

ANALYZING CALIFORNIA'S MARINE MANAGED AREAS: EXISTING CLASSIFICATIONS AND OPTIONS FOR THE FUTURE

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ABSTRACT

California has a long history of establishing marine managed areas. Site designations have been made through various administrative, legislative, or voter initiative processes without the benefit of a statewide plan to ensure effectiveness or consistency among sites and designations. In recent years, the State of California has initiated a critical review of its marine management practices. The landmark report *California's Ocean Resources: An Agenda for the Future* called for a review of California's marine managed areas, which led to the establishment of the State Interagency Marine Managed Areas Workgroup, chaired by the Resources Agency.

The participants in this effort are working to identify and recommend a more effective and less complicated statewide classification system for marine managed areas, relying as much as possible on the expertise and knowledge of individuals with management responsibilities and interests in ocean and coastal managed areas. The final report will be a collaborative effort, the ultimate success of which will depend on a series of interactive workshops, meetings, and Internet discussions involving a wide variety of stakeholders. Final recommendations are likely to include a mix of administrative and legislative actions.

INTRODUCTION

The sardines cannot be treated as isolated organisms living in a vacuum. The investigation must be an integrated one in which proper weight is given not only to the currents and other aspects of the physical environment but also to the entire organic assemblage, including the plants and animals which form the food chain of the sardines, their competitors for the food supply, and the predators, including man.

—Roger Revelle in 1947,
as quoted by Harry Scheiber (1990)

In a similar fashion, California's array of named, discrete marine managed areas (such as reserves, refuges, and natural reserves) should not be viewed as a single solution to the numerous and multifaceted problems related to ocean and coastal resource management. Marine

managed areas (MMAs) are but one of many tools available to policymakers and managers and should be viewed within this context. We will describe the use of a collaborative approach between state agencies and constituencies in our investigation of the classification system for MMAs in California. The challenge presented by this task is great, because the current array of classifications to protect and manage marine resources is complex and often confusing. This effort can succeed only with the assistance, cooperation, and hard work of many people who care deeply about California's ocean and coastal resources.

BACKGROUND

The use of MMAs for protecting ocean and coastal resources has a long history in California, dating back to the early 1900s. Over the years numerous classifications have been established, evolving on a case-by-case basis through legislative and administrative actions and by public referendum. These designations have not conformed to any plan for establishing MMAs in the most effective way or in a manner that ensures that the most representative or unique areas of the ocean and coastal environment are included.

In addition, a number of state agencies have been given a role in the designation and management of marine areas, leading at times to duplicative or conflicting goals, rules, and regulations. A California Department of Fish and Game (CDFG) report released in 1989, *Marine Life Refuges and Reserves of California*, evaluated the different classifications managed by the department and found that "The net effect of these laws and regulations is that we now have only minor differences between the regulations governing the use of refuges and reserves established by the legislature and the Fish and Game Commission."

Shortly after the release of the CDFG report, the legislature passed the California Ocean Resources Management Act (AB 2000 as amended by AB 205 in 1991, Farr), which mandated several actions, two with major implications for the management of California's marine areas. First, all nonstatutory executive branch responsibilities for ocean resource management were transferred to the Secretary for Resources. Second, the act required

the preparation of a document to lay out a vision for more coordinated, efficient, and effective approaches to a wide variety of issues dealing with ocean resource management.

In preparing the required document, the Resources Agency held six public workshops in 1993 and six more in 1995 along the California coast to discuss and take comment on issues relevant to ocean and coastal resource management in California. One such issue was what the public perceived as a complex and confusing array of marine "managed" areas along the coast. This issue surfaced in the early proceedings, but the public has become substantially more interested in it during the last two years.

The final document, *California's Ocean Resources: An Agenda for the Future* (Ocean Agenda; Resources Agency of California 1997), was released at the international conference "California and the World Ocean '97" held in San Diego in March 1997 (organized by the Resources Agency of California and the Coastal Zone Foundation). The Ocean Agenda is both a resource and a statewide strategy, identifying methods for improving the way we manage our economic and natural resources. The Ocean Agenda addresses four broad categories:

- California's ocean ecosystem and the relationship between land and sea
- Economic contributions of key ocean-dependent industries
- Research, education, and technology development
- Jurisdiction and ownership relating to ocean management.

