

State Ocean Management Plans and Policies:

Synthesis Report



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Prepared by the South Carolina Dept. of Health and Environmental Control,
Office of Ocean and Coastal Resource Management

in cooperation with the

Belle W. Baruch Institute for Marine and Coastal Sciences
University of South Carolina

Braxton C. Davis
Kathleen E. Semon
Melissa S. Rada

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Executive Summary

Coastal states have management authority over living and nonliving marine resources in nearshore waters (usually within three nautical miles of the shoreline). Activities that may impact marine resources in this area, from sand mining to oil and gas exploration, often fall within the scope of state coastal zone management programs authorized under the federal Coastal Zone Management Act. State coastal programs have employed a variety of approaches to plan for and manage ocean resources. The objectives of this report are to clarify other states' experiences in ocean management to support the potential development of an ocean management plan for South Carolina.

Section 1 of this report includes a summary of ocean management initiatives in Oregon, North Carolina, Washington State, Massachusetts, California, and Florida, as well as regional ocean planning efforts in the Gulf of Maine and Gulf of Mexico. A number of these coastal states have utilized funding from Coastal Zone Management Act – Section 309 Enhancement Grants and/or Sea Grant programs to create ocean planning task forces or advisory boards to scope a variety of issues affecting ocean resources and to develop long-term, strategic, policy-focused plans. State ocean planning initiatives were often launched in response to offshore energy development proposals, and planning efforts were largely organized around specific issues rather than geographic subregions of the coastal zone.

Section 2 presents lessons learned through interviews with officials involved in these efforts. Representatives from other states emphasized the importance of public and local government involvement. Potential obstacles and challenges in ocean management planning included a lack of information and funding, conflicting missions across agencies, lack of staff resources, and continuing political support.

Section 3 describes current issues related to ocean resources in South Carolina, including growing pressures for sand mining, port expansion, and offshore oil and gas exploration. This section also describes the past involvement of the SC Coastal Management Program

in ocean-related activities, and a summary of the specific policies of the SC Coastal Program Document (as amended) to provide a foundation for ocean resource planning. These include policies regarding ports, mineral extraction, aquaculture, recreation and tourism, wildlife and fisheries management, artificial reefs, dredging, underwater salvage, erosion control, and beach and shoreline access.

Section 4 presents several steps that might be taken to initiate development of an ocean management plan for South Carolina, including the creation of a temporary task force of representatives from relevant federal and state agencies and local governments with an initial focus on the “scoping” of current ocean management issues and priorities.

Introduction

The federal Submerged Lands Act (43 USC 1301 et seq.) provides coastal states with management authority over marine resources, both living and nonliving, generally within three (3) nautical miles of the shoreline.¹ These nearshore waters include critical habitats for commercially and recreationally important fisheries, as well as significant mineral and sand resources. Due to their proximity to land, state waters are also subject to a growing range of human activities. Use conflicts are common, and management decisions must be made to mitigate human impacts on sensitive coastal resources. Activities ranging from sand mining, to submerged cables, to oil and gas exploration often fall under the purview of state coastal zone management programs.

In accordance with the Coastal Zone Management Act of 1972 (CZMA; 16 USC 1451 et seq.), coastal states and territories are authorized to develop coastal management programs to address a range of coastal activities and resources, including ocean resources and uses. In some states, coastal management programs play a lead role in regulatory and policy development for ocean resources within state waters. In addition, the unique “federal consistency” provision of the CZMA affords state coastal programs significant influence over federally-conducted or supported activities in offshore waters that might impact the state coastal zone (Lowry et al., 1993; Davis, 2001). Under 1990 amendments to the CZMA, state coastal management programs also became eligible for supplemental federal funding to support “planning for the use of ocean resources” through “enhancement grants” (Section 309).

The concept of ocean resource planning and management has gained popularity among state coastal management programs over the past decade (Cicin-Sain et al., 1990; Hildreth, 1995). This report seeks to clarify other states’ experiences in defining ocean management policies and developing ocean management plans, and is intended to support the potential development of an ocean management plan for South Carolina. In Section 1, ocean management activities, plans, and policy frameworks of other coastal states are

¹ South Carolina follows this general rule, with state waters extending from the shoreline to 3 nm offshore. However, some states’ jurisdiction extends beyond 3 nautical miles.

presented based on a review of relevant literature and agency websites. In addition, “lessons learned” during the development and implementation of these ocean management frameworks are presented in Section 2, based on interviews with key participants in several states. In Section 3, South Carolina’s existing ocean management policies are reviewed to provide a foundation for future ocean policy initiatives.

Section 1. Ocean Management Frameworks in Other Coastal States

A 1995 review found that coastal states have used a variety of approaches in planning for and managing ocean resources (Hildreth, 1995). In some cases, states have not taken up the issue; in others, states have developed comprehensive management plans and coordinated across local, state, and federal jurisdictions. The 1995 report found that several states had used funding available under the CZMA to support ocean management planning by coastal management programs. State ocean planning efforts were also found to have involved three basic forms (Hildreth, 1995):

- 1) ocean policy reports prepared by staff of state universities, legislatures, or agencies and which contain recommendations of potential legal significance;
- 2) intergovernmental state ocean planning councils or task forces with user and citizen group representation (sometimes established by legislation, although not all recommendations had force of law);
- 3) state legislation and implementing agency regulations using area-based approaches (marine managed areas) to comprehensively address multiple use issues (see also Davis et al., 2003; Davis and Lopez, 2004).

Following a review of ocean policy developments on the West Coast, Hershman (1999) described a broadening scope of state involvement in ocean issues, a shift in policies related to fisheries management and ports (dredging, intermodal coordination, and environmental policy), and an increased involvement of local governments in ocean planning. The following subsections provide a detailed and updated summary of the governance frameworks, policies, and experiences of U.S. coastal states in ocean management.

Oregon

Public concerns over the use of beaches prompted the 1971 Legislature to organize the Oregon Coastal Conservation and Development Commission to prepare a plan for the Oregon coast. This plan laid a foundation for policies regarding the management and protection of all coastal resources, including the ocean. Ocean resources were addressed as part of Oregon's comprehensive planning program in 1977, when Statewide Planning Goal 19 (Ocean Resources) was adopted by the Oregon Land Conservation and Development Commission as one of four statewide coastal goals (the other three relate to Estuarine Resources; Coastal Shorelands, and Beaches and Dunes) (Oregon DLCD, 2005). Ten years later, proposals for ocean oil, gas, and hard mineral leasing prompted the state legislature to create an Ocean Resources Task Force to prepare an ocean plan with policy and program recommendations. The Task Force completed an "Oregon Ocean Resources Management Plan" in 1990 with policy recommendations for the entire U.S. Exclusive Economic Zone (EEZ), up to 200 nm offshore of Oregon's coast (Oregon DLCD, 2005). The "Ocean Plan" focused specific policies toward an "Ocean Stewardship Area" from 0-50 nm offshore (Figure 1). In response to the Task Force's recommendations, the 1991 Oregon legislature passed the Oregon Ocean Resources Management Act (ORS 196.405 – 515), which created an Ocean Resources Program and designated the Department of Land Conservation as the lead state agency for ocean planning efforts. The law referenced "applicable elements" of Oregon's Coastal Management Program (OCMP), which partners with coastal local governments, state and federal agencies, and other stakeholders to ensure that Oregon's coastal and ocean resources are managed, conserved, and developed consistent with statewide planning goals (Oregon DLCD, 2005).

