

California Marine Life Protection Act Initiative

Initial Draft Management Plan Framework

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Please submit comments to MLPAComments@resources.ca.gov

The MLPA and the Master Plan Framework¹

In passing the Marine Life Protection Act 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 defect, the Legislature called for an overall program that would ensure that all MPAs would have clear objectives as well as management and enforcement measures, and monitoring, research, and evaluation to facilitate adaptive management.

The MLPA Master Plan Framework (MPF) uses the preparation of a regional MPA management plan as the foundation for effective management, and includes a suggested outline for a management plan. Besides generally guiding day-to-day management, research, education, enforcement, monitoring, and budgeting, a management plan also should distill the reasoning for key elements of regional MPAs that should be monitored, evaluated, and revised in response to new information and experience. 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 array of MPAs.

Importantly, the MPF recognizes that effectiveness of MPAs will depend greatly upon collaboration among governmental and non-governmental programs, and offers examples. Soon, those preparing and implementing a management plan for MPAs established along the central coast will have at their disposal a comprehensive profile of such governmental and non-governmental programs in the region. This listing, which we suggest be incorporated by reference in the draft management plan for central coast MPAs, will help in identifying potential partners and collaborators among existing formal programs.

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, or changes in the status of the populations of focal species or of habitats or in the character or effectiveness of management outside individual MPAs.

The management plan structure suggested below also recognizes that a monitoring and evaluation and adaptive management framework is being developed independently. Additionally, more specific detail regarding enforcement and surveillance elements of the management plan will be developed by the California Department of Fish and Game in the next months after the preferred alternative is identified.

As the MLPA requires management of MPAs as a network, the management plan framework must also address management of the network. In some instances, this will require perspectives beyond the activities of single MPAs. For example, access for users will differ by type of user (diver vs. whale watcher vs recreational fishers, for example) across several

¹ . This draft is adapted from drafts prepared by Capt. James Mize, JD/MBA Candidate, UCLA, and Mike Weber, Consultant to the MLPA Initiative. Capt. Mize approached this effort from the perspective of a business management plan.

MPAs. Educational and outreach efforts directed to user groups should sensibly address access across the network of MPAs. Moreover, surveillance and enforcement, as well as much monitoring, will best be organized at spatial scales larger than single MPAs.

Suggested Approach and Structure of MPA Management Plans

Management plans typically have multiple objectives. First, they are themselves a process for thinking through an operation's processes in order to anticipate potential conflicts or contingencies that may arise in the course of business. Second, management plans provide a record of what managers' expectations are so that performance can be measured at a later date. Third, management plans convey key information to funding sources to justify investing in the venture.

MPA management plans developed with this framework are envisioned to be a working document; plans should be kept handy on the desktop 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 framework includes processes for review and revision when necessary.

Overall Structure

In developing an MPA management plan, many basic questions arise. Why develop a plan? Who is it to be 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?*”)
2. Constituents (“*Who served?*”)
3. Partners (“*Whose efforts are also needed?*”)
4. Strategies (“*What?*”)
 - a. Interpretation and Education
 - b. Surveillance
 - c. Enforcement
 - d. Scientific Monitoring and Research
 - e. Restoration
5. Operations (“*How?*”)
 - a. Equipment and Facilities
 - b. Staffing
 - c. Training
 - d. Collaborations and Potential Partnerships
6. Financials and Sensitivity Analysis (“*How Much?*”)
 - a. Budget
 - b. Contingency and Emergency Planning
7. Milestones (“*When?*”)
 - a. Milestones and Roadmap
 - b. Evaluation and Review of Effectiveness

