

Changing Course

A Proposed Framework for Coastal and Marine Spatial Planning in the United States

Managing our ocean, coasts, and Great Lakes is far more complicated today than in the past. Increasing uses have put significant strain on these vital resources. Coastal and Marine Spatial Planning is a proposed comprehensive new effort to coordinate and sustainably manage these resources for current and future generations.

BY JANE LUBCHENCO

Our ocean, coasts, and Great Lakes should be vibrant, healthy, and productive. When they are, they provide places for anglers, boaters, beach lovers, divers, and others to enjoy the bounty and beauty of our waters and shores. They provide critical ecological benefits, while supporting important human activities such as maritime commerce and shipping, energy production, and national security. These diverse uses of the ocean—whether as a source of extractable resources, as a place to recreate, as a location to conduct commerce or facilitate national security, or as a place of spiritual renewal—all share one thing in common. Each ultimately occurs in a specific place managed by local, state, federal, or tribal governments using a variety of existing legal authorities. The decisions we make now as a society about how to use those areas will profoundly, and perhaps irreversibly, determine what kind of ocean, coasts, and Great Lakes we pass on to future generations.

Today's world, however, is not as simple as it once was. Human uses of the ocean, coasts, and Great Lakes are growing rapidly. The expansion of existing ocean uses and the emergence of new ones, such as renewable energy, pose significant challenges to our traditional approach to ocean



management. The current single-sector or use-by-use approach to ocean management is often ill-equipped to address the complexities of multiple-use management. Particularly challenging is our relative inability to consider interactions among ocean uses and their combined effects on ecosystem functions that cut across jurisdictional bounds. The result has been increasing depletion and disruption of the nation's coasts and ocean, and increasing conflicts among its users.

Meeting the Challenge: The U.S. Interagency Ocean Policy Task Force

Recognizing the urgent need for meaningful action, President Barack Obama initiated an historic new approach to sustainably managing our nation's ocean, coasts, and Great Lakes. In June 2009, the president established the Interagency Ocean Policy Task Force (OPTF), led by the Council on Environmental Quality, and composed of leaders from 24 different agencies and offices of the U.S. government. The OPTF was charged with developing, through a transparent public process, an integrated national ocean policy, including a framework for effective coastal and marine spatial planning (CMSP) that would move beyond our current fragmented and ineffective approach to management of our ocean, coasts, and Great Lakes. The Task Force's *Interim*

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Framework for Effective Coastal and Marine Spatial Planning was released for public comment in December 2009 and will be finalized for transmission to the president in 2010 for his consideration. The *Interim Framework* defines CMSP as:

CMSP is a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas. CMSP identifies areas most suitable for various types or classes of activities in order to reduce conflicts among uses, reduce environmental impacts, facilitate compatible uses, and preserve critical ecosystem services to meet economic, environmental, security, and social objectives. In practical terms, CMSP provides a public policy process for society to better determine how the ocean, coasts, and Great Lakes are sustainably used and protected now and for future generations.

The proposed national CMSP *Interim Framework* envisions a regionally-based, collaborative planning process in which key agencies and stakeholders have meaningful voices—and corresponding responsibilities—in identifying goals and objectives for their regional waters, and in designing the desired mosaic of uses that reflects those goals. The resulting regional coastal and marine spatial (CMS) plans will, for the first time, explicitly take into account the full range of issues, outcomes, and management strategies to achieve those objectives. These plans will be crafted on a foundation of understanding: the diverse suite of current and emerging ocean uses; the dependencies and impacts of those uses on specific ecosystems and ocean areas; the conflicts, compatibilities, and synergies among ocean uses; the trade offs inherent in various alternate ocean-use scenarios; the effectiveness of existing spatial management regimes across agency jurisdictions; the fundamental necessity to protect critical ecosystem processes and services; and, finally, the interplay of these variables against a backdrop of changing socioeconomic pressures and climate drivers. Forged by and for regional concerns, the resulting CMS plans will provide an unprecedented roadmap for future decisions about ocean uses made by participating relevant federal, state, tribal, and local agencies.

This historic transformation in the way we manage our ocean, coasts, and Great Lakes is not without challenges. Its success will require an unprecedented integration across jurisdictions, sectors, and interest groups, with a common goal of sustainable uses and delivery of essential ecosystem services. Further, this new course will require the application of existing scientific data in new ways, and the development of new information and analytical tools to inform regional evaluations of the complex trade offs among competing uses and environmental objectives. As a key federal agency in the national CMSP effort, NOAA is firmly committed to advancing the science and governance of this promising new approach to management that recognizes that healthy ocean matter, both now and into the future.

What Is “Ecosystem-Based” CMSP?

