting natural resources while fostering wise development in the coastal zone. Since 1972, pressures for both preservation and development have grown more intense as people continue to migrate to coastal areas to take advantage of economic opportunities, to retire, and to pursue recreational interests; as economic activities continue to concentrate in coastal locations; and as natural resources are threatened by the magnitude and location of these changes. The CZMA recognizes that many of these pressures are not compatible, and also that states (and in some states, local government) have the lead responsibility for planning and managing their coastal zones. The CZMA authorizes grants to states to develop and implement coastal management programs to address these pressures. The

---

\* This is an edited, reformatted and augmented edition of a United States Congressional Research Service publication, Report RL34339, dated September 29, 2010.

concepts behind the program combined with the modest grants have attracted 34 of the 35 eligible states and territories to participate. Although authorization for appropriations expired after FY1999, Congress continues to fund this program.

Congress has reauthorized or amended this act eight times since 1972, responding to changing issues combined with a continuing interest in assisting states to manage their coastal resources. Participants also have adjusted their programs to reflect their changing priorities. Since 1999, when the most recent reauthorization expired, Congress repeatedly has considered, but not enacted, reauthorization language. Reauthorization has proven difficult, in part, because the numerous stakeholders (broadly consisting of three groups: participants; use and development interests; and environmental interests) have divergent views about possible changes to the current approach and about which topics should be emphasized or eliminated from the purview of coastal management. Since the law expired in 1999, the context in which reauthorization legislation could be considered continues to change. These changes include events (such as Hurricane Katrina in 2005), new information (such as knowledge about places in coastal waters where biological activity ceases during some seasons, called "dead zones"), trends (such as rising energy prices), climate change, and other federal programs related to coastal issues.

Two bills, S. 1579 and H.R. 5451, were introduced to reauthorize the Coastal Zone Management Act during the 110<sup>th</sup> Congress. H.R. 5451 was reported by the House Committee on Natural Resources, Subcommittee on Fisheries, Wildlife, and Oceans, but no further action was taken. In the 111<sup>th</sup> Congress, several bills related to climate change adaptation, working waterfronts, and renewable energy planning have been introduced that would amend the Coastal Zone Management Act. However, a reauthorization bill has not been introduced, and it appears unlikely that reauthorization will be considered by the 111<sup>th</sup> Congress.

## INTRODUCTION

Economic activity and people are increasingly concentrated in the coastal zone, as are important and often fragile natural resources. One way to address the resulting conflicts is through coordinated planning that attempts to foster wise development while protecting natural resources. In recent decades, pressures for both preservation and development have grown more intense at

many locations, as people continue to migrate to coastal areas to take advantage of economic opportunities, to retire, and to pursue recreational interests; as economic activities continue to concentrate in coastal locations; and as coastal natural resources, such as estuaries, beach systems, and wetlands, are threatened by the magnitude and location of these changes. Views about how the coastal zone might be managed are also shaped by recent events, such as Hurricane Katrina and other natural disasters; by new information, such as knowledge about the so-called “dead zones” where biological activity ceases during a portion of the year; and by current trends, such as the health of the economy and rising energy prices; as well as by views about the appropriate role for the federal government in land use planning, including uses and activities on non-federal lands.

The Coastal Zone Management Act (CZMA, P.L. 92-532, 16 U.S.C. 1451-1464) was enacted in 1972, at a time when Congress was considering options to respond to widespread public concern about estuarine and oceanfront degradation. At the same time, it was also considering general national land use planning legislation to foster state (and local) planning capacity and coordination; bills were reported by Senate committees in 1970 and 1972 and passed the Senate in 1972 (S. 632 in the 92<sup>nd</sup> Congress), but not enacted. Many in Congress concluded that the challenges that national land use planning legislation was intended to address were most concentrated in coastal areas and needed immediate attention. The result was the CZMA, enacted with a promise by some congressional leaders to continue to pursue national land use legislation. These leaders stated that they intended to fold coastal management into this more encompassing legislation at a later date. Comprehensive land use planning legislation was never enacted, and Congress has not ventured beyond the CZMA with this approach to resource planning and management. Nevertheless, since 1972, many of the trends that called congressional attention to a need for this legislation have continued to grow.

## Coastal Population

Central to many of these trends is increasing coastal population. The number of people in coastal counties continues to grow, increasing by 33 million between 1980 and 2008. About 53% of the country's population is estimated to live in the 673 coastal counties, which is about 21% of all counties. Other measures of concentration are that 23 of the 25 most densely populated counties in 2003 were coastal, and about one-quarter of all seasonal

homes are found in coastal Florida.<sup>1</sup> Using coastal counties to measure the concentration of people and development greatly understates the degree of concentration, because in many counties, both are most heavily centered along the immediate coastline, which is the preferred site for high-value housing and the location of many service and recreational businesses. A significant byproduct of this pattern is that shoreline development has modified beach systems and other coastal landscapes. In some more rural coastal counties, a very high portion of the county tax base is often on the immediate coast.

Pressures on natural resources caused by the degradation that can accompany this development pattern have been documented repeatedly.

