

California Marine Life Protection Act Initiative

A Guide to Developing a Management Plan under the California Marine Life Protection Act

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Executive Summary

In passing the Marine Life Protection Act (MLPA) in 1999, the California State Legislature cited the lack of clearly defined purposes and effective management for the marine protected areas (MPAs) that had previously been established in state waters. Effective management is an explicit goal of the Marine Life Protection Act (FGC section 2853 (b) (5)). The MLPA Master Plan Framework (MPF) calls for the preparation of a regional MPA management plan as the foundation for effective management, and includes a suggested outline for a management plan (Appendix K of the MPF). The present Guide for Developing a Management Plan under the California Marine Life Protection Act expands upon the MPF by addressing process design uses related to the development of a management plan and describes in greater detail the contents of a plan. The present document attempts to present the trade-offs of decisions regarding the development process and content of management plans.

A sequence of decisions is necessary to address management requirements of the MLPA. Key decisions and recommendations are listed below, roughly in expected order of occurrence. Expanded discussion of each item follows.

Decision 1: Meeting MLPA requirements for both a management plan and an adaptive management and monitoring and evaluation plan.

Recommendation: Separate the two requirements, developing a separate guide or framework for each in anticipation of separate plans for (a) management and for (b) adaptive management and monitoring and evaluation.

Decision 2: Set the geographic scale for preparation of the management plan.

Recommendation: Prepare the management plan at the scale of the study region (e.g. Point Conception to Pigeon Point.) while addressing MPA objectives at the individual MPA level.

Decision 3: Design stakeholder involvement in developing the regional MPA management plan.

Recommendation: An advisory group consisting of stakeholders and partners should be established which coincides with the Department of Fish and Game's operational and management structure.

Decision 4: Set schedule for regional MPA management plan review.

Recommendation: Regional MPA management plan reviews should be conducted roughly every five years.

The MLPA and the Master Plan Framework¹

In passing the Marine Life Protection Act (MLPA) in 1999, the California State Legislature cited the lack of clearly defined purposes and effective management for the marine protected areas (MPAs) that had previously been established in state waters. To remedy this, the Legislature called for an overall program that would ensure that all MPAs have clear objectives and management and enforcement measures, as well as monitoring, research, and evaluation, to facilitate adaptive management.

MLPA Requirements for Management

Goal five of the MLPA is “to ensure that California’s MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based upon sound scientific guidelines” (FGC section 2853 (b) (5)). Goal 6 is “to ensure that the state’s MPAs are designed and managed, to the extent possible, as a network” (FGC section 2853 (b) (6)). The MLPA later states that the Marine Life Protection Program shall have “specific identified objectives, and management and enforcement measures, for all MPAs in the system” (FGC section 2853 (c) (2)).

The MLPA Master Plan Framework (MPF) calls for the preparation of a regional MPA management plan as the foundation for effective management, and includes a suggested outline for a management plan (Appendix K, MPF). The regional management plan should guide management, research, education, enforcement, monitoring, and budget development. Much of the material required to complete these elements of a management plan will have been developed in the course of designing, evaluating, and establishing a regional network component of MPAs.

The MPF also calls for periodic review and possible revision of a management plan and for a mechanism for revisions in the interim in response to significant events, such as unexpected monitoring results, budget shifts, changes in the status of the populations of focal species or habitats, or changes in the management of areas outside individual MPAs.

The MLPA also requires adaptive management and monitoring and evaluation (FGC section 2853 (c) (3) and Section 2852 (a)). While the term “management” occurs in both areas, “adaptive management” and the associated monitoring and evaluation are quite different than the operational management addressed in this document. Operational management focuses on assembling and using the resources needed to effectuate a program of marine protected areas. In contrast, adaptive management focuses on assembling and using the resources needed to evaluate the success of a program of marine protected areas against goals and objectives and then to adjust that program as needed to increase success.