Description of Major Elements

1. **Introduction:** Different MPAs will have different needs, depending on their individual characteristics. A concise list of all characteristics relevant to the individual MPA or regional array at the beginning of the plan will help managers determine what characteristic issues apply, and which do not, simplifying the development and application of individual MPA Management Plans. Because much of this material will be assembled in the design and evaluation of individual MPAs and MPA arrays, the management plan need only provide a brief overview of the highlights of regional and individual MPA goals and objectives and site specifics, and incorporate by reference information on MPA design.
2. **Constituents:** In an MPA Management Plan, constituent groups are those stakeholders directly affected by activities of an individual MPA or MPA array, and the “target” constituency groups will be those groups most affected, or that which will have the most activities and operations focused on their concerns. Target constituency groups will vary among MPAs as goals and objectives vary; for instance, MPAs near urban centers are likely to have much greater need for interpretative displays and educational outreach activities than remote and comparatively inaccessible locations. A manager of an individual MPA can use the resulting list as a “checklist” in determining which of the various constituencies are affected by a particular MPA. Based upon this checklist, an assessment can be made of how many people may be affected and how much demand for services there will be. This calculation will naturally depend upon the goals and objectives for the individual MPA, also. For instance, a remote MPA with a significant research component in the designation criteria will differ greatly from an MPA near areas frequented heavily by tourists with no significant research component; whereas the former will likely have a much greater demand for scientific facilities, the latter will need more interpretive facilities.
3. **Partners.** Determination of constituents will also be one important step in identifying potential partners. Constituent groups bring resources that can assist in achieving the goals and objectives of an MPA. Identifying these groups during the implementation stage allows managers to better inventory resources available for long-term management of an MPA. Possibly relevant constituent groups include commercial interests, the scientific community, recreational users, the conservation community, and other governmental entities.

Very importantly, implementation of an MPA will be greatly facilitated by developing effective relationships with partners whose efforts also contribute to success. Many of these partners will be other governmental agencies, but effective partnerships should also be developed with non-profit organizations, associations and philanthropic institutions.

4. **Strategies:** In an 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.

5. Operations: A fundamental task of a management plan is to explain how the enterprise 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 the MPA management, and the number of staff and their respective qualifications. The Appendix to this memorandum includes detail on each of the following components of operations: equipment and facilities, staffing, training, collaborations and potential partnerships, and contingency planning.

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

6. Financials and Sensitivity Analysis: This section converts the enumerated tactics into a quantified estimate of how much the implementation is expected to cost.

Budget: The 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 the agency's responsibility. After sorting out what needs to be done to realize the MPA's goals and objectives and who will take charge of what parts of the overall plan, the portions remaining in the charge of the managing agency can be tallied.

By waiting until the above analysis has been carried out, the author of an MPA management plan can be fairly sure that the budgeting arrived at from these estimates accurately reflects intended operations. By realistically evaluating opportunities for collaborations and partnerships with affected constituents, a planner exhibits the sort of fiscal discipline that inspires confidence in collaborators to entrust additional resources to the management effort.

Sensitivity Analysis: A 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 MPA, 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 between regions. Also, headcount, 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.

It is not necessary to “boil the ocean” to see what might happen in any feasible scenario in order to assess what are the key drivers for an individual MPA or MPA array. Rather, acknowledging how the circumstances of a specific MPA or regional array may affect projections serves the purpose of a sensitivity analysis. Sensitivity analyses attempt to put some bounds on costs and expected outcomes in the face of uncertainty in order to prepare for what would otherwise be unexpected surprises.

7. Evaluation and Review: An MPA management plan is not much use if consigned to a dusty shelf; it is valuable as a roadmap of sorts 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 review the effectiveness of MPA management.

Milestones and Timeline: It is important to put a management plan into a time frame in order to give a sense of perspective. Such a framework represents both a schedule for actions and a “measuring stick” to assess progress by. It is expected that an MPA Management Plan would project activities and outcomes five years into the future; beyond that timeframe, events become too speculative for meaningful planning. For the first two years, use of quarterly or semiannual milestones is more appropriate.

Times estimated for achieving milestones should be general and not specific to calendar dates, recognizing that dates can slip and that missed target dates may be demoralizing. 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 management plan, only major events in the rollout of the MPA’s strategies and when they are to occur should be recognized. More detailed schedules would be desirable for actual scheduling purposes, but are not appropriate in a management plan.