An Ocean Policy Advisory Council (OPAC) was also permanently established in 1991 to: 1) provide coordinated policy advice to the Governor, state agencies, and others; and 2) prepare a plan for Oregon's Territorial Sea, the three (3) nautical miles of water adjacent to the shore. Current OPAC membership includes ocean users (such as commercial and recreational fishermen, coastal tribes, and environmental groups), local governments, and other interested parties; as well as seven state agencies (almost all agencies with direct

authority over management, policy, or programs that affect the marine environment), Oregon Sea Grant, and other non-voting members. The OPAC continues to meet quarterly with staff support from the DLCD (Oregon DLCD, 2005). While the Ocean Policy Advisory Council has no regulatory authority, state agencies are required to carry out or act consistently with the Council's recommended policies once approved by the Land Conservation and Development Commission as a part of Oregon's Coastal Management Program (Oregon DLCD, 2005). Using the earlier Ocean Plan as a framework, and holding statewide public input meetings and working with federal partners, the council spent three years developing a "Territorial Sea Plan," which focused on state waters out to 3 nm. The Territorial Sea Plan established policies and procedures,

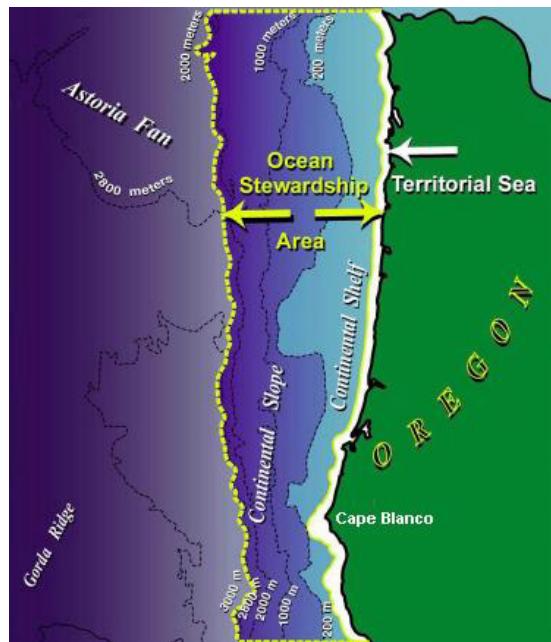


Figure 1. Ocean Stewardship Area as defined in Ocean Resources Management Plan.

coordinated state agencies, and provided a strategy for protecting rocky shores. The plan was approved as part of the Oregon's Coastal Management Plan in 1994, and was amended in May 2001 (Oregon DLCD, 2005).

Oregon's Ocean Resources Program involves policies and partnerships related to a wide range of issues, including federal oil and gas leasing, offshore minerals mining, directing commercial uses, protecting marine habitat, and managing sand and water quality (see State Ocean Issues Matrix, Appendix A). For example, the OPAC has recently assessed the feasibility of a commercial kelp-leasing program for state waters; managing sand in littoral cells; and determining the location of ocean outfalls for sewer facilities. The council also helped establish rules for the laying of fiber-optic cables, and is currently addressing whether the state should establish marine protected areas (Coastal Services Center, 2003).

North Carolina

North Carolina's former Marine Science Council originally formed an "Ocean Policy Committee" in 1983 to develop a report on ocean policy issues (NC Marine Science Council, 1984). The report identified sixteen ocean policy issues important to the state at the time. A decade later, the N.C. Dept. of Environment's Division of Coastal Management received a Coastal Zone Enhancement Grant from NOAA to develop an Ocean Resources Management Plan consisting of 1) an ocean governance study (Clark and Whitesell, 1994); 2) digital maps of ocean conditions, resources, and uses; and 3) enforceable policies for resource and use issues. The first step toward the development of the plan was a multi-disciplinary conference held at the University of North Carolina at Wilmington in 1993 to: 1) define significant coastal ocean resources, their status and trends; 2) identify key resource users, conflicts, and existing management frameworks; and 3) identify policy recommendations and options (Hart et al., 1994).

The Division of Coastal Management also formed a NC Ocean Resources Task Force to provide guidance on the development of the state ocean plan. Task force members included scientists, ocean users, local government representatives, and state and federal agency resource managers. The task force met quarterly from 1993 to 1995, and published a series of policy recommendations (NCDEP-DCM, 1995). In November 1996, the NC Coastal Resources Commission responded by endorsing resolutions to establish

by statute an “ocean stewardship zone,” and providing for a local government jurisdictional boundary and authority to regulate certain ocean activities. State legislation has been drafted but not yet adopted (NOAA, 1999). A South Atlantic *regional* ocean management conference was also held in North Carolina in 1995 (Crawford and Lopazanski, 1995).

More recently, North Carolina developed a “Coastal Habitat Protection Plan,” which addresses all essential fish habitats in North Carolina waters, including “wetlands, fish spawning grounds, estuarine or aquatic endangered or threatened species, primary or secondary nursery areas, shellfish beds, submerged aquatic vegetation (SAV) beds, and habitats in outstanding resource waters” (N.C.G.S. §143B-279.8). The plan provides the state’s three coastal regulatory agencies with science-based recommendations to mitigate the impacts of coastal development. The plan was adopted in December 2004, and implementation plans were adopted in the summer of 2005. In addition, the NC Division of Coastal Management, Division of Marine Fisheries, and the Environmental Management Commission are required to make new laws and regulations consistent with the plan (see Street et al., 2005).

Six ocean-related issues were identified for consideration by the Ocean Task Force in the early 1990s: hard mineral mining (phosphate, sand, and gravel), pollution (ocean outfalls, dumping, and littering), marine fisheries, Outer Continental Shelf oil and gas activities, recreational uses, and natural and cultural resources that might need special protection (marine protected areas). The ocean plan was then divided into three sections: ocean resource data in GIS format (jurisdictional boundaries, bathymetry, OCS lease blocks, shipwrecks, artificial reefs, hardbottom areas, sea bird concentration areas, and sample sites for phosphate deposits); an ocean management study (Clark and Whitesell, 1994); and enforceable state policies (Crawford and Lopazanski, 1995).