¹ This document is adapted from drafts prepared by Capt. James Mize, JD/MBA Candidate, UCLA, and Mike Weber, former consultant to the MLPA Initiative.

Because operational management differs substantially from adaptive management and related monitoring and evaluation, we recommend that the two be addressed separately. That has been done in preparing this guide and a separate Adaptive Management, Monitoring and Evaluation Plan Framework.

Purpose of the Guide

There is very little experience to guide the development of a management plan for a regional component of an MPA network. Traditional management plans have guided activities for individual protected areas rather than components of a network of protected areas. Therefore, key questions arise as to how to best manage MPAs as a network or network component.

The purpose of the Guide to Developing a Management Plan under the California Marine Life Protection Act is to present for the California Department of Fish and Game (DFG) the trade-offs of decisions regarding the development process and content of management plans.

Process Design of Management Plans

Set the geographic scale of management plans

An important decision in the development of a management plan is setting the appropriate geographic scale. Several issues arise in choosing the appropriate scale such as the goals of the MLPA and regional objectives developed by stakeholders, efficiency of management, and stakeholder involvement.

MLPA Initiative staff recommends that the study region (e.g. Point Conception to Pigeon Point) is the most appropriate scale at which a management plan should be developed. The rationale for this recommendation is based upon the language of the MLPA that states that the Marine Life Protection Program or network of MPAs, rather than individual MPAs themselves, is to meet the stated goals of the MLPA (FGC section 2853 (b)). In other words, the performance of the network of MPAs is critical to meeting the goals of the MLPA.

Secondly, developing the management plan at the study region level allows for more effective management. Management of groups of MPAs should be undertaken at a geographical scale that matches the organizational units established by DFG. That scale is expected to encompass many MPAs, perhaps at the scale of a study region, but has not yet been determined by DFG and is likely to vary across the state. Importantly, activities such as enforcement and public education are most effectively planned and managed at a scale encompassing groups of MPAs.

Lastly, the development of a management plan can benefit greatly from the participation of stakeholders. Stakeholder participation will be facilitated by developing the management plan at the regional scale, as local stakeholders will be very knowledgeable about the area and will be able to actively participate within the region.

Design stakeholder involvement in developing the regional MPA management plan

The MLPA requires stakeholder involvement in creating and managing MPAs (FGC section 2853 (c) (5)). However, it should be noted that stakeholder involvement plays a purely advisory role to the Fish and Game Commission that has jurisdiction over the establishment, abolishment, and modification of MPA regulations (FGC sections 2859, 2860, 2861).

An advisory group consisting of stakeholders and partners should be established that coincides with DFG's operational and management structure. This advisory group should be distinct from the "MPA Management Advisory Committee for _____ Biogeographical Region" suggested in the Adaptive Management and Monitoring and Evaluation Framework.

Set the schedule for regional MPA management plan review

According to the MLPA, "the commission shall, annually until the master plan is adopted and thereafter at least every three years, receive, consider, and promptly act upon petitions from any interested party, to add, delete, or modify MPAs, favoring those petitions that are compatible with the goals and guidelines of this chapter" (FGC section 2861 (a)). The Adaptive Management and Monitoring and Evaluation Framework suggests adaptive management processes be established every five years (Draft Adaptive Management and Monitoring, Evaluation Framework, p. 18). The regional MPA management plan should be reviewed on the same schedule, every five years.

Structure of the Regional MPA Management Plan

The suggested management plan structure presently recognizes that an adaptive management, monitoring and evaluation framework is being developed independently; as a result, these issues will not be discussed in length. Additionally, more specific detail regarding enforcement and surveillance elements of management plans will be developed by DFG in the months after the preferred alternative MPA network component is identified.

Management plans typically have multiple objectives. Management plans:

1. summarize existing programs and regulations;
2. guide preparation of annual operating plans;
3. articulate visions, goals, objectives and priorities;
4. guide management decision-making;
5. guide future project planning;
6. ensure public involvement in management processes; and
7. contribute to the attainment of system goals and objectives (NOAA, 2002, p. 5).

