



CALIFORNIA OCEAN PROTECTION COUNCIL

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MEMORANDUM

TO: Ocean Protection Council

FROM: Amber Mace, Executive Director
Moirra McEnespy, Program Manager
Pam Rittelmeyer, Sea Grant Fellow

DATE: November 9-10, 2010

RE: Coastal and Marine Spatial Planning

ATTACHMENT: Assembly Bill 2125 (Ruskin)

REQUESTED ACTION:

Staff recommends that the Ocean Protection Council (OPC) approve the conceptual workplan contained in this memo, which identifies actions toward carrying out coastal and marine spatial planning (CMSP).

SUMMARY:

The health, productivity, and resilience of California's ocean ecosystems are critical to the state's long-term environmental and economic security. The ocean environment is, however, facing increasing demands on its resources and increasing pressure to accommodate multiple uses. Participating in a CMSP process can provide the informational underpinnings to support better-informed management decisions, resulting in reduced impacts to the environment, fewer user conflicts, and realization of economic and other benefits (See the "Background" section of this memo, below, for a full discussion of management need). OPC staff has developed the following working definition of CMSP, which it will refine through the upcoming strategic planning process:¹

Coastal and marine spatial planning is a comprehensive, adaptive, integrated, ecosystem-based, and transparent planning process. It is based on sound science and integrates ecological, economic, and social information on current and projected uses of marine waters to inform management and regulatory decisions, reduce conflicts, and facilitate compatibility among projected uses, while sustaining the State's marine ecosystem and resources for present as well as future generations.

¹ This definition is based heavily on the federal definition and the one developed by the state of Washington (see the "Background" section of this memo for full definitions).

On September 17, 2009, the OPC adopted a resolution to support interagency collaboration and management of geospatial information that will help identify priority uses and address current and future user conflicts in the ocean environment. The OPC also directed staff to analyze and develop recommendations on marine spatial planning, including planning principles and objectives, for future approval by the OPC.

California Coastal and Marine Geospatial Working Group: In carrying out the first part of the OPC's September 2009 resolution, OPC staff has co-convened the California Coastal and Marine Geospatial Working Group (see detail in the "Background" section of this memo, below). To date, the working group has identified priority data needs and uses, and assessed various data-sharing tools. The group has also concurred that no single existing geospatial portal or tool effectively meets the needs of the marine and coastal state agencies, and recommended that the state "expediently fund a stakeholder scoping study and development of an online data-sharing network and access tool, ideally in the form of a data portal, that allows for the efficient management, sharing, and downloading of coastal and marine geospatial information for the benefit of natural resource management agency staff, decision-makers, and the greater public." In response to this recommendation, under authority delegated to the OPC Secretary, OPC staff is contracting for a study to identify the options for designing an online information system for California coastal and marine geospatial data.

Presidential Executive Order: Since the OPC's September 2009 resolution, two major CMSP developments have occurred. First, President Obama signed an Executive Order in July 2010 that adopted the *Final Recommendations of the Interagency Ocean Policy Task Force*² and directed federal agencies to take the appropriate steps to implement them. The task force defined coastal and marine spatial planning to be "**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.**"³ Consistent with the final recommendations, **the Executive Order provides for the development of coastal and marine spatial plans** that build upon and improve existing federal, state, tribal, local, and regional decision-making and planning processes. Plans are to be developed on a regional basis, and California will work with Oregon and Washington to develop a plan for the West Coast Region. More detail about the Executive Order is provided in the "Background" section of this memo, below.

Assembly Bill 2125 Requirements: Second, Governor Schwarzenegger signed Assembly Bill (AB) 2125 (Ruskin) in September 2010. In response to the federal task force findings, this bill adds Public Resources Code Section 35620 to the California Ocean Protection Act, which provides that "**the OPC shall support state agencies' use and sharing of scientific and geospatial information for coastal and ocean decision-making, including marine spatial planning**" (See AB 2125, Attachment 1). Specifically Section 35620 requires that the OPC assess public agency needs; increase the amount of available baseline scientific and geospatial information; support collaborative management and use of relevant scientific and geospatial information; and help identify, adapt, and create relevant decision-support tools.

² *Final Recommendations Of The Interagency Ocean Policy Task Force July 19, 2010 (The White House Council on Environmental Quality)*. http://www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf.

³ *Final Recommendations*, p. 41.