The NC Ocean Task Force also presented recommendations to the North Carolina Marine Fisheries Commission. In response, the state legislature enacted a moratorium on new commercial fishing licenses and considered a proposal to initiate a sport fishing license.

The NC Coastal Resources Commission also implemented a number of recommendations, including amendments to the State's coastal energy policies to clarify policies, expand the definition of energy facilities to include drill ships and onshore support structures, and provide criteria for the placement of facilities. The amendments also provided greater protection to critical habitats by restricting activities to less biologically productive periods, avoiding sensitive habitat where possible, and requiring habitat restoration for abandoned facilities (NOAA, 1999).

Washington State

In Washington State, a series of ocean planning efforts and a state legislative select committee report resulted in the enactment of the Ocean Resources Management Act in 1989 (Chapter 43.143 RCW; Hildreth 1995). The Ocean Resources Management Act also extends the state's "interest" in management of federal waters and states a preference for activities that utilize renewable resources over non-renewable resources. The planning process allows activities that will adversely impact renewable resources only if certain criteria are met including mitigation for impacts. The law prohibits the leasing of tidal or submerged lands for oil and gas exploration, production, or development in state waters, and establishes guidelines for plans and project reviews that impact ocean resources. In August 2005, a Washington Ocean Policy Work Group was formed through a budget proviso for the Governor's office to: 1) review the newly released U.S. Ocean Commission's report and the President's Ocean Action Plan; 2) evaluate the condition of the state's ocean resources; and 3) provide recommendations for improving ocean management in Washington State. The Work Group consists of 20 members, including representatives from state agencies, legislators, representatives of the Governor's office, coastal resource stakeholders (fishing and ports), local governments, and tribal observers, who have been tasked with compiling recommendations for immediate actions that the Governor should consider for more effective ocean governance. To aid the Ocean Policy Work Group, the University of Washington's School of Marine Affairs provided background research and consulted with work group members on potential steps the State might take in each topic area. The School of Marine Affairs also publishes a periodic

newsletter with updates on Washington ocean policy, as well as relevant policy updates from around the country (University of Washington, 2005).

The Washington Ocean Policy Work Group agreed on an initial list of issues to be addressed, and identified a lead on each issue. The Work Group has focused on issues not well covered by existing governmental authorities, and on ocean waters (outer coast of Washington State), the Strait of Juan de Fuca, and San Juan Islands rather than on Puget Sound and the Lower Columbia regions where active regional management entities already exist. Topics currently being addressed include ocean research and observation, governance, economic development, sustainable fisheries, aquaculture, ocean energy development, climate change, erosion and sediment management, coastal hazards, ecosystem-based management, and ocean education. The Ocean Policy Work Group will provide a final report with recommendations on these issues to the Legislature by December 31, 2006.

Massachusetts

In response to increasing proposals for new offshore uses, including renewable wind and wave energy projects, liquefied natural gas (LNG) pipelines and terminals, and sand and gravel mining, the Massachusetts Ocean Management Initiative was initiated in 2003 to develop a plan for multiple ocean uses. An “Ocean Management Task Force” was established to spearhead this initiative, and included 23 private and public sector scientists, ocean users, non-governmental environmental organizations, local government representatives, legislators, and state and federal agency resource managers. The Task Force held numerous public meetings before concluding their work in March 2004 (MCZM, 2006). The Task Force’s recommendations and guiding principles were then published in a final report (Massachusetts Ocean Management Task Force, 2004).

In response to Task Force recommendations, ocean management legislation was proposed in 2005 (H. 2602; S. 529). The proposed law would authorize state agencies to develop a statewide Ocean Management Plan to manage, develop, and protect natural and

economic ocean resources within state waters. The Ocean Plan would be intended to provide guidance on improvements to existing regulatory processes, and to ensure the coordination of state agency activities with respect to ocean resources (MCZM, 2006). This legislation was approved by the State Senate, but did not make it through the House of Representatives before the close of the 2006 legislative session. It was unclear at the time of writing if similar legislation will be filed in the next legislative session, which begins January 2007.

The Ocean Management Task Force developed sixteen overarching recommendations that focused on strengthening state agencies to address environmental, planning, and public trust issues in both state and federal waters; improving management of federal waters; and initiating ocean education and stewardship initiatives. The Task Force also developed six “guiding principles” for ocean resource management: 1) protecting the public trust; 2) valuing biodiversity; 3) respecting the interdependence of ecosystems; 4) fostering sustainable uses; 5) making use of the best available information; and 6) encouraging public participation in decision-making (Massachusetts Ocean Management Task Force, 2004).

California

California has an extensive history of ocean management initiatives, beginning with the first “*Governors Conference on California and the World Ocean*” in 1964, the subsequent formation of the Governor’s Advisory Commission on Ocean Resources, and the publication of a comprehensive report entitled “*California and the Use of the Ocean*,” in 1965. Over the next two decades, ocean resources were addressed during the development of the state coastal zone management program. Then, following a statewide workshop on ocean management, the 1989 state legislature enacted the California Ocean Resources Management Act (CORMA; Chap. 1215, Stats. 1989), mandating the development of a report on statewide ocean management activities. The law was amended in 1991 to transfer all responsibility for marine and coastal resource management programs to the Secretary for Resources. Duties and responsibilities

transferred include all executive branch delegations regarding review and coordination of federal outer continental shelf (OCS) oil and gas lease sales and development projects; policy coordination of resources management and uses in the Exclusive Economic Zone (EEZ); state representation on the Coastal States Organization and the Department of the Interior's OCS Policy Committee; and any other involvements in marine and coastal resource matters (CA Resources Agency, 1997).

The Resources Agency published a detailed report in 1997 that outlined the State's economic and institutional framework for ocean planning and governance, including an inventory of State and federal laws, rules, resolutions, authorities, and programs pertaining to ocean resources (*California's Ocean Resources: An Agenda for the Future*; CA Resources Agency, 1997). The report also included recommendations for improving the protection of ocean resources and dealing with use conflicts. The state then hosted an international conference entitled "California and the World Ocean," which focused both on California's ocean issues and national and international ocean governance issues. Following release of the draft report, the agency held a series of public meetings in coastal municipalities to solicit comments, which were integrated into the final report.

More recently, California responded to the reports of the US Ocean Commission and Pew Oceans Commission with a new ocean management initiative intended to build on progress achieved since the 1997 report. In 2004, the Governor called for the development of an Ocean Protection Action Plan to provide a series of short-term recommendations for improved ocean management in the state. Also in 2004, the California Ocean Protection Act (S.B. 1319) was passed by the state legislature. The law established the California Ocean Protection Council (OPC), which consists of representatives from the Departments of Resources and Environmental Protection; State Lands Commission; the Lieutenant Governor; and two ex officio members from the state legislature. The Council is intended to help coordinate and improve the protection and management of California's ocean and coastal resources, and implement the Governor's "Ocean Action Plan" released in October 2004. The law also established an "Ocean Protection Trust Fund" to support ocean management and research activities.