Evaluation & Review of Effectiveness: Milestones are useless without a mechanism to revisit projections in light of actual experience. An MPA Management Plan should include a provision for annual review whose purpose would be to fine tune 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.

Conclusion

MPA management plans and regional management plans can be effectively developed following this suggested format. Management plans focus managers’ energies on the tasks at

hand, such as identifying constituents, developing effective relationships with partners, choosing strategies, and laying out step-by-step operations to achieve these strategies. Using the management plan format suggested here offers a consistent process for thinking through the elements of MPA implementation, providing a tool for accountability and a measure for effectiveness.

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Appendix: Strategies and Elements of Operations in MPA Management Plans

Strategies in MPA Management Plans

1. Interpretation and Education: An MPA management plan should include strategies for Interpretation and Education. Although related these should be considered separately. Interpretation is an informal educational and communication process designed to help people enrich their understanding and appreciation of an MPA and their involvement with it. 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 otherwise inaccessible sites, will require the least amount of interpretation, if any at all; 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, 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.

2. Surveillance: Since the Department's enforcement staff will prepare enforcement plans, this memorandum does not address surveillance.
3. Enforcement: Since the Department's enforcement staff will prepare enforcement plans, this memorandum does not address enforcement.
4. Monitoring and Research: Since MLPA Initiative staff is preparing a monitoring and evaluation plan, this memorandum does not address monitoring and research.
5. Restoration: The MLPA does not mandate restoration activities; however, restoration activities may be permitted within an individual MPA. If included within MPA goals and

objectives, an MPA Management Plan should describe what steps are needed to be taken to achieve restoration.

Elements of Operations in MPA Management Plans

1. **Equipment and Facilities:** The management plan should identify what physical resources are needed to accomplish its strategies. This section of a plan should include specifics 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. Relevant questions include the following:

- a. *Interpretation and Education:*

- i. How many interpretive displays and dioramas are necessary and what are their preferred locations?
- ii. What format is most appropriate for providing information on the site, such as map brochures or mounted displays?
- iii. How are communication materials to be created?
- iv. What support equipment is desired for educational purposes?
- v. What educational facilities are desired? For instance, is it appropriate for the MPA to have a classroom to accommodate field trip students or mobile facilities for class visits?
- vi. Does this MPA need boat access for educational purposes?

- b. *Surveillance and Enforcement:*

- i. If the MPA is adjacent to shore, what shore-based surveillance options are recommended?
- ii. If this MPA requires air or water access for surveillance, what level of aerial or marine surveillance is deemed necessary (flight hours, vessel transects, desired specs for air/water transports)?
- iii. Are there specialized equipment needs, such as electronics or optics?
- iv. What resources are needed to communicate MPA restrictions to affected constituents, e.g., regulation booklets at embarkation points, other media?
- v. What facilities are needed to enforce restrictions on the MPA, e.g., boats, other equipment?

- c. *Monitoring, Research, and Restoration:*

- i. What specific tools and equipment are needed to gauge the key metrics relied upon to determine the health and well being of the MPA (tie specifically to essential monitoring metrics identified above)?
- ii. What facilities are needed to carry out the research and monitoring activities, e.g., shore side facilities, shipboard facilities, ROV support, etc.? These may be combined or separate, depending on if they will be coordinated or separate activities.

iii. What additional equipment will be necessary to conduct any restoration actions?

2. Staffing: Estimating how many people are expected to be involved in the implementation of the MPA 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 management plan should specify which personnel needs are deemed staff only, and which are delegable.

Finally, the 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.

3. Training: Once the plan identifies required personnel, training needs specific to the MPA can be identified. Local knowledge will be essential in getting capable people up to speed for the purpose of executing the management plan's strategies. 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.
4. Collaborations and Potential Partnerships: The MPA Management Plan should already have identified potential collaborators in the Partners section and matched them with activities in the Strategies section. The managing agency should maintain oversight of these activities to assure they are carried out appropriately by the entity the task is delegated to. The 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.

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 MPA Management Plan. Others will be specific to the individual MPA, and may not be formally engaged; an 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.

5. Contingency Planning: The 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 heavy 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 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.

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