Regional MPA management plans developed with this guide are envisioned to be working documents; plans should be readily accessible for reference, not shelved in storage. Retaining the plans' usefulness requires regular updates to incorporate new learning gleaned from actual

implementation, consistent with goals of adaptive management. To accomplish this, this guide includes processes for review and revision when necessary.

In developing a regional MPA management plan, many basic questions arise. Why develop a plan? Who is it for? What does it hope to accomplish, and how does it propose to do so? Relevant issues may be grouped under the follow general headings:

1. Introduction (“*Why?*” and “*Where?*”)
 - a. Purpose of the regional MPA management plan and description of regional management plan process
 - b. Legal requirements and goals of the Marine Life Protection Act
 - c. Description of region (including maps)
 - d. Regional goals and objectives determined by regional stakeholder group
 - e. Description of individual MPA boundaries
 - f. Individual MPA objectives
 - g. Individual MPA regulations
 - h. Description of characteristics of the region and individual MPAs relevant to the regional MPA management plan
 - i. physical characteristics
 - ii. living marine resources
 - iii. socioeconomic conditions
2. Activities (“*What?*”)
 - a. Interpretation and Education
 - b. Surveillance
 - c. Enforcement
 - d. Scientific monitoring and research
 - e. Contingency and emergency planning
3. Operations (“*How?*”)
 - a. Equipment and facilities
 - b. Staffing
 - c. Training
 - d. Collaborations and potential partnerships
4. Financials and Sensitivity Analysis (“*How Much?*”)
 - a. Estimated costs
 - b. Sensitivity analysis
5. Milestones (“*When?*”)
 - a. Milestones and timeline
 - b. Evaluation and review of effectiveness

Description of Major Elements

1. **Introduction:** A regional MPA management plan should begin with clear definition of the regional boundaries and of the regional goals and objectives adopted by the regional stakeholder group. Next, boundaries of each individual MPA within the region should be described. Individual MPA objectives and accompanying regulations should be clearly stated. A described concise list at the beginning of the plan of all characteristics relevant to the regional MPA network component and the individual MPA will help managers determine what characteristic issues apply to the development and application of the regional MPA management plan. The MLPA Central Coast Regional Profile, completed in September 2005, should be able to provide much of this information for the central coast study region. This should be incorporated by reference within the regional MPA management plan.
2. **Activities:** In a regional MPA management plan, specific activities to be discussed include interpretation and outreach activities, surveillance and enforcement actions, plans for scientific monitoring and research, as well as any plans for restoration of species or habitats within the MPA. It is important to note that the assessment of activities specifies what is to be done, not who is to do it. Some activities may be best conducted by some of the constituent groups and partners themselves. For instance, scientific monitoring and research activities may be very important to universities, which can provide much of the required facilities to conduct monitoring efforts.
 - a. **Interpretation and education:** A regional MPA management plan should include strategies for interpretation and education. Although related, these activities should be considered separately. Interpretation is an informal educational and communication process designed to help people enrich their understanding and appreciation of MPAs and their involvement with them. In contrast, education is broader and more holistic, imparting the knowledge and science of ocean and coastal resources and the role of marine protected areas in general. Examples of interpretive activities include signs, dioramas, and docents for individual MPAs located either at shore stations adjacent to the MPA or at nearby embarkation points such as harbors or marinas. Educational activities might include organized field trips by K-12 classes or presentations to organizations, and are not as site-specific. While both methods of public outreach increase awareness of what MPAs are and how they work, they do so through significantly different activities.

Interpretation activities will vary by proximity of the MPA to the public. MPAs near populous or heavily visited areas will require more interpretive activities. MPAs that are accessible but not visited frequently need less interpretation than highly visited sites; a management plan needs to assess these needs. Remote MPAs, such as far offshore or at otherwise less accessible sites, will require the least amount of interpretation; for such MPAs, interpretive efforts may be limited to dioramas at other locations arranged through collaborative efforts--as, for example, an informative display at an aquarium.