Many human activities in the ocean, coasts, and Great Lakes depend upon healthy functioning ecosystems. Consequently, maintaining ecosystem integrity and services is a fundamental core principle of CMSP. What distinguishes CMSP from other management approaches is that comprehensive plans will take into account the human dimension, and, specifically, the full range of ecosystem benefits provided to all Americans by the region’s ocean and coastal areas. Planners will use the best available science and decision-support tools to assess how combinations of ocean uses depend upon or impact ecosystem services over time. In this way, regional planners will have, for the first time, the ability to evaluate the potential consequences of all ocean use decisions and to ensure that the resulting mosaic of human activities meets regional needs *while maintaining the healthy, resilient ecosystems upon which they depend*. Central to this effort will be the development of new scientific data and tools to inform those evaluations and decisions, including more robust insights into how and why people interact with the ocean and coasts.

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It is important to note that *ecosystem-based* CMSP does not mean, *a priori*, that all potentially harmful activities will be prohibited everywhere. Instead, CMSP provides an objective, science-based, and transparent way for regional planners and stakeholders to rationally evaluate the social and environmental trade offs of various use scenarios and to make decisions about locating specific kinds of activities in areas that maximize benefits and minimize risks. In practice, this may mean that broad categories of use, e.g., transportation, heavy or light industry, conservation, national security, or multiple use, could occur in ocean areas where those uses are necessary or desired and pose the fewest risks to sustained ecosystem integrity.

The Land-Sea Interface: Where CMSP Meets Coastal Wetlands

Coastal wetlands are among the most productive ecosystems. They support life on land and in the sea by providing nutrients, food, and habitat for plants and animals to reproduce and grow. Wetlands provide diverse and essential areas for shelter, spawning, nurseries, and food. Most of the nation’s commercial fish and shellfish in the United States depend on estuaries at some stage in their life cycle, and nearly 45 percent of the nation’s endangered and threatened species are dependent



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on coastal habitats.¹ Coastal wetlands also provide ecosystem services to people, filtering human-related wastes from urban, suburban, and agricultural sources, as well as sequestering carbon, providing protection from coastal storms, stabilizing shorelines, and preventing coastal erosion. Yet, coastal wetlands are extremely vulnerable to land development, pollutants, human disturbances, and increasing human populations. Between 1998 and 2004, the area of wetlands lost in U.S. coastal counties was more than four times the area of wetlands gained, with salt marshes sustaining the largest loss of any wetland type.² The dramatic loss of wetland areas and their associated adverse ecological and economic effects further demonstrates the need for a more consistent and comprehensive approach to manage these areas.

The widespread challenges faced by wetlands throughout the United States illustrate the need for CMSP. The current lack of an integrated, comprehensive, and strategic coastal and marine planning framework often translates to a lack of connection between offshore and onshore ecological communities and users, and a lack of conservation of biologically and ecologically sensitive marine and estuarine areas.³ While often perceived as being focused on offshore ocean activities, CMSP can have significant linkages to the management of wetlands and coastal zones in several ways. The CMSP *Interim Framework* highlights the importance of “better integrated coastal planning efforts that consider influences from, and activities within, coastal watersheds and other contributing land areas” and states that “land-based watershed planning efforts should inform and influence CMSP within each region.” The *Interim Framework* envisions the bottom-up establishment of regional planning bodies around the United States to engage in CMSP. These planning bodies may wish to include coastal wetlands, estuaries, and even some watersheds into the geographic scope of their CMS plans. In such cases, the resulting CMS plan might provide mutually beneficial effects such as:

Connecting Nurseries and Offshore Uses

Many ocean uses, particularly those involving fishing and living resources, often depend upon healthy coastal wetlands and estuaries for their continued success. A comprehensive CMS plan could take into account those coastal uses and stressors that indirectly affect valued offshore uses by their direct impacts on near-shore nursery and spawning habitats.

Links Between Offshore-Onshore Infrastructure

Some offshore ocean uses have significant linkages to land-based facilities. Many of those occur in or near wetlands and estuaries. Examples include direct connections like pipelines or cables from offshore energy operations, or infrastructure associated with offshore activities including docks, marinas, and processing plants. A comprehensive CMS plan might incorporate the onshore implications of alternate offshore ocean uses in ways that maximize socioeconomic benefit while minimizing impacts to sensitive coastal ecosystems and the services they provide.

Central to the approach of the proposed national CMSP *Interim Framework* is the recognition that ocean use and management conflicts—and their solutions—are ultimately regional and local in scope. Reflecting this guiding principle, the *Interim Framework* states that CMSP “would be developed and implemented using a regional approach, to allow for the variability of economic, environmental, and social aspects among different areas of the United States.”⁴ With this perspective, regions may opt to incorporate coastal wetland and estuarine management issues into the broader CMSP in ways that provide opportunities heretofore not available.