MARINE MANAGED AREAS AND THE OCEAN AGENDA

The most familiar term for many people when referring to an area along the coast that is managed in some way to protect ocean and coastal resources is *marine protected area* (MPA). The term is typically used to describe areas of intertidal or subtidal terrain that are reserved by law or regulation to protect part or all of the resources within them.

The Ocean Agenda explicitly uses the term *marine managed area* rather than MPA for two reasons. First, the term *protected* often gives the misimpression that the area is under complete protection, and that no extraction of marine resources will be allowed. Because most of the existing classifications and designated sites do not provide this level of protection, the term *managed* has been used to provide a more accurate description. Second, how we manage our shoreline environment has a definite and measurable effect upon the intertidal and subtidal components of the ocean ecosystem. The Ocean Agenda uses the term *marine managed area* to identify discrete "named" areas that provide some level of man-

agement or protection to marine resources. While this is primarily intertidal and subtidal, terrestrial areas (such as coastal state parks) that are adjacent to marine waters are also included. Thus MPAs are a subset of MMAs in that all subtidal, intertidal, estuarine, and adjacent terrestrial areas are included in the definition of a marine managed area.

The Ocean Agenda found that California's array of ocean and coastal managed area classifications (approximately 20, including reserves, state reserves, ecological reserves, natural reserves, etc.) is complex and often confusing. Specifically, the Ocean Agenda identified uncertainty about the requirements of, restrictions within, and boundaries of the array of sites and classifications. For instance, reserves established by the Fish and Game Commission have no legally mandated mission or general regulations in the California Code of Regulations. As a result, there is confusion about the intent of reserve designations, and little consistency in limitations to the collection or harvest of species among reserve sites.

Maps in the Ocean Agenda show the general location of these areas, and accompanying charts explain the different classifications and their purposes. Questions have arisen about the effectiveness and enforceability of these designations meant to safeguard the state's ocean and coastal biodiversity and to promote public use and enjoyment of these resources (Murray et al. 1999). As a result, the Ocean Agenda recommended that the state evaluate this array of classifications to develop a more effective and less complicated statewide system of ocean and coastal managed areas. It further recommended developing a comprehensive program, with clear criteria for creating, administering, and enforcing management measures in these specially designated areas. To address these recommendations, the Resources Agency of California convened a State Interagency Marine Managed Areas Workgroup.

STATE INTERAGENCY MARINE MANAGED AREAS WORKGROUP

The State Interagency Marine Managed Areas Workgroup is charged with defining and evaluating the current array of state MMA classifications and recommending improvements. The initial approach is limited to state agencies and the classifications under their jurisdiction. Federal and local MMAs play an important role in California, but it was determined that the state agencies of jurisdiction in California needed to evaluate the purpose and design of a state system as a first step. The involvement and input of other interested parties in the evaluation of state designations is critical and will be discussed later.

The workgroup is chaired by the Resources Agency. Its members represent state entities with MMA respon-

sibilities or interests. These include the California Coastal Commission, the Department of Fish and Game, the Department of Parks and Recreation, the San Francisco Bay Conservation and Development Commission, the State Lands Commission, the State Water Resources Control Board, and the University of California. Deborah McArdle, with the UC Sea Grant Cooperative Extension and author of *California Marine Protected Areas* (McArdle 1997), has been participating in an advisory capacity. The National Center for Ecological Analysis and Synthesis (NCEAS) has provided a postgraduate researcher to support the group's efforts.

Based upon the Ocean Agenda's recommendation and subsequent discussions, the workgroup identified its goal:

To develop a more effective and less complicated statewide classification system of ocean and coastal managed areas, relying as much as possible on the expertise and knowledge of state agencies with management interests in ocean and coastal managed areas. This goal should be met without hindering or slowing other work already taking place on marine managed areas.

Note that this goal is related primarily to an organizational or "classification" analysis, as opposed to an analysis of the suitability or effectiveness of specific sites. While such a comprehensive site analysis is desirable, it would not be feasible before the classification analysis is completed.

Several points that the interagency workgroup addressed while conducting its analysis and preparing the draft report should be highlighted. First, it was important for the group to define MMAs and distinguish them from the more commonly known MPAs. For this project, the interagency workgroup defined MMAs:

Marine managed areas are named, discrete geographic marine, estuarine, and adjacent terrestrial areas along the California coast designated using legislative, administrative, or voter initiative processes intended to protect, conserve, or otherwise manage a variety of resources and uses. Adjacent terrestrial areas are included because they have a substantial effect on the protection, conservation, and management of California's ocean resources.