Educational activities will vary by the relevance of the individual MPA to educational goals. Generally, as for interpretation, more readily accessible MPAs are better situated for educational activities, although other characteristics also matter, such as whether the MPA contains a broad diversity of habitat types or whether it is particularly representative of an ecosystem.

- b. Surveillance: Since DFG's enforcement staff will prepare enforcement plans, this guide does not address surveillance.
 - c. Enforcement: Since DFG's enforcement staff will prepare enforcement plans, this guide does not address enforcement.
 - d. Monitoring and research: Since MLPA Initiative staff is preparing an Adaptive Management and Monitoring and Evaluation Framework, this guide does not address monitoring and research.
 - e. Contingency planning: The regional MPA management plan should identify risks specific to individual MPAs, measures that can minimize such risks, and plans for responding to them. Risks may include catastrophic pollution events, vessel groundings, or severe weather. Depending on the nature of the MPA, some of these risks will be more likely than others, and should be anticipated appropriately. Many such risks already may be the subject of contingency plans drawn up by other organizations; these plans should be referenced so they are easily referred to in the event of a catastrophe. Contact information in relevant agencies should be included in the regional MPA management plan with an inventory of response assets and proximity to the MPA, as well as a discussion of any site specific risks that should be communicated to supporting agencies to assist in their response efforts.
3. Operations: A fundamental task of a regional MPA management plan is to explain how the managing entity proposes to implement its strategies to achieve its goals. This section of the plan should include realistic projections of the equipment and facilities needed for regional MPA management, and the number of staff and their respective qualifications.

It is not necessary that the entity charged with management of the regional MPA network component provide all of the resources identified, as other sources may be found. However, the needs should be explicitly identified in order to guide the allocation of resources appropriately. Naturally, MPAs with different objectives will have different operations, and will have different stakeholder groups interested in the activities of an MPA. These groups can provide additional support.

- a. Equipment and facilities: The regional MPA management plan should identify what physical resources are needed to accomplish its activities. This section of a plan should include specific details that will enable the quantification of needs. Plan

writers should not constrain their imagination to resources currently available to the managing agency, but should think creatively regarding methods that would best support the activities to be undertaken. Many of the facilities and equipment needs may fulfill multiple goals.

- b. Staffing: Estimating how many people are expected to be involved in the implementation (short term) and management (long term) of the regional MPA network component is essential to projecting how much equipment to procure and how large facilities need to be. It also informs other considerations, such as how much training to anticipate.

Some tasks are non-delegable, and should only be undertaken by the managing agency. Other tasks can be filled by anyone capable of and interested in doing the job. For instance, scientific research may be most appropriately conducted by researchers from other institutions; restoration may be conducted by volunteers. For clarity's sake, the regional MPA management plan should specify which personnel needs are deemed staff only, and which can appropriately be conducted by volunteers.

Finally, the regional MPA management plan should discuss how staff will be organized to approach the tasks. Steps anticipated for recruiting, organizing and coordinating the efforts of those carrying out the plan's strategies need to be spelled out in order to make sure they are addressed.

- c. Training: Once the plan identifies required personnel, training needs specific to the regional MPA network component can be identified. Local knowledge will be essential in getting capable people up to speed for the purpose of executing the management plan's activities. Still more training is needed for personnel who do not already have the necessary competencies. A realistic management plan needs to assess the capacities of the people available to fill given roles, and estimate the resources needed to provide appropriate training to raise their abilities to the level required for their tasks.
- d. Collaborations and potential partnerships²: The managing agency should maintain oversight of these activities to assure they are carried out appropriately by the entity to which the task is delegated. The regional MPA management plan should specify who the point of contact at the managing agency will be and what sort of reporting arrangements are appropriate for the results of the collaboration.