Looking at coastal population at the scale of states, almost 82% of the country's population lived in coastal states and territories, according to the 2000 census. In many of these, however, only a portion of the state is in the coastal zone, especially in larger states that extend far inland. Total state population and coastal zone population, as defined by each state that participates in the federal coastal program, are shown for each listed participant in the third column of the table in **Appendix C**.<sup>2</sup> According to the Office of Ocean and Coastal Resources Management (OCRM) in the National Oceanic and Atmospheric Administration (NOAA), an agency of the Department of Commerce where the federal coastal program is administered, about 11% of the area of the country is in these defined coastal zone areas. However, these coastal areas are home to more than 41% of the country's population. That also means that more than twice as many people live in coastal states but outside the coastal zone (about 40% of the total) as live in non-coastal states (about 18% of the total).

## **Coastal Environmental Threats**

In the 35 years since the CZMA was enacted, some of the trends leading to its enactment have been slowed or reversed, but many have not, and new issues have appeared. For example, development continues in coastal areas, but in many locations, more recent development includes environmental considerations, from protecting dunes and beaches to treating water, that were not a part of coastal developments more than 30 years ago. One example of a new issue is the growing awareness that sea levels will continue to rise, according to most experts, intensifying the exposure of property and people to hazardous conditions associated with major storms. Therefore, if the CZMA had never been enacted and one were to consider enacting a new CZMA

today, it might take a different form and be focused on a somewhat different collection of coastal topics.

## **CZMA Incentives**

The CZMA creates a structure where the 35 eligible states and territories (participants) can choose to apply for relatively modest federal grants from the OCRM. These grants can be used to address numerous coastal topics. Under the original law, Section 305 provided matching grants for up to three years to help fund initial preparation of coastal management plans.<sup>3</sup> While participation is voluntary, two incentives provided through the CZMA have attracted considerable interest. One incentive is the modest financial assistance in the form of grants under several sections of the law to implement their plans.<sup>4</sup> Participants have developed widely varying programs that emphasize different topics, within the rather general components identified in the law and defined in greater detail in regulation. A second incentive is the federal consistency provision in Section 307, which gives participants leverage with the federal government by requiring that any federal actions in or affecting the coastal zone be consistent with the coastal plan after it has been approved by NOAA. These incentives apparently have had the intended effect, as 34 participants are administering federally approved programs.<sup>5</sup>

## **PROVISIONS IN THE CZMA**

A review of the enacted reauthorization legislation, briefly summarized in **Appendix B**, shows that the underlying approaches of the program have changed little, even though the topics addressed through the programs have evolved. As noted above, the approaches have remained voluntary (with the notable exception of the Section 6217 program to address nonpoint source water pollution, discussed below, which was not enacted as an amendment to the CZMA), and participants continue to have wide latitude in what issues they choose to emphasize when implementing their programs.<sup>6</sup> The major provisions in current law are briefly summarized below. **Appendix A** contains a summary of the contents of every provision in the CZMA.

## Provisions in the CZMA

The basic approaches and procedures that were established in the initial law and in implementing regulations have been retained even though the CZMA has been amended eight times since 1972. These amendments responded to evolutionary changes in national coastal issues. For example, amendments in 1976 and 1978 addressed concerns about the potential environmental and coastal development impacts of accelerated and expanded offshore energy development. Major provisions in today's CZMA, as amended, include the following.<sup>7</sup>

*Section 303* is a declaration of policy. It identifies six purposes of the act, including "to preserve, protect, develop, and where possible, to restore or enhance" resources of the coastal zone; to assist states in implementing management plans for at least 11 listed purposes; to encourage special area management plans to improve predictable decision-making; to encourage intergovernmental cooperation; to encourage intergovernmental sharing of information; and to respond to changing circumstances affecting coastal environments.

*Section 306* authorizes grants to participants to implement approved programs. Programs are required to contain nine specified elements, and the participant must meet numerous specified procedural and substantive requirements. Procedures to be followed when participants modify or amend their programs are specified.

*Section 306A* establishes the Coastal Resources Improvement Program, which provides matching grants to participants to (1) preserve or restore resources that meet certain qualifications; (2) redevelop urban waterfronts; (3) improve access to coastal areas such as beaches; and (4) provide a process to develop aquaculture facilities.

*Section 307* authorizes the federal consistency provisions, which require that each participant be given the opportunity to certify that all federal actions in or affecting its defined coastal zone are consistent with its federally approved coastal management program. It also includes provisions for coordination and cooperation, and authorizes the use of "special area management planning."

*Section 308* establishes a fund to make loans to (1) address regional issues; (2) initiate demonstration projects; (3) respond to emergencies and disasters; (4) fund awards that recognize excellence (see *Section 314*); and (5) support the analysis and application of the public trust doctrine.

*Section 309* authorizes coastal zone enhancement grants for nine specified purposes, including (1) protecting and enhancing wetlands; (2) addressing natural hazards; (3) improving coastal access; (4) reducing marine debris; (5) developing procedures to address the secondary effects of coastal development; (6) fostering special area management planning; (7) planning for ocean resources; and (8-9) facilitating energy-related activities and aquaculture facilities.