The 1997 Ocean Agenda strategy identified and addressed nine ocean management issues facing the State of California. Specific recommendations were made to help achieve the mission and goals of the Ocean Program. The first three chapters of the report addressed natural processes and some uses which affect these processes (Habitats and Living Resources; Water Quality; and Shoreline Erosion). The remaining six chapters addressed specific issues affecting ocean resources or their management (Ports and Harbors; Oil, Gas and Other Mineral Resource Extraction; Vessel Traffic Safety; Tourism and Recreation; Education, Research and Technology; and Desalination -- Producing Potable Water). The new California Ocean Action Plan addresses governance issues; economics and funding; research, education and technology development; and stewardship activities (see also Appendix A).

As recently as August 2006, the California Ocean Protection Council released its Five-Year Strategic Plan “A Vision for Our Ocean and Coast”. The Plan identifies the goals, objectives, and strategies OPC will implement over the next five years to protect ocean and coastal resources. The Plan’s goals include: enhancing the capacity and performance of agency programs to meet the goals of the California Ocean Action Plan; improve understanding of ocean and coastal ecosystems; significantly improve ocean and coastal water quality; significantly improve the quantity and quality of ocean and coastal habitat; increase healthy ocean and coastal wildlife populations and communities; and promote ocean and coastal awareness and stewardship (A Vision for Our Ocean and Coast 2006).

Florida

A 1989 report entitled *Florida's Ocean Future: Toward a State Ocean Policy* was considered the first step for the state in developing a comprehensive ocean policy. In 1997, a follow-up report entitled *Looking Seaward: Development of a State Ocean Policy for Florida* was intended to provide additional background and perspective for taking the next steps toward ocean policy development (Christie et al, 1997). Since then, the focus of ocean planning has been on ocean research priorities. Florida's 2005 Legislature

created the Florida Oceans and Coastal Resources Council to develop yearly priorities for ocean and coastal research, establish a statewide ocean research plan, and coordinate public and private ocean research for more effective coastal management. The Council is comprised of 3 nonvoting members and 15 voting members appointed by the Dept. of Environmental Protection (DEP), Florida Fish and Wildlife Conservation Commission (FWC), and the Dept. of Agriculture and Consumer Services (DACS) (FOCRC, 2006). The Council must submit an Oceans and Coastal Scientific Research Plan to the Legislature recommending priorities for scientific research to receive funding. This plan must be updated annually. The Council must also prepare a comprehensive oceans and coastal resource assessment that serves as a baseline of information to be used in assisting in its research plan (FOCRC, 2006). In addition to research planning, the Council must provide recommendations on management strategies (e.g. integrated data management).

Going beyond research, more recently (FY04-05 and FY05-06) money was received under the Oceans Initiative. It was used to fund some oceans management activities such as the “Florida Oceans and Coastal Economies Report”, Florida’s circumnavigation saltwater paddling trail, the start of the Reef Resilience program, and expand the LIFE, Learning in Florida’s Environment, program to several coastal areas.

Other State Initiatives

Several other states have or are currently engaged in ocean planning initiatives. For example, in 2006, the State of New York Assembly passed the *New York Ocean and Bays Protection Act* (A-10584). The legislation aims to improve the health of New York’s coastal areas by creating a New York Ocean and Bays Protection Council, which will coordinate state marine resources decisions, encourage ecosystem-based management approaches, and ensure that accurate information about the state of coastal fisheries is widely available. It also seeks to establish a comprehensive ocean management plan by the fall of 2008. At the time of this report, the bill has been referred to the State Senate Environmental Conservation Committee. Mississippi conducted an ocean policy study in the early 1990s (McLaughlin and Howorth, 1991), and North

Carolina officials are planning to revisit their ocean policy initiatives in light of renewed interests in offshore energy exploration.

Regional Ocean Planning Initiatives

Gulf of Maine Council

The Gulf of Maine Council is a United States-Canadian partnership of governmental and non-governmental organizations created in 1989 by the governors and premiers of the five Gulf jurisdictions (Maine, Massachusetts, New Brunswick, New Hampshire, and Nova Scotia). While the Council is not a regulatory body, it works to maintain and enhance environmental quality in the Gulf of Maine by organizing conferences and workshops, offering grants and recognition awards, conducting environmental monitoring, providing science to management translation, raising public awareness about the Gulf, and connecting people, organizations, and information. The Council creates a five-year Action Plan that includes statements of goals, strategies, and actions to guide research and management activities in the Gulf of Maine, enabling agency managers, environmental professionals, research scientists, and educators to identify and prioritize Gulf issues. The Council also implements specific initiatives to address priority issues. For example, the 2001-2006 Action Plan identified the following priorities: “1) Protect and restore coastal and marine habitats to ensure their health and support the diversity of Gulf plant and animal species, 2) Protect human health and ecosystem integrity by reducing levels of contaminants, 3) Encourage sustainable maritime activities including economically viable marine research and nature-based tourism.” Several committees have been formed to implement the goals of the Action Plan (Gulf of Maine, 2006).

Gulf of Mexico Alliance

In 2004, the Governor of Florida called on fellow Gulf Governors to create and lead a regional effort to protect the Gulf of Mexico. Alabama, Florida, Louisiana, Mississippi, and Texas formed an alliance to share science, expertise, and financial resources to better protect the health of the Gulf’s complex ecosystem. The Alliance is supported through

the United States' Environmental Protection Agency (USEPA) and the National Oceanic and Atmospheric Administration (NOAA). The Alliance is also working through the Gulf of Mexico States Accord to involve six Mexican states in the Alliance - taking it beyond the regional level to the international level.

The Alliance released the *Governors' Action Plan for Healthy and Resilient Coasts* on March 28, 2006. In this plan, five priorities were identified that are regionally significant and that can be effectively addressed through increased collaboration at local, state, and federal levels: "1) Improvement in Gulf water quality with an emphasis on healthy beaches and shellfish beds, 2) Restoration and conservation of coastal wetlands, 3) Environmental education, 4) Identification and characterization of Gulf habitats to inform management decisions, and 5) Reductions in nutrient loading." The Gulf of Mexico Alliance has challenged the member states to make tangible progress on these issues over three years (from March 2006 to 2009), and to support Gulf Coast recovery, rebuilding, and mitigation of environmental impacts and economic disruption from future hurricanes and other coastal hazards (Gulf of Mexico, 2006).