Although the workgroup included adjacent terrestrial areas in its definition and analysis of state MMAs, it was decided that the recommendations specific to establishing and naming an integrated, organizational system should be limited to those marine areas seaward of the mean high tide line. This, in essence, includes the existing array of sites conventionally known as marine protected areas.

It is important to recognize that the above definition of MMAs does not include areas that are legislatively or administratively established for specific species or

fishing gear (such as seasonal or geographic closures, size limits, etc.) in order to manage commercial or recreational fisheries. These areas tend to change over time (some are long-term, but many are not) and are difficult to analyze in conjunction with more permanent sites. This is not to imply that such areas are not important or significant in managing ocean and coastal resources, but simply that their analysis was beyond the scope of the workgroup's efforts. We believe such areas should be considered in conjunction with any future analysis of the designation or evaluation of specific MMA sites.

The workgroup has struggled with use of the term *system* to describe the existing array of MMA classifications and designated sites. In the case of California's MMAs, they were not developed as, nor do they function as a true system, which could be defined as a set or arrangement of things that are related to form a unity. The workgroup's efforts are centered around developing a relatively small set of classifications to represent the full spectrum of protective measures and management objectives that can reasonably be achieved through the use of MMAs, while minimizing duplicative classifications and confusing naming conventions.

WORKGROUP AND PUBLIC PROCESS

The first workgroup meeting was held on July 31, 1998; since then the group has met almost monthly in Sacramento. Much of the work has been completed between meetings through the use of a secure Web site and list server, both provided and maintained by NCEAS. Without these tools for rapid communication, the workgroup process would be much longer and more expensive. The group is summarizing background materials and making recommendations to be compiled into a draft report. So far, all of the group's decisions about agency roles and the classification analysis have been made by consensus.

After consulting with the participating agencies, and with the concurrence of the Secretary for Resources, the workgroup will present its draft report at a series of interactive public workshops to be held along the California coast. These workshops will be based on a collaborative process involving a wide variety of interests, and will be critical to the success of the effort. Public comments and recommendations will also be welcomed at a Web site, where the draft report will be posted and a discussion group will be available for people interested in establishing a dialog about the merits of the draft report and its recommendations.

Following the public process, the workgroup will amend the report and prepare a final set of findings and recommendations. The final recommendations are likely to include a mix of administrative and legislative actions.

The efforts of the interagency workgroup do not preclude progress on other efforts related to MMAs. The workgroup's findings and recommendations are being prepared in a way that will fit into an overall system of MMAs with multiple designating and managing entities.

FUTURE STEPS

Specific actions that will be necessary after the workgroup releases its final report to the governor and legislature will depend in large part on its final recommendations. However, a number of actions would seem apparent, regardless of the final recommendations.

No matter what design is recommended for a statewide system of marine managed areas, existing MMA sites and classifications will have to be incorporated into the new design. In addition, the workgroup is likely to recommend analyzing the effectiveness of MMAs in meeting statewide or regional management objectives. This will require establishing measurable goals, objectives, and evaluation criteria for each classification. Such an analysis could result in a recommendation to change the degree of protection for specific sites. Some level of monitoring to determine the relative long-term effectiveness of the system of MMAs will also be necessary.

The active involvement of stakeholders in helping to develop the final report through interactive workshops will be vital to the success of the process. The State of California cannot meaningfully approach MMAs without the involvement of commercial and sport fishermen, public interest groups, the scientific community, ocean industries, other government entities, and other interested parties in a cooperative relationship (see Pomeroy 1999). We are not the first to make this observation; the need for collaborative approaches was noted many years ago by Wilbert McLeod Chapman, the state's top fishery manager, who said in 1949 (as quoted by Harry Scheiber in 1991):

. . . these conditions involve biological, oceanographic, political, commercial, diplomatic, technological, marketing, academic, economic, and personal relations factors, many

of which I do not understand. I've come to the conclusion that nobody else understands all these factors and the interrelations either. Therefore, at every opportunity I seek to thrust together people who have specialized knowledge of one or more of these factors, to the end that they jointly can produce decisions and conclusions bearing on this objective that are more sound and practical than those produced by any one individual . . .

The challenges identified by Chapman are as true today as they were in 1949. In the coming year this process can either benefit from, or be stopped in its tracks by the diverse points of view that will be expressed about the protection and management of our marine environment. The formidable task before us is to build a system that will respond to these diverse needs as we enter the twenty-first century.

ACKNOWLEDGMENTS

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