*Section 315* establishes the National Estuarine Research Reserve System. Sites in this system, nominated by participants, are used as research and education centers. A system goal is to use sites in every coastal biogeographic region for comparative research projects.

In addition to the CZMA, a closely related program, called the Coastal Nonpoint Source Pollution Control Program (CZARA), was enacted in *Section 6217* of the Coastal Zone Reauthorization Act amendments of 1990, in the Omnibus Reconciliation Act of 1990 (P.L. 101-508, Title VI, *Section 6217*, 104 Stat. 1388-314). CZARA is a free-standing law rather than an amendment to the CZMA. It requires CZM participants to develop coastal nonpoint source pollution control programs as part of their coastal management efforts; it identifies program contents, the approval process, and what portion of federal coastal zone and water pollution assistance could be lost for noncompliance.

## IMPLEMENTING THE CZMA

### Federal Funding for Coastal Zone Management

After participant plans are federally approved, funds from a total of five accounts become available through the CZMA. The Office of Ocean and Coastal Resource Management in NOAA administers these accounts. These accounts include three types of management grants, funds to address nonpoint source pollution, and support for participation in the National Estuarine

Research Reserve System. The basic management grant to implement the program is provided under Section 306. Section 306A, added in 1980, provides additional grants to participants who are satisfactorily implementing their programs to address four specific topics, listed above. Section 309, added in its current form in the 1990 amendments, provides grants for nine specified enhancement areas, also listed above, on a competitive basis.

Total funding for these three grant programs was last authorized at \$50.5 million in FY1999. No percentage or dollar amount is specified for the Section 306 or Section 306A grants, and between 10% and 20% of the total appropriated for Section 306 and Section 306A is to be made available for Section 309 grants, up to an annual ceiling of \$10 million. In FY2010, Congress has provided \$68.1 million to implement these programs.

A fourth source of grants was added in 1990 with enactment of the CZARA to more effectively manage nonpoint source water pollution that degrades coastal waters. CZARA was enacted in conjunction with the 1990 CZMA amendments, but is a free-standing law rather than an amendment to the CZMA. The program provides implementation and planning grants. Annual funding has decreased from nearly \$10 million to \$3.9 million in FY2008 and FY2009. CZARA was not funded in FY2010.

The Estuarine Research Reserve System, authorized by Section 315 of the CZMA and currently consisting of 27 units, receives funding for land acquisition, facility construction, and operations. Operations include research and education programs and coastal monitoring. Total funding in FY2010 is \$27.4 million, of which \$23.5 million is for operations and \$3.9 million is for acquisition and construction.

## **The Consistency Provisions**

The consistency provisions in Section 307 require that each participant be given the opportunity to certify that all federal actions in or affecting its defined coastal zone be consistent with its federally approved coastal management program. Federal actions include not only construction projects, but also financial assistance and the issuing of federal licenses and permits. Historically, states have concurred with about 95% of the federal actions they have been asked to certify.

However, when a participant disagrees with the federal agency proposing an action as to whether that action will be consistent with the participant's plan, there is an appeals process. If agreement is not reached during any of the



steps in this process, a final determination is made by the Secretary of Commerce. To date, 43 consistency decisions have been subjects of these secretarial determinations, and an additional 62 have been settled or withdrawn after they reached the secretarial level but before a determination was made. Of the 43 decisions, 29 have been made in favor of the participant and 14 in favor of the applicant. The subject of 18 of these appeals has been offshore energy activities, and half of these (9) have been decided in favor of the participant. Currently, one appeal is pending.<sup>8</sup>

It is widely believed that the existence of the consistency requirement and the uncertainty of the outcome of an appeal have led applicants to negotiate with states and to modify proposed actions early on, thereby reducing the number of appeals. However, there are no data on the number of proposed actions that have been altered because of the consistency process.

## **The National Estuarine Research Reserve System**

The National Estuarine Research Reserve System is a network of protected areas nominated and administered by participants. The areas are protected as sites for long-term and comparative research, education, and stewardship. The federal program provides matching funds to acquire sites, up to a maximum of \$5 million. It provides 70% of the funds for operating and managing the reserves, as well as construction of facilities and activities related to education.

The national system was set up to include sites representing each of 11 coastal biogeographical regions and 29 subbiogeographical regions that are found in the coastal United States.<sup>9</sup> To date, 27 units have been designated in 19 subbiogeographical regions. Units have been designated since 1974 (the first was South Slough, Oregon). The most recent designation was made in May 2006 (Mission-Aransas, Texas). The system encompasses 1.1 million acres of estuarine lands and waters, and coastal wetlands. The sites range in size from 571 acres (Old Woman Creek, Ohio) to 365,000 acres (Kachemak, Alaska).

## **Monitoring and Evaluating Participant Programs**

Information about participant programs is gathered during periodic evaluations. These evaluations are conducted on a multi-year cycle (generally