West Coast Alliance

The goal on the west coast is to adopt a tri-state agreement between California, Oregon, and Washington that focuses on initiatives by all three states to improve ocean and coastal management. In September 2006, the governors of the west coast states announced their partnership and action plan for ocean and coastal resource protection. Challenges that they will be addressing include: ensuring clean coastal waters and beaches for citizens of the region; protecting and restoring healthy ocean and coastal habitats; promoting effective ecosystem-based management of ocean and coastal resources; reducing adverse impacts from offshore development; and expanding ocean and coastal scientific information, research, and monitoring; increasing ocean awareness and literacy among tri-state residents; and fostering sustainable economic development in coastal communities.

Section 2. Lessons Learned in State Ocean Planning

Focusing Events

Ocean planning initiatives have often been a direct response to offshore energy development proposals. In most cases ocean planning efforts were agency-driven, but in some cases, an ocean policy mandate originated from high visibility, public debates over specific issues. For example, public outcry over wind energy proposals off the coast of Massachusetts prompted an executive order for an ocean management task force. Proposals for oil, gas, and hard minerals leasing in Oregon also prompted the establishment of an Ocean Resources Task Force. In North Carolina, an ocean planning effort was begun after it became clear that existing policies and procedures were insufficient to address offshore energy proposals. Although these initiatives were often prompted by energy development issues, ocean planning efforts often addressed a wide variety of resources and activities for which authorities and policies were considered fragmented, unclear, or absent.

Plan Characteristics

The majority of the states researched for this study had developed strategic, long-term, policy-focused plans – as opposed to narrower “action plans” describing specific, short-term deliverables. Some participants noted that the more comprehensive the plans were for ocean uses and resources, the greater the risk was of losing the support of state legislatures. Participants suggested that it was important to scope all potential issues initially, and acknowledged that policy-oriented plans require a delicate balance of new regulations, spending, and enhanced coordination. In North Carolina, a comprehensive plan was not developed; rather, a series of policy recommendations were generated and adopted into the state’s coastal program document. In Florida, a shorter-term approach was taken with the Gulf of Mexico Alliance. Instead of trying to tackle all of the various issues, five issue areas were identified where there was sufficient common ground among the states for gains to be made in 36 months by working collectively. This also kept costs down as compared to developing a 20-year plan that is broader in scope.

Intergovernmental coordination

The majority of the states created ocean planning task forces or advisory boards. One participant suggested that the term “task force” implied a short-term initiative, and the state had opted instead to establish a permanent “council.” However, it was noted that this permanence could result in funding and time constraints, and difficulties assigning appropriate roles for participants. Some participants also suggested that councils or task forces should include local governments, and may function more effectively when state and federal agencies are voting members while stakeholders serve as advisors (for example, science advisory panels made up of academic researchers).

Sustained Funding

The majority of states had relied primarily on Coastal Zone Management Act - Section 309 Enhancement Grants and/or Sea Grant programs for funding, and less on state funding. It was suggested that legislative mandates were a key element in obtaining sustained state funding. Massachusetts, for example, has relied more heavily on other state funding sources, such as the Massachusetts Environmental Trust, which receives money from the sale of license plates and state capital funds. In addition to sustained funding, Florida has sustained momentum through a legislative requirement to submit an annual plan.

Area-Based Management Approaches

Most states developed plans organized around specific issues rather than adopting new frameworks for marine zoning, marine managed areas, or other area-based approaches. Some participants suggested that area-based approaches can be difficult due to a lack of resource and human use data. Some specifically avoided the use of “marine protected areas” because they were perceived to be too controversial at the time. However, some states defined special geographic areas of focus for planning efforts that did not conform to state political boundaries (e.g. Oregon “Ocean Stewardship Area”, see above).

Public Participation

All participants emphasized the importance of involving the public and local governments. States held numerous regional workshops and public meetings to collaborate, scope issues, and solicit comments. In Oregon, public input was also solicited through mail surveys. In Washington, public and stakeholder meetings were held in several outer coast communities, including visits with local tribes. As a result of state law in Florida, all of the Ocean Council meetings were open to the public and provided opportunities for public input. In addition, all of Florida's Ocean Council meeting documents were posted on the web. This ongoing collaboration between the Council and public resulted in broader support for Council products from organizations and individuals not serving on the Council. Several states held larger-scale conferences as part of their ocean planning initiatives. For example, North Carolina sponsored a conference focused on oil and gas exploration and environmental review needs.

Challenges and Obstacles

The most widely mentioned obstacle to ocean planning was a lack of detailed, site-specific or resource-specific information necessary to develop and apply appropriate, acceptable management measures. States are especially lacking data regarding offshore resources, cumulative impacts, and resource baselines. As mentioned previously, a lack of spatial data sometimes precluded efforts to develop area-based management approaches. In Florida, the Ocean Council statute addresses the lack of detailed information on resources and capacity and includes a requirement for resource assessments and research reviews. Florida also established a goal to create a web portal that provides an ongoing inventory of research, data, maps, human uses, and other ocean activities. Participants agreed that mechanisms should also be in place for monitoring, evaluation, and enforcement, but that these are difficult tasks that usually require additional funding.

Some interviewees also mentioned challenges related to conflicting missions across agencies, difficulties sustaining staff and interagency participation, and how to integrate existing data for offshore planning. In some cases there was a lack of perceived urgency and momentum to keep an initiative moving forward, or a lack of the political support needed to establish a comprehensive ocean management program. Participants expressed a need for a broader understanding of the economic value of the coast and marine environment among policymakers and the public.

Section 3. South Carolina's Ocean Resource Policies

Ocean resource issues are gaining increased attention in South Carolina. For example, the health of South Carolina's beaches is critical to the state's economy. During the next five years, significant renourishment projects are anticipated for the Grand Strand, which includes North Myrtle Beach, Myrtle Beach, Surfside and Garden City. Additionally, Pawley's Island, Debidue Beach and Hilton Head will likely renourish their beaches before 2011. Most, if not all, of these projects will look to the ocean for sand deposits. In addition, a major expansion of the Charleston Port that is currently proceeding through the permitting process will result in dredge spoil disposal pressures. The Port's major upland disposal site was eliminated as a disposal option due to pressure related to the adjoining developments on Daniel Island. Further, there has been mounting pressure to address this country's energy requirements through exploration and resource extraction from the outer continental shelf.

South Carolina's Coastal Zone Management Program (SC CZMP), administered through the SC Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management (DHEC-OCRM), has direct permitting authority over any developments or alterations to marine and intertidal waters up to 3 nm offshore (Critical Area Regulations, Chap. 30.1–30.18); and authority under the “federal consistency provision” of the Coastal Zone Management Act (CZMA) to certify federally conducted, supported, or permitted activities that might impact state waters (including federal activities beyond the 3 nm limit). The South Carolina Coastal Tidelands and Wetlands Act of 1977, also known as the Coastal Zone Management Act, gives the SC Office of Ocean and Coastal Resource Management the duty to protect the quality of the coastal environment and to promote the economic and social improvement of the coastal zone through a variety of specific policies. The South Carolina Beach Front Management Act of 1988 requires the use of scientific studies of coastal processes to establish building setback lines along the coast, bans future construction of seawalls, limits building size within the predicted erosion zone, and adopts a policy of retreat away from the erosional beach.