As envisioned by the OPTF in its draft recommendations, a nationwide effort to develop regional CMS plans would be guided by a National Ocean Council (NOC) made up of the secretaries and directors of all the federal departments and agencies that deal, in any way, with the ocean. The NOC would be co-chaired by the Chair of the White House Council on Environmental Quality and the Director of the Office of Science and Technology Policy. With the advice of a Governance Committee composed of representatives from state, local, and tribal governments, the NOC would provide guidelines, dispute resolution, and ultimately certify CMS plans from around the country. However, the heart of the CMSP would be in the regions and states, where most of the action would occur. There would be nine Regional Planning Bodies, each with participation by states, local governments, and tribes—those entities that have authorities to manage activities in coastal waters, estuaries, and harbors and on land—as well as the federal agencies that have regulatory authority in

our ocean, coastal, and Great Lakes waters. This approach is designed to build upon, complement, and empower state and regional planning efforts already underway.

What Does This Mean to Coastal Managers, Scientists, Users, and Stakeholders?

The CMSP *Interim Framework* is designed to create opportunities and economies of scale and to increase both clarity of options for business development and means to protect critical ecological assets. While federal, state, and tribal entities with authorities that are relevant to CMSP will comprise the regional planning bodies that craft CMS plans, constituent and stakeholder engagement and involvement is embedded in every step of the CMSP process. This design creates an opportunity for everyone to have a seat at the table to not only outline their management responsibilities, but to voice their concerns and share their objectives while increasing the knowledge base for informed decisionmaking. It is important to note that CMSP is not, of itself, regulatory. Instead, implementation of regional CMS plans will be accomplished via existing authorities of participating federal, state, local, and tribal agencies.

Ecosystem-based CMSP requires new ways of thinking about coastal and ocean ecosystems. The CMSP *Interim Framework* also creates an infrastructure for data-sharing and management that will expand an individual entity's understanding of the ecosystem and how their information fits into the larger picture. The process of CMSP is designed to be comprehensive and span the breadth of uses and authorities that cross the ocean, coastal, and Great Lakes realms. Thus, the proposal includes an information management system that would accept data and information from a span of institutions (government, academic, and others) and individuals and connect them with information from social, behavioral, economic, and natural sciences to create a comprehensive information pool to strengthen planning processes both on the water and at the land-sea interface.

It is important to note that CMSP is not about starting over or undoing or recreating the past. Instead, it is a forward-looking endeavor that will allow agencies and stakeholders to build upon existing planning processes and ongoing activities in the ocean, coasts, and Great Lakes. CMSP is a way of anticipating and preparing for upcoming permitting and siting decisions that provides opportunities for agencies to connect and reconcile their interests before a project is proposed. Dialogue through CMSP can help develop interagency coordination and relationships and reduce conflicts

of interest ahead of time, saving agencies and project applicants' time and money. This procedural step alone would profoundly improve and strengthen decisionmaking in U.S. waters. Additionally, through a strengthened data and information base, CMSP can also facilitate interagency certainty and predictability in decisionmaking, which would also contribute to regulatory efficiencies.

Conclusion

Embarking on comprehensive, multijurisdictional planning on a regional scale will not be easy or quick. It will require time, commitment, innovation, and a willingness to cooperate across sectors and levels of government. Working together toward a shared vision of sustainable ocean, governments and stakeholders can build upon successes at the state and international levels. CMSP will create opportunities for people to collaborate, to hear all view points, to understand and evaluate trade offs, and find solutions that minimize conflicts and environmental impact.

The CMSP *Interim Framework* represents a positive, forward-looking transformation of ocean governance in the United States. While focused on the details of regional planning, the *Interim Framework* is really a story about people, and about how our nation can decide what kind of ocean future we will create for future generations. As science has demonstrated, we can no longer afford business as usual while our invaluable ocean, coastal, and Great Lakes ecosystems are showing signs of accelerating degradation due to increasing use pressure and environmental change. Ecosystem-based CMSP will help us address these challenges and facilitate a suite of ocean uses that are compatible with healthy and resilient oceans, coasts, and Great Lakes. ■

Resources

NOAA's website for CMSP provides an abundance of resources to help managers, policymakers, and interested individuals understand more about this new approach. Learn more at: www.cmsp.noaa.gov/

ENDNOTES

1. U.S. Fish and Wildlife Service, Coastal Ecosystems Program. Branch of Coastal and Wetland Resources, Division of Habitat Conservation (1995), at 48.
2. Susan-Marie Stedman & Tom E. Dahl, Status and Trends of Wetlands in the Coastal Watersheds of the Eastern United States 1998 to 2004, National Oceanic and Atmospheric Administration, National Marine Fisheries Service and U.S. Department of the Interior, Fish and Wildlife Service (2008), available at http://www.fws.gov/wetlands/_documents/gSandT/National-Reports/StatusTrendsWetlandsCoastalWatershedsEasternUS-1998to2004.pdf.
3. Fanny Douvere, *The Importance of Marine Spatial Planning in Advancing Ecosystem-Based Sea Use Management*, 32 MARINE POLICY 762-71 (2008).
4. White House Council on Environmental Quality, Interagency Ocean Policy Task Force, Interim Framework for Effective Coastal and Marine Spatial Planning (2009), at 10.