² The MLPA Initiative staff is in the process of compiling a list of possible partners for various aspects of marine resource management with emphasis on the central coast study region (see appendix A). In addition, the MLPA Initiative staff is developing recommendations for state and federal government collaboration on MPA management.

Actual collaborative agreements should be listed, together with a brief description of the collaborator's experience and capabilities for the work and expectations for completion of discrete projects or reporting on ongoing projects. Some of these collaborations may be quite formal and need only be incorporated by reference in the regional MPA management plan. Others will be specific to the individual MPA, and may not be formally engaged; a regional MPA management plan provides an opportunity to document such arrangements.

The plan should also identify which of the other operational steps are deemed appropriate for collaborative partnerships. As constituents become more involved with MPA management activities, they may be interested in opportunities to assist in achieving the strategies. By identifying in the management plan what tasks are appropriate for future collaborations, the plan helps focus collaborators attention to those needs.

4. Financial and Sensitivity Analysis: This section converts the enumerated tactics into a quantified estimate of how much implementation is expected to cost.
 - a. Cost estimates: The regional MPA management plan should identify what local sources of funding for co-management arrangements may exist, if any, and identify the costs not borne by outside collaborators that remain DFG's responsibility. After sorting out what needs to be done to realize the MPA network component goals and objectives and who will take charge of what parts of the overall plan, the portions remaining in the charge of DFG can be estimated. DFG staff may benefit from estimates of costs to implement the Marine Life Protection Act over a ten-year period that was prepared by MLPA Initiative staff and released in draft form to the public on April 20, 2006.
 - b. Sensitivity Analysis: Sensitivity analyses attempt to place some bounds on costs and expected outcomes in the face of uncertainty in order to prepare for unexpected events. A regional MPA management plan should include a discussion of how projections might change if the world turns out to be different than expected. Assumptions in the projected costs should be noted. The plan should determine the most significant drivers of costs and performance based on the specific operations of the regional MPA network component, and project how costs will differ if these expenses are more or less significant than projected. The key drivers will differ depending on the goals and objectives of an individual MPA or differences among regions. Also, personnel, training needs, required equipment, or other variables may change. For instance, if monitoring efforts prove insufficient in obtaining required data, the budget may need to be augmented.
5. Evaluation and review: A regional MPA management plan is valuable as a roadmap to guide the steps to be taken in MPA implementation. As such, laying out the expected course of implementation at the outset frames the expectations to follow. Milestones and a

timeline also provide a framework for evaluating and reviewing the effectiveness of MPA management.

- a. Milestones and timeline: It is important to put a regional MPA management plan into a time frame to present a schedule for actions and a “measuring stick” by which to assess progress. It is expected that a regional MPA management plan would project activities and outcomes five years into the future; beyond that time frame, events become too speculative for meaningful planning. Where possible, especially in early years, shorter time periods may be established to monitor progress.

Deadlines estimated for achieving milestones should be general and not specific to calendar dates. This recognizes that the purpose of a timeline is not to set “drop-dead” target deadlines, but rather to document which actions necessarily come before other actions, and to realistically assess how long the actions will take to complete.

For the purposes of a regional MPA management plan, only major events in the implementation of the MPA’s activities and when they are to occur should be detailed. More detailed schedules would be desirable for actual scheduling purposes, but are not appropriate in a management plan.

- b. Evaluation and review of effectiveness: Milestones are useless without a mechanism to revisit projections in light of actual experience. A regional MPA management plan should include a provision for annual review with the purpose of fine-tuning expectations and to address changed circumstances. Recognizing how actual conditions differ from expected conditions gives an opportunity to update the timeline so that partners can adjust their contributions. Also, assessing a plan’s strengths and weakness in anticipating results of operations provides vital information about the planning process itself. At longer intervals, such as five years, management plans should undergo a more thorough review.