These two important CMSP developments need to be considered in developing principles and objectives on marine spatial planning for California. Staff is therefore bringing for the OPC's approval the following conceptual workplan, which contains recommendations for implementing CMSP in California that take into account the principles, objectives, and directives of the national ocean policy and the Ruskin bill.

CONCEPTUAL WORKPLAN

Guiding Principles and Objectives:

- It is in the state's interest to improve data collection, management, and sharing among agencies in order to support better-informed management and use decisions, resulting in reduced adverse impacts to the environment, enhanced habitat restoration, fewer user conflicts, and realization of economic and other benefits.
- As articulated in the national policy, investing in CMSP is intended to provide for enhanced ecosystem benefits and services, while facilitating sustainable economic growth by providing transparency and predictability for economic investments in the coastal and marine environment.⁴
- In implementing CMSP, California will, at a minimum, build upon the following ongoing actions:
 - California is already carrying out some of the actions recommended in the national ocean policy, including working within a regional governance structure (e.g., the West Coast Governors Agreement (WCGA)), consulting with scientists and technical experts (e.g., the OPC Science Advisor and the establishment of the OPC Science Advisory Team) and analyzing data (e.g., via the Coastal and Marine Geospatial Working Group).
 - The OPC is already engaged in work to coordinate and support state agencies' use and sharing of scientific and geospatial information via the Coastal and Marine Geospatial Working Group, consistent with the charge set forth in AB 2125.
- OPC's initial investments toward CMSP have put California in a position to leverage support from the federal government to develop and implement the CMSP process, and the OPC will seek federal and other funding to carry out its state and national mandates with respect to CMSP.
- California will consider incorporating elements and lessons learned from other states that are developing various products, plans, and programs in support of CMSP (more detail on other efforts provided in the "Background" section of this memo, below).

Work Plan Scope:

Information Needs Assessment. Assess the needs of California's public agencies with respect to their abilities to gather, manage, use, display and share information and decision-support tools relevant to managing ecosystems in the coastal and ocean environment.

⁴ *Final Recommendations*, pp. 44-45.

- OPC staff will continue to assess needs through the vehicle of the California Coastal and Marine Geospatial Working Group. (*ongoing*)
- OPC staff will contract (under delegated authority) for a scoping study to identify the options for designing an online information system for California coastal and marine geospatial data. (*Nov 2010 – Jun 2011*)
- Upon completion of the scoping study, OPC staff expects to return to the OPC to request funds for actual development of the online information system. (*begin in Jun 2011*)

Baseline Information Development. Once needs are determined, increase the amount of baseline scientific and geospatial information that is available to public agencies in a publicly accessible, electronic, and geospatial format. Information should at least address the issues and information needs articulated in Section 35620(a)(2)(A-G) of the Ruskin bill. (*next steps will be informed by the scoping study and development of the online information system*)

Collaborative Management and Use of Information. Support public agencies' collaborative management and use of scientific and geospatial information relevant to managing and protecting coastal and marine ecosystems.

- OPC staff will continue to provide this support, through the vehicle of the California Coastal and Marine Geospatial Working Group and other options identified through development of the online information system. (*ongoing*)

Decision Tools. Help identify, and perhaps also adapt and create, decision-support tools relevant to managing and protecting coastal and marine ecosystems.

- OPC staff will begin to identify tools through the California Coastal and Marine Geospatial Working Group and through the scoping study. (*begin in Nov 2010*)

Fiscal Support. Award grants (as authorized by subsequent action of the OPC) to improve geospatial data collection, interagency data sharing and collaboration, and tools for visualizing and analyzing the data. (*begin once needs are identified and capacity to manage information is developed*)

CMSP Structure. Evaluate the need to develop a structure and process for CMSP that considers the elements identified in the national policy: Regional objectives and existing efforts; engagement of stakeholders and the public; consultation with scientists and technical experts; analysis of data, uses, services, and impacts; and development and evaluation of scenarios and alternatives. First steps toward developing this structure and process will include the following:

- Support the WCGA in their application for foundation funding to undertake the following CMSP tasks in collaboration with our regional partners: Assess regional priorities and needs, including capacity, data, tools, and products to gather, manage, use, display and share geospatial information within the west coast region; develop a long-term funding strategy and proposals; propose a Regional Planning Body; craft a regional engagement strategy; and create a work plan with timeline and success metrics. (*if funded, Oct 2010 – Jul 2011*)
- Support the WCGA in their application to the NOAA Regional Ocean Partnership Funding Program for FY2011 for a portion of the \$20 million included in the