Since 1978, the SC CZMP has engaged in a number of ocean related initiatives. For example, the agency worked in conjunction with other southeastern states and NOAA to develop the Ocean Planning Information System (OPIS) to provide comprehensive ocean-related data and information in the late '90s. OPIS provides the coastal management community with online access to regional data critical to timely, integrated decisionmaking, including legislative summaries, Federal agency and programmatic information, spatial data and metadata, and on-line mapping. In addition, the agency has supported the *South Carolina-Georgia Coastal Erosion Study*, a collaborative effort between federal and state researchers aimed at understanding the process of coastal erosion and the factors that affect erosion rates along the SC/GA coasts. In January 2005, OCRM issued a report evaluating dredging and disposal alternatives and techniques. The report introduced options available for handling dredged materials and included methods, advantages, and costs associated with each option.

The official Coastal Program Document of the SC CZMP, as amended and approved by the state legislature and NOAA, contains the specific goals, objectives and policies necessary for staff review of development activities taking place in the coastal zone, including offshore waters. The following subsections describe specific program policies that provide a foundation for any future ocean resource planning initiatives. These include mandatory and recommended policies regarding the permitting of ports, mineral extraction, aquaculture, recreation and tourism, wildlife and fisheries management, artificial reefs, dredging and dredged materials disposal, underwater salvage, erosion control, and beach and shoreline access.

Ports (Chapter II-A: Transportation Facilities):

The development of new ports should take place in existing industrialized areas with existing infrastructure support and be located on existing maintained navigational channels and where the filling of productive salt, brackish, or freshwater wetlands and dredging will not be required or can be minimized. When dredging is required, areas for upland spoil disposal, ocean disposal, or other environmentally acceptable disposal

methods must be identified. Proposed port development or expansion and operation must meet all applicable standards, policies and regulations laid out in other sections of the SC CZMA, SC CZMP, SC Critical Area Regulations, federal and state air and water quality standards, and other public documents such as local ordinances. Provisions must also be made for the handling of dangerous and volatile materials and for wake protection measures along major navigable ship channels. Port related structures should not restrict navigation or alter natural patterns of water currents. The State also recommends that a comprehensive study of potential impacts of port and harbor projects be undertaken, that existing port areas be developed to their maximum potential, and that the State Ports Authority diversify its areas of concern to include the promotion of sports and commercial fisheries and other marine activities (for full text, see CZMP document).

Mineral extraction (Chapter III-C: Coastal Industries):

South Carolina prohibits dredge or strip mining in wetland areas, unless no other feasible alternative and the benefits of mining outweigh the adverse impacts. Negative impacts on water quality should be minimized. Applicants must submit an approved reclamation plan under the South Carolina Mining Act. In critical areas, state policies and regulations for dredging activities apply to mining operations. The State also recommends that a scenic buffer be provided around active mining sites and that mineral resources be studied and identified in local land use plans (for full text, see CZMP document).

Aquaculture (Chapter III-F: Coastal Industries)

South Carolina prohibits the impoundment of previously undisturbed, productive salt, brackish or freshwater wetlands where other feasible alternatives exist. In critical areas, OCRM has direct permitting authority and shall apply current regulations in decisions. The value and yield from each proposal is weighed against any environmental damage such as loss of habitat from impounded areas. Acceptable management plans must be provided and comply with State and Federal water quality standards for discharge and drainage. The State also encourages research of passive aquaculture as opposed to artificial impoundments (for full text, see CZMP document)

Recreation and tourism (Chapter V: Recreation and Tourism)

South Carolina gives preference to water-dependent recreational uses over other types of recreational development in locations immediately adjacent to shoreline, wetlands, or open water. Parks and open spaces are preferred uses with consideration given to the carrying capacity of these locations so as not to destroy or disrupt natural systems. Park and commercial recreation proposals that include filling or other permanent alteration of productive salt, brackish, and freshwater marshes will not be approved, unless no feasible alternatives exist. Designs for park and open space facilities must preserve the maximum existing natural vegetation and open space, maximize the use of permeable surfaces (rather than paved), provide adequate parking or alternative transportation access in less sensitive areas, and employ construction methods that mitigate erosion and other environmental damage. Construction and design features of commercial recreation facilities should minimize impacts to water quality from erosion and storm water drainage. In critical areas, facilities will be reviewed on requirements for that type of project, such as a dock or pier. The State also recommends that park and open space facilities be nature-oriented; provide services for the elderly and handicapped; create new scenic vistas to the ocean, beaches, wetlands, and other natural areas; conserve energy; analyze the recreational potential of surplus state and federal lands; keep fees at nominal levels; make structures visually compatible with natural surroundings; and develop along utility easements, abandoned rights-of-way, and dredged material disposal areas (for full text, see CZMP document).

Wildlife and Fisheries (Chapter VII-A: Wildlife & Fisheries Management)

South Carolina seeks to maintain, protect, and enhance wildlife and fisheries stocks and populations and critical wildlife and fisheries habitat to the maximum extent possible. The State will not approve activities deemed to have a significant negative impact on wildlife and fisheries resources, on the stocks themselves or habitats, unless overriding socio-economic considerations are involved. Biological, social, and economic impacts will be considered (for full text, see CZMP document).

Artificial reefs (Chapter VII-B: Wildlife and Fisheries Management)

South Carolina encourages the use of artificial reefs for fisheries management purposes especially when biological productivity will be enhanced. Possible impacts on historical or archeological resources, compatibility of uses in an area, and the environmental impact of materials used should all be considered. Location and development should not interfere with navigation and existing fisheries (for full text, see CZMP document).

Dredging (Chapter VIII-A: Dredging)

Generally, South Carolina does not allow dredging in productive shellfish areas during shellfishing season, where highly toxic sediments are encountered, where valuable wetland habitats will be permanently altered, and where new waterfront lots are to be created from the establishment of new canals, unless no other feasible alternatives and the activity is consistent with other applicable policies. Suspended solids and water quality degradation should be minimized. Dredging should not reduce water circulation, water currents, mixing, flushing, or salinity in the immediate area. In critical areas, OCRM has direct permitting authority and shall apply the current regulations when making decisions (for entire text, see CZMP document).