References

- Bureau of Land Management, Department of the Interior (2005). California Coastal National Monument Resource Management Plan, Washington, D.C.
- California Marine Life Protection Act Initiative (2005) Central Coast Regional Profile, Sacramento, CA.
- California Marine Life Protection Act Initiative (2005) Master Plan Framework, Sacramento, CA.
- California Marine Life Protection Act Initiative, Draft Adaptive Management and Monitoring, Evaluation Framework, recommendation to the Blue Ribbon Task Force, February 16, 2006.
- National Oceanic and Atmospheric Administration, National Marine Sanctuary Program (2002). National Marine Sanctuary Management Plan Handbook, 3rd Edition, Silver Springs, Maryland.

Appendix A: Potential Partnerships

The MPF recognizes that the effectiveness of MPAs will depend greatly upon collaboration among governmental and non-governmental programs, and offers examples of such relationships. The MLPA Initiative staff is preparing a comprehensive profile of such governmental and non-governmental programs in the central coast study region to facilitate the establishment of partnerships. This profile, which shall be incorporated by reference in the regional MPA management plan, will help in identifying potential partners and collaborators among existing formal programs.

Appendix B: Examples of Other Management Plans

To provide additional background information on the structure and content of management plans, an outline of two management plans is provided below. Legal requirements pertaining to the following management plans differ from those of the MLPA; therefore, these examples serve only as background material.

National Marine Sanctuary Program Management Plans

The following is a general outline for the structure and content of a management plan for the National Marine Sanctuary Program. It is designed to be adaptable to site-specific needs.

1. Executive Summary (5-10 pages)
 - i. Preparers and acknowledgments
 - ii. What the management plan is and will do
 - iii. How the management plan was developed (briefly)
 - iv. What the next steps are
2. Introduction (10-15 pages)
 - i. What the National Marine Sanctuary Program is
 - ii. What management plan reviews are
 - iii. How management plan reviews are done
 - iv. How this draft management plan was developed (in detail)
3. _____ National Marine Sanctuary (affected environment including the resource assessment with consultations as appropriate as required under § 303(b)(3) of NMSA) (10-15 pages)
 - i. Site history (administrative (e.g., designation,) and environmental changes)
 - ii. Resources/habitats/qualities
 - iii. Present and potential uses of the site
4. Management Plan/Preferred Alternative (this is the five-year plan that will guide the sanctuary until its next review) (25-50 pages)
 - i. Overview of management plan, with a statement of purpose, rationale, goals, and objectives
 - ii. Action plan for each action listed in the management plan, including necessary steps, time table, location, responsible parties, known implementation costs, implementation resources, issues, and a list of related actions.
5. Alternatives to the Management Plan
6. Environmental and Socioeconomic Consequences of Alternatives
7. Appendices
 - i. Acronyms
 - ii. References
 - iii. Recipients
 - iv. Comments and Responses (for FMP/FEIS)

California Coastal National Monument Resource Management Plan

1. Chapter 1: Introduction
 - i. Purpose and need for the plan
 - ii. Overall vision
 - iii. Planning area and management boundaries
 - iv. Scoping/issues
 - v. Planning criteria and legislative constraints
 - vi. Planning process
 - vii. Related plans
 - viii. Existing designations
 - ix. RMP timeframe and planned revisions
2. Chapter 2: Management decisions
 - i. Introduction
 - ii. Management goals
 - iii. Management of resources
 - iv. Management of resource uses
 - v. Management framework
 - vi. Monitoring and adaptive response program
3. Chapter 3: Environmental Setting
 - i. Geologic, soil, and paleontologic resources
 - ii. Vegetation resources
 - iii. Wildlife resources
 - iv. Cultural resources
 - v. Visual resources
 - vi. Recreation and visitor access
 - vii. Research
 - viii. Land use/lands and realty
 - ix. Water resources
 - x. Wilderness and other special designations
4. Chapter 4: List of preparers
5. Chapter 5: References
6. Chapter 6: Glossary
7. List of acronyms and abbreviations
8. Map atlas
9. List of appendices