President's budget request to fund proposals that "include or emphasize regional CMSP efforts." (*proposal due Dec 10, 2010*)

- Continue to work within the WCGA to develop and implement a regional plan that meets the federal policy objectives; build on work conducted with foundation and/or NOAA funds, if awarded. (*begin Nov 2010*)

Strategic Planning Process. Through the OPC Strategic Plan update process, identify appropriate and effective role, tasks, and projects that the OPC can undertake to support implementation of CMSP. (*Nov 2010 – Nov 2011*)

BACKGROUND:

Management Need: California has more than 2,100 miles of coastline along the Pacific Ocean and San Francisco Bay, and more than 4,500 square miles of marine waters, which support an ocean-dependent economy valued at more than \$46 billion per year. The health, productivity, and resilience of California's ocean ecosystems are critical to the state's long-term environmental and economic security.

The coastal and ocean environment is facing increasing demands on its resources, with increasing pressure to accommodate multiple and sometimes conflicting uses such as offshore energy facilities, shipping lanes, commercial fishing, beach sand replenishment, and recreational activities. The environmental and economic impacts and benefits of each of these uses should ideally be considered in the context of the other uses and activities. In addition, changing conditions such as those brought about by climate change need to be factored in.

To maximize both the environmental and economic benefits our oceans provide and to minimize future user conflicts, it is important to have the necessary information to make decisions that consider a variety of factors. Scientists, resource managers, and policy makers have identified a need for more proactive and coordinated management of marine ecosystems; effective means of implementing ecosystem-based planning and management approaches; and access to relevant scientific information about ocean ecosystems. California's public agencies and resource stakeholders have also identified a need for better access to high-quality scientific and geospatial information to make more informed decisions that serve the state's long-term interests in maintaining healthy, productive, and resilient marine ecosystems.

Making well-informed management decisions may be constrained, however, by lack of accessible information and/or limited coordination among planners in different sectors. Thus, there is a pressing need in California to obtain and share comprehensive marine geospatial data.

Participating in a CMSP process can provide the informational underpinnings to support better-informed management and use decisions, resulting in reduced adverse impacts to the environment, enhanced habitat restoration, fewer user conflicts, and realization of economic and other benefits. The process will include, for example, obtaining and sharing needed comprehensive marine geospatial data.

Geospatial Information: Coastal and marine geospatial data provide critical baseline information for evaluating and addressing uses of the marine and coastal environments and for developing policies that effectively protect them, while facilitating multiple uses of ocean and coastal resources. Historically, these data are housed in various agencies and databases, using different

standards of quality control and incompatible formats, which often presents significant problems for sharing and integrating these data to conduct more comprehensive marine and coastal management.

The OPC plays a unique role in coordinating data sharing and collaboration among state and federal agencies. During its first five years, the OPC made significant investments in research yielding marine geospatial data (e.g., seafloor mapping, coastal LiDAR data collection, MPA baseline monitoring) to provide state agencies and other stakeholders with valuable baseline information for informing a variety of state management and planning actions such as the placement of marine protected areas and climate change adaptation. Staff from the OPC and NOAA Coastal Services Center (CSC) also initiated efforts to improve data coordination through a query of state data users, and a workshop hosted by OPC, CSC, the Ocean Science Trust, the Center for Ocean Solutions, and The Nature Conservancy (proceedings are available at <http://www.centerforoceansolutions.org/Spatial-Data-and-Tools/Workshop-2009/main.html>). Building from these earlier efforts and in response to the 2009 OPC resolution, the California Coastal and Marine Geospatial Working Group was formed. Participants of this working group are the technical users of coastal and marine geospatial data,⁵ and the group is co-chaired by staff from the OPC and the NOAA CSC. The Working Group seeks to facilitate the exchange and analysis of statewide geographic information to assist with the protection of coastal and marine resources, support environmental assessment efforts, and improve comprehensive planning in coastal and marine areas. To date, the Working Group has cataloged its top-priority data uses and needs; identified several data gaps; and described the purposes for which agencies use, or could use, data. In response to the group's conclusion that no single existing geospatial portal or tool effectively meets the needs of the marine and coastal state agencies, OPC staff is now retaining technical expertise to assist with a study to scope the options for designing an online information system for California coastal and marine geospatial data.