Dredged materials disposal (Chapter VIII-B: Dredging)

South Carolina prohibits the disposal of dredged materials on high value natural habitats and the blocking of natural channels. Areas of low productivity or ocean disposal should be utilized when upland disposal is not possible. Upland dredge material disposal sites should be stabilized and maintained, and impacts on existing water circulation and valuable terrestrial wildlife or vegetative habitats should be minimized. To decrease damage from suspended sediments and oxygen depletion, material should be deposited in water areas with a high flushing rate. Temporal aspects of spoil deposition should be considered such as impacts on spawning, fish migrations, waterfowl nesting and wintering, and mosquito control. In critical areas, OCRM has direct permitting authority and shall apply current OCRM regulations. The program also recommends policies regarding future maintenance of spoil areas; use of abandoned sand or gravel pits as disposal areas; reuse of spoil sites as public parks and recreational areas; extending the

life expectancies of spoil areas; and study of economic and environmental feasibility for the alternative use of dredged material. Beach renourishment and spoil disposal should be addressed concurrently (for full text, see CZMP document).

Underwater salvage (Chapter VIII-C: Dredging)

OCRM reviews all permit applications for underwater salvage based on policies for dredging activities. In some cases, federal permits are required; these are also reviewed by OCRM and subject to federal consistency (for full text, see CZMP document).

Navigation channels (Chap. XII-C: Activities in areas of special resource significance)

The majority of navigation channels is located in critical areas and is subsequently subject to jurisdiction of OCRM for issuance of permits. Development that would result in loss of navigability is prohibited. Upland soil and erosion problems and resulting siltation of navigation channels must be mitigated to effectively relieve the problem. Applications are reviewed by the South Carolina State Ports Authority to ensure that project or activity would not reasonably interfere with commercial navigation. Policies and rules and regulations for dredging and dredged materials disposal shall apply (for full text, see CZMP document).

Marine sanctuaries (Chapter IV-A: Special management areas)

SCDHEC-OCRM manages and has regulatory authority over those areas of ocean waters as far seaward as the outer edge of the Continental Shelf and all other coastal waters where the tide ebbs and flows deemed as marine sanctuaries by the authority of the Marine Protection, Research, and Sanctuaries Act of 1972. Areas are eligible for this classification on the basis of the following criteria: necessary to protect valuable, unique, or endangered marine life, geological features, and oceanographic features; to complement and enhance public areas such as parks, national or state monuments, and other preserved areas; important to the survival and preservation of the nation's fisheries and other ocean resources; and to advance and promote research for a more thorough understanding of the marine ecosystem and impact of man's activities (for full text, see CZMP document).

Threatened/Endangered Species Habitats (Chapter IV-A: Special Management Areas)

South Carolina affirms the policy that conservation of the natural ecosystem upon which endangered and threatened species depend is a high priority. These species of fish, wildlife and plants are of esthetic, ecological, educational, historical, recreational, and scientific value and SCDHEC-OCRM recognizes all threatened and endangered species habitats as Geographic Areas of Particular Concern (for full text, see CZMP document).

Energy facility planning process (Chapter IV-B: Special management areas)

South Carolina will consider the extent and significance of negative impacts on the quantity or quality of unique natural areas, public recreational lands, and historic or archeological resources, also known as Geographic Areas of Particular Concern (GAPCs), prior to permitting and certifying facilities. Evaluations will be based upon need, alternative means of meeting demands, extent and severity of environmental disruption at various sites, economic and social impacts at various sites, and ability of sites to meet environmental standards. The State prohibits non-water-dependent energy and energy-related facilities along the shoreline, unless no feasible alternative is available or there is an overriding public interest and environmental impacts are minimized. Inland siting of all but water-dependent facilities is preferred to waterfront siting. While the State prefers expansion of existing facilities, new facilities should be located on already maintained channels or rivers and should minimize encroachment on the aquatic ecosystem and destruction of wetlands, beach areas, and dunes. The filling, dredging, and/or drainage of productive fresh, brackish, and saltwater wetlands for facilities are prohibited, unless there is no feasible alternative or there is an overriding public interest. Facilities must meet applicable state and federal air pollution standards and controls and applicable water quality and effluent limitation standards. Facilities must also meet standards for groundwater quality, prevent saltwater intrusion and land subsidence, provide naturally vegetated areas on site where aquifer recharge or percolation can occur, minimize erosion and sedimentation, and limit the impacts from direct stormwater discharge into adjacent water bodies and wetlands.

Adverse environmental impacts from the installation of submerged cables, pipelines, and transmission lines should be minimized through a variety of measures. Locations for new pipelines should avoid offshore munition areas, chemical and waste disposal areas, geological faults, heavily used waterways, and significant and productive fish habitats. Pipeline corridors in the coastal zone shall be developed in coordination with SCDHEC-OCRM. Locations for nuclear power plants or liquefied natural gas facilities should avoid hazardous areas such as geological faults and flood prone areas as well as areas of significant population. The State also recommends that the use of renewable and recoverable sources of energy be encouraged, as well as the upgrading of old facilities instead of new construction, developing small-scale, diversified, dispersed industrial systems and overall energy conservation (for full text, see CZMP document).

Erosion control program (Chapter IV-C: Special management areas)

The South Carolina Beachfront Management Act, as amended in 1990, requires the establishment of building setback lines using scientific studies of coastal processes, bans future construction of seawalls, limits size of buildings within the predicted erosion zone, and adopts a policy of retreat away from the erosional beach. South Carolina clearly states that public funds will be used for erosion control projects only in areas where the public has full and complete access and for methods consistent with policies of the overall coastal management program. Prior to funding approval, full consideration must be given to the following: erosion control problems, the needs of each coastal county, the relative benefits of the project, the protection of public health, safety, and welfare, and a full range of alternative erosion control measures including no action. There are also policies for the removal or modification of existing publicly funded control structures. In general, South Carolina has considerations for materials, economic justification, sea level rise/fall, sediment transport and sand budget, up- or downdrift damage due to installation or lack of installation of structure, and the preservation of the beach profile at its present slope and configuration. The State has specific, separate policies regarding groins, offshore breakers and jetties, artificial beach nourishment, and sand dune management. The State also recommends that local governments institute shorefront construction setback lines as part of their land use planning ordinances and encourage private property

owners and developers to understand erosion trends and shoreline dynamics prior to construction (for full text, see CZMP document).

