

Chapter 1. Introduction

1.1 Background and Setting

California's marine life is both rich and diverse. Thousands of species of plants, algae, invertebrates, fishes, seabirds, turtles, and mammals occupy a wide variety of habitats along the state's 1,100 miles of coast and associated waters. This abundant marine life is enjoyed by many people and supports numerous activities including commercial fishing, sport fishing, diving, aquaculture, biotechnology, tourism, education, and recreation. As California enters the 21st century, its growing population, diverse culture, and expanding economy will continue to place additional demands on the state's marine resources, and make management of these resources increasingly complex.

The decline of fisheries in many parts of the world brought an end to the view of oceans as limitless sources of food and materials. It is now clear that fisheries and other marine living resources need to be managed for sustainability. (Sustainability refers to the continual replacement of a resource, taking into account fluctuations in abundance and environmental variability.)

1.2 The Marine Life Management Act

Assembly Bill 1241 was passed in 1998 by the California Legislature, and the Marine Life Management Act (MLMA) became law on January 1, 1999 (Appendix A). The MLMA significantly changes the way California's marine fisheries are managed and regulated. One of its primary policies is to ensure the conservation, restoration, and sustainable use of California's marine living resources for all citizens through scientifically-based decisions and processes that involve a broad constituency. Marine resources are to be managed to assure long-term economic, recreational, ecological, cultural and social benefits.

The MLMA requires that Fishery Management Plans (FMPs) form the primary basis for managing the state's marine fisheries. An FMP is a planning document based on the best available scientific knowledge and other relevant information, that contains a comprehensive review of the fishery along with clear objectives and measures to ensure its sustainability.

1.3 Department of Fish and Game Fishery Management Plans

As required by the MLMA, the DFG is currently developing FMPs for white seabass and the nearshore finfish fishery. A White Seabass Management Plan was approved by the Fish and Game Commission (Commission) in 1996, but never implemented. The DFG is now updating this plan to meet MLMA requirements. The Nearshore Fishery Management Plan includes 19 finfish species: 13 rockfish (black, black and yellow, blue, brown, calico, copper, China, gopher, grass, kelp, olive, quillback, and treefish), California scorpionfish, cabezon, California sheephead, kelp greenling, rock greenling, and monkeyface prickleback.

1.4 The Master Plan

Due to the large number of marine fisheries in California, and the considerable time and effort involved in the preparation of FMPs, it is important to establish guidelines and set priorities. Accordingly, §7073 FGC requires a Master Plan that specifies the process and resources needed to prepare, adopt, and implement FMPs for sport and commercial marine fisheries managed by the state (Appendix A). Thus, the Master Plan will serve as a roadmap for the development of future FMPs. Although the Master Plan relies heavily on the intent of the language in the MLMA, it is not intended to be a guide for achieving all of the goals and objectives outlined.

The Master Plan is intended to serve as a guide for the Legislature, the Commission, the DFG, and other interested persons. It contains many items specific to FMPs, but also identifies other issues that need further clarification.

The Master Plan describes the requirements and specific contents of an FMP, as well as the tasks required of technical, enforcement, and administrative staffs during the preparation, adoption, and implementation. The Master Plan provides estimated costs for three different management plans, and notes important issues that need further clarification for the success of future FMPs.

The Plan then begins identifying the next FMPs to be developed. It lists over 375 species of fish, invertebrates, plants and algae that are managed by the state. Many of these species already have existing or developing state or federal FMPs and are identified as such. The remaining species are then prioritized for future FMPs using three different approaches. Several fishes, invertebrates, and algae are identified as the fisheries most in need of conservation and management measures, and are organized into groups for the next FMPs.

The Master Plan also sets the stage for the collection of essential fishery information (EFI). It describes past and ongoing DFG monitoring and research activities, identifies future research needs, prioritizes the collection of EFI, and emphasizes the need for public involvement and collaborative research.

One of the central themes of the MLMA is the need for public involvement in fisheries management activities, and this is integrated throughout this document. The Master Plan describes processes and timelines to ensure the meaningful involvement of fishermen, conservationists, scientists, and others in the development of FMPs and research plans.

Since science is an integral part of FMPs and is a primary tool to be used in making management decisions, the Master Plan describes the scientific peer review process that will be applied to DFG documents.

Lastly, the Master Plan recognizes that FMPs constitute a new way of management for the DFG and California's marine fisheries. In addition, our marine fisheries are constantly in flux, and better research methods are identified. Newly established processes and procedures are implemented and evaluated. To this end, the Master Plan presents a process for periodic review and amendment of this document.

1.5 Ecosystem Considerations

One of the objectives of the MLMA is to not only conserve the health and diversity of marine living resources, but also to do so for whole marine ecosystems. Fishery management plans must include information on the ecosystem role of the target species as well as the relationship of the fishery to that role. The MLMA recognizes that non-target species and habitats can be affected by fisheries as well, and FMPs must address and provide measures that minimize these impacts.

1.5.1 What is an Ecosystem?

An ecosystem is defined as “a spatially explicit unit of the Earth that includes all of the organisms, along with all components of the abiotic environment within its boundaries” (Likens 1992). Ecosystems vary spatially, change with time, and are made up of many complex interactions among their living and nonliving components. Marine ecosystems can be particularly complex due to the vastness of the marine environment, the large number of organisms, and the intricacies of the physical, chemical, biological, and social processes involved. As a result, most marine ecosystems are poorly understood.

1.5.2 Ecosystem-Based Management

The DFG, along with many other state, federal, and non-governmental agencies is moving toward an ecosystem-based approach to the management of natural resources. Traditionally, resource managers have adopted single-species or species-complex approaches to managing fisheries. But over the years, these approaches have proven insufficient or unsuccessful in many cases. Although an ecosystem-based approach to marine fisheries management is a relatively new concept, it is a fundamentally broad approach that recognizes the interdependence of multiple species and their habitats within a constantly changing oceanographic environment.

1.5.3 Implementing Ecosystem-Based Management

Even though marine ecosystems are unpredictable and complex, we are not required to understand all things about all components in order to implement ecosystem-based management of fisheries. In fact, ecosystems will always contain considerable uncertainties and unmeasured variables. We do know that fishing can alter the structure and function of marine ecosystems (Pauly et al. 1998). When target species are removed, effects are seen on their prey, predators, and competitors. Habitats can also be greatly affected. These effects require that we look at exploitation and fishery management as a real and integral part of the marine ecosystem (Langton and Haedrich 1997).

Although ecosystem-based management requires the use of ecological science in natural resource management decisions, moving from concepts to practice is a formidable challenge. Since FMPs will be the primary basis for managing our marine fisheries, they must go a long way toward achieving ecosystem-based management. FMPs will specifically address ecosystem issues relevant to an individual fishery, and

as more plans are developed and implemented, their overlapping issues will provide a network of ecosystem-related information to be used in management decisions.

It is our hope that this Master Plan will serve as a useful guide for future development, adoption, and implementation of FMPs for California's marine sport and commercial fisheries. Through these individual plans, and their relationships to one another, we can achieve sustainable fisheries and a better understanding of our marine ecosystems. Successful management of our marine living resources and marine ecosystems will involve collaboration with other researchers and agencies, pooling of resources and knowledge, and meaningful public involvement.