- Many tools have been developed in recent years that have improved geospatial data sharing, analysis, and presentation capabilities through mapping. Web interfaces such as Google Earth and Google Ocean are providing accessible and user-friendly interfaces for bringing geospatial information to the public. Specific decision-making mapping tools, such as MarineMap, are informing stakeholder processes like the marine protected area (MPA) designation process under the California Marine Life Protection Act (MLPA) Initiative. Other geospatial data tools include information useful for ocean and coastal planning such as the California Coastal Sediment Management Workgroup's web-based spatial data viewer, NOAA's Multipurpose Marine Cadastre, The Nature Conservancy's Coastal Resilience tool and the state digital coastal atlases created by Massachusetts, Rhode Island, Washington, Oregon, Mississippi, and Alabama.

California can learn from these existing efforts and help lead the way toward more comprehensive ocean and coastal management by advancing geospatial data sharing techniques and tool development in coordination with federal and state partners. The current study to

⁵ To date: California Coastal Commission, California Department of Fish and Game, California Environmental Resources Evaluation System, California Ocean Protection Council, California State Lands Commission, San Francisco Bay Conservation and Development Commission, State Coastal Conservancy, NOAA Coastal Services Center, NOAA National Marine Sanctuaries, and Center for Ocean Solutions (COS).

identify options for designing an online information system will consist of four key activities: (1) identification of potential users of the geospatial information system, (2) an assessment of these users' functional data needs and technical requirements, (3) an analysis of the types of information management systems that could meet the needs of these users and an evaluation of the cost of adapting an existing state system as opposed to building a new one, and (4) a recommended framework and work plan for development of the geospatial data management system. Once the study is completed (early to mid-2011), OPC staff will bring recommendations back to OPC and anticipates requesting funds to design and build the online information system.

Executive Order and National Policy: On July 19, 2010, President Obama signed an Executive Order that adopts the *Final Recommendations of the Interagency Ocean Policy Task Force* and directs federal agencies to take the appropriate steps to implement them. Consistent with these recommendations, the Executive Order also establishes a National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes; and provides for the development of coastal and marine spatial plans that build upon and improve existing Federal, State, tribal, local, and regional decision-making and planning processes. The Task Force defined CMSP as follows:

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.⁶

The intent of the regional CMSPs is to enable an integrated, comprehensive, ecosystem-based, flexible, and proactive approach to planning and managing sustainable multiple uses across sectors and improve the conservation of the ocean and coasts. National Goals of CMSP are articulated as follows:

1. Support sustainable, safe, secure, efficient, and productive uses of the ocean, our coasts, and the Great Lakes, including those that contribute to the economy, commerce, recreation, conservation, homeland and national security, human health, safety, and welfare;
2. Protect, maintain, and restore the nation's ocean, coastal, and Great Lakes resources and ensure resilient ecosystems and their ability to provide sustained delivery of ecosystem services;
3. Provide for and maintain public access to the ocean, coasts, and Great Lakes;
4. Promote compatibility among uses and reduce user conflicts and environmental impacts;

⁶ *Final Recommendations*, p. 41.

5. Improve the rigor, coherence, and consistency of decision-making and regulatory processes;
6. Increase certainty and predictability in planning for and implementing new investments for ocean, coastal, and Great Lakes uses; and
7. Enhance interagency, intergovernmental, and international communication and collaboration.

The National Ocean Council will provide guidance for developing regionally-based CMSPs; California would be part of the West Coast Region, which includes California, Oregon and Washington. Essential elements of developing CMSPs have been identified as follows:

- Identify regional objectives
- Identify existing efforts that should help shape the plan throughout the process
- Engage stakeholders and the public at key points throughout the process
- Consult scientists and technical and other experts
- Analyze data, uses, services, and impacts
- Develop and evaluate alternative future spatial management scenarios and tradeoffs
- Prepare and release for public comment a Draft CMSP with supporting environmental impact analysis documentation
- Create a Final CMSP and submit for National Ocean Council review
- Implement, monitor, evaluate, and modify (as needed) the certified CMSP.