Beach and shoreline access (Chapter IV-D: Special management areas)

South Carolina fully endorses, supports, and encourages the protection and expansion of public access to shoreline areas in the coastal zone. The highest priority for the expenditure of public funds for acquisition of new parks and recreational areas is given to areas with full and complete public access. The State encourages the extension of better access to publicly owned recreational areas particularly barrier islands which currently afford access by private boat and are appropriate for more intense use. Lateral beach access-ways should prevent disruption of dunes or vegetation. The State also encourages local governments to incorporate considerations for public access into their local ordinances and comprehensive plans. Developers are encouraged to provide reasonable public beach areas and access-ways in their plans for new developments. The State advocates the provision of joint-use public docks, boat ramps, and landings and the provision of pedestrian access and fishing catwalks on new and existing roads and bridges. To relieve pressure on oceanfront communities, recreational planning for alternatives to oceanfront areas is encouraged. In addition, new public oyster grounds will be sought out as well as maintaining existing public grounds. Finally, the State will maintain and improve existing standards for water quality. Recommendations of the State include: that legislation be introduced that limits the liability of property owners and municipalities in case of injury or accident associated with public access to the beach, and that the State Recreational Land Trust Fund be altered to permit local governments to use the fund for developing land for any recreational purpose, which would enable State and local governments to provide more high quality access to beaches. The State also recommends that abandoned bridges and railroad trestles be left standing to serve as fishing piers and that access opportunities to elderly and handicapped visitors be guaranteed. Additional polices regarding beach and shoreline access can be found in the 1990 South Carolina Beachfront Management Act (for full text, see CZMP document).

Section 4. Next Steps for South Carolina

Based on the findings described in this report, a series of preliminary recommendations were developed as initial steps toward the development of an ocean management plan for South Carolina:

1. Create a temporary task force of representatives from relevant federal and state agencies and local governments. An advisory panel made up of scientists and stakeholders, including commercial and recreational ocean users, should be established to support the task force. The task force should also establish an avenue for public input.
2. The task force should initially focus on “scoping” current ocean management issues, and subsequently on developing priorities for ocean policies. Each identified issue should be assigned to staff from the appropriate agency to develop and present a briefing document. The task force should evaluate existing policies and assess information and data needs.
3. The task force should hold an initial workshop with representatives from other states and federal agencies to discuss lessons learned and answer questions regarding their respective ocean management planning efforts.
4. Action items, improved agency coordination mechanisms, and policy alternatives should be considered by the task force in relation to each identified issue, in order of priority.
5. The task force should consider existing and proposed regional ocean partnerships and their relation to state ocean planning in SC.

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Appendix A: State Ocean Management Issues Matrix

Issues Addressed by Plan or Program	CA	FL	MA	NC	OR	WA
Aesthetics (commercial billboards, etc.)		X	X			
Air Quality ¹	X	X			X	X
Alternative Energy (wind, solar, hydro)		X	X			X
Aquaculture	X	X	X	X	X	X
Artificial Reefs		X		X		
Climate Change/Global Warming ²	X		X			X
Conflict Resolution				X	X	
Cruise Ships		X				X
Cultural Resources	X	X	X	X		
Desalination	X		X			
Dredging/Dredged Materials Disposal	X	X	X			X
Economic Development	X					X
Ecosystem-Based Mgmt. Decisions	X	X	X		X	
Enforcement	X		X			
Environmental Impact Assessment Procedure						X
Environmental Mitigation Requirements						X
Environmental Risk Assessment Procedure						X
Federal Consistency Issues ³		X	X	X		X
Fiber Optic Cables		X	X		X	
Fisheries Management	X	X		X	X	X
Governance/Impr. Coordination/Cooperation	X			X	X	X
Habitats (Beaches, wetlands, intertidal, etc.)	X	X	X	X		
Harbors	X	X	X			X
Human Health (biological pathogens, toxins)	X	X				X
Invasive Species	X	X				X
Local Gov't Involvement/Jurisdiction	X	X	X	X	X	
Marine Mammals	X	X				
Minerals (Hard)/Mining	X		X	X	X	
Nonpoint Source Pollution	X		X			
Ocean Dumping		X	X	X		
Ocean Outfalls/Stormwater				X		X
Oil and Gas	X	X		X	X	X
Oil or Chemical Spills		X		X	X	X
Outreach/Education	X	X	X	X	X	
Priority to Uses of Renewable Res.					X	X
Public Access (Shoreline Access, Facilities)	X	X	X			
Public Participation (Expand, Improve)	X	X	X			X
Public Trust Resource Issues	X	X	X	X		
Recreation/Tourism Planning/Access Issues	X	X		X	X	X
Research/Monitoring/Inventories	X	X	X	X	X	X
Sand Resources	X	X	X		X	X
Shipping/Ports	X	X	X	X		X
Shoreline Erosion	X	X				X
Waste Mgmt (Hazardous, Sewage, Plastics)		X	X			
Waterfronts (Working/Water-Dependency)	X	X				
Water Quality (Point Sources)	X	X	X		X	
Marine Managed/Protected Areas	X	X	X	X	X	X
Governance	CA	FL	MA	NC	OR	WA
Ocean Management Plan	X		Planned		X	
Legislative Mandate	X	X			X	X
Task Force/Council	X	X	X	X	X	X
309 Funding		X		X	X	
State Funding	X		X		X	X
Ocean Mgmt Conferences	X	X	X	X		
Adopted as part of CMP	X		Planned	X	X	
Area of Interest Defined (beyond State waters)	X				X	

Footnotes for State Ocean Management Issues Matrix

1. Air quality – Plans might include advocating pollution prevention, requiring controls to minimize emissions from ocean activities and to assure that existing high marine and coastal air quality is not degraded, requiring consistency with other policies and standards regarding air quality, and increasing information and data to analyze effects of air pollution from ocean resources development on marine and onshore air quality (Oregon Ocean Resources Management Plan; http://www.oregon.gov/LCD/OCMP/Ocean_Policies.shtml)

2. Climate change/global warming – Plans included an assessment of the effects of climate change on coasts and oceans, and considered measures to mitigate effects of coastal flooding and sea level rise, policies to reduce greenhouse gas emissions, and collection of information of trends relating to climate change impacts (Waves of Change: the Massachusetts Ocean Mgmt. Task Force Report & Recommendations, March, 2004; www.mass.gov/czm/oceanmanagement/waves_of_change/pdf/wavesofchange.pdf)

3. Federal consistency – (Section 307 of CZMA - Federal consistency provision) Federal agency activities that have reasonably foreseeable effects on any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the enforceable policies of a coastal state's federally approved coastal management program. Federal license or permit activities (activities proposed by a non-federal applicant but requiring federal authorization) and federal financial assistance activities (state or local government activities applying for federal funds) that have reasonably foreseeable coastal effects must be fully consistent with enforceable policies of state coastal management programs. A lead state agency, typically the same agency that coordinates and implements the coastal management program, performs federal consistency reviews. Federal consistency is a tool that states use to manage coastal uses and resources and to facilitate cooperation and coordination with federal agencies. (<http://coastalmanagement.noaa.gov/consistency/welcome.html>) For example, while the Massachusetts Office of Coastal Zone Management is not a permitting agency, federal consistency gives the agency the authority to review federal activities to ensure they are consistent with state coastal management programs and policies. Federal activities could include dredging of federal navigation channels, offshore oil and gas leasing, and permitting activities such as NPDES. (<http://www.mass.gov/czm/fcr.htm>)