Assembly Bill 2125 (Ruskin): Signed by Governor Schwarzenegger in September 2010, AB 2125 incorporates the federal definition of CMSP, and adds Public Resources Code Section 35620 to the California Ocean Protection Act. Section 35620 requires the OPC to support state agencies' use and sharing of scientific and geospatial information for coastal- and ocean decision-making, including CMSP. Specifically, under the legislation the OPC is directed to take the following actions:

- (1) Assess the needs of California's public agencies with respect to their abilities to gather, manage, use, and share information and decision-support tools relevant to ecosystem-based management in the coastal and ocean environment.
- (2) Once needs are determined, increase the amount of baseline scientific and geospatial information that is available to public agencies in a publicly accessible, electronic, and geospatial format with respect to the following aspects of coastal and ocean ecosystems:
 - Ecosystem health structure, functioning, productivity, resilience, and vulnerability to threats.
 - The effects of climate change.
 - The cumulative effects of human-caused and natural sources of stress.

- Existing and predicted patterns of human activities, including activities that present conflicting or compatible demands on coastal and ocean ecosystems or those that require the use of a precautionary approach.
 - Social, economic, and cultural values, including the value of coastal and ocean ecosystems for providing ecosystem services.
 - Distinguishing ecological characteristics, including habitat heterogeneity, species abundance, and biodiversity.
 - Other physical, biological, economic, social, and cultural information that the OPC determines is relevant to marine spatial planning.
- (3) Support public agencies' collaborative management and use of scientific and geospatial information relevant to ecosystem-based management.
- (4) Help identify, adapt and create decision-support tools relevant to ecosystem-based management.

Under Section 35621, also added to the California Ocean Protection Act by AB 2125, the OPC is specifically given authority to award grants, enter into interagency agreements, and provide assistance to public agencies and nonprofit organizations to support CMSP, including grants to improve geospatial data collection, interagency data sharing and collaboration, and tools for visualizing and analyzing the data.

Other Efforts to Implement CMSP: Several other states (e.g., Washington, Oregon, Massachusetts) and entities are developing various products, plans, and programs in support of CMSP. California can learn from and consider incorporating various elements of these other efforts. For example, the OPC's working definition of CMSP is based heavily on the federal definition and the one developed by the state of Washington, below:

CMSP is a public process of compiling information on the distribution of current and projected human activities in marine waters and informing ongoing management with this information to protect existing uses while reducing conflicts among projected uses, all the while preserving the State's marine resources for present as well as future generations.

CONSISTENCY WITH THE CALIFORNIA OCEAN PROTECTION ACT:

The proposed action is consistent with the California Ocean Protection Act (Division 26.5 of the Public Resources Code). Section 35615(a)(1) specifically directs the OPC to coordinate activities of state agencies to improve the effectiveness of state efforts to protect ocean resources and establish policies to coordinate the collection of scientific data related to the ocean. It is also consistent with Section 35615(a)(5), which directs the OPC to transmit the results of research and investigations to state agencies to provide information for policy decisions. Further, the proposed action takes the initial step towards implementing Section 35620, added by AB 2125 and effective as of January 1, 2011.

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

The project is consistent with the OPC's Five-Year Strategic Plan in the following respects:

Goal A (Governance), Objective 2b: Interagency Collaboration: “Work with all relevant state agencies to develop necessary legislation, regulations, or other tools to improve ocean governance.” The proposed action is designed to encourage collaboration among state and federal agencies with regard to ocean planning and promote the sharing of geospatial data and creation of data analysis and visualization tools that would result in more effective ocean management.

Goal A (Governance), Objective 4a: Ecosystem-based Management: “Work with all relevant state agencies to develop proposed legislation, regulations, or other tools to integrate EBM principles into agency operations.” EBM (ecosystem-based management), as defined in the OPC Strategic Plan, is “an integrated approach that considers the entire ecosystem, including humans.” The gathering and sharing of geospatial information on human uses, as well as species and habitat data, is essential for implementing an EBM approach.

Goal B (Research and Monitoring), Objective 2: Monitoring: (f) “Develop and implement a system for data management and a standardized approach to the format and distribution of mapping products.” (i) “Establish a mechanism or organization to provide data synthesis services with the goal of assembling scientific results from state and national efforts and producing products for diverse scientific, public, and policy audiences.” The OPC is engaged via the California coastal and marine geospatial working group in supporting agency management and sharing of geospatial data, in part through the creation of data standards and data analysis and visualization tools.