

California Marine Life Protection Act Initiative

San Francisco Bay Options Report: Considering MPA Planning

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Report Acronyms

Most Commonly Used Acronyms

APA	Administrative Procedure Act
ASBS	area of special biological significance
BRTF	MLPA Blue Ribbon Task Force
CEQA	California Environmental Quality Act
DFG	California Department of Fish and Game
DPR (or State Parks)	California Department of Parks and Recreation
F&GC	California Fish and Game Commission
GIS I-Team	geographic information system
LOP	level of protection
I-Team	MLPA Initiative Team (consists of initiative staff DFG and DPR staff and contractors)
Master Plan	California Marine Life Protection Act Master Plan for Marine Protected Areas
MLPA	Marine Life Protection Act
MLPAI	Marine Life Protection Act Initiative (established through MOU among California Natural Resources Agency DFG and RLFF)
MLMA	Marine Life Management Act
MMA	marine managed area
MMAIA	Marine Managed Areas Improvement Act
MOU	memorandum of understanding
MPA	marine protected area
RLAA	Resources Legacy Fund Foundation
RSG	MLPA regional stakeholder group
SAT	MLPA Master Plan Science Advisory Team
SIG	MLPA Statewide Interests Group
SFSR	San Francisco Bay Study Region
SMCA	state marine conservation area
SMP	state marine park
SMR	state marine reserve
SMRMA	state marine recreational management area

Other Acronyms

BCDC	San Francisco Bay Conservation and Development Commission
BLM	U.S Bureau of Land Management
CCC	California Coastal Commission
CPUC	California Public Utilities Commission
DWR	California Department of Water Resources
LTMS	San Francisco Bay Long-Term Management Strategy
NAHC	Native American Heritage Commission
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanographic and Atmospheric Administration
NPS	National Park Service
ONMS	Office of National Marine Sanctuaries
OPC	California Ocean Protection Council

PFMC	Pacific Fishery Management Council
Resources Agency	California Natural Resources Agency
SCC	California State Coastal Conservancy
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corp of Engineers
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Executive Summary

The California Marine Life Protection Act (MLPA) requires the state to redesign existing state marine protected areas (MPAs), and to establish a cohesive network of MPAs to protect marine life, habitats, ecosystems and natural heritage, as well as to improve recreational, educational, and study opportunities provided by marine ecosystems. The Marine Managed Areas Improvement Act defines the types of MPAs in use in California and establishes the authority to create, modify and delete MPAs. California developed a regional approach to MPA planning, with five study region identified: the central coast, north central coast, south coast, north coast, and San Francisco Bay.

The MLPA San Francisco Bay Study Region (SFSR) is the fifth and final study region in which the MLPA might be implemented, but it has not been determined whether an MLPA planning process will take place in the region, nor has a framework been identified for such a process.

The purpose of this report is to provide an initial look at the SFSR and identify a limited, yet achievable, range of options for how, if at all, to approach MPA planning in the SFSR. The report provides background information on the unique setting of the SFSR, identifies existing bay projects, and considers lessons learned from previous MPA planning processes. The report was informed by informal conversations with local SFSR stakeholders and supported by senior staff of the MLPA Initiative and the California Department of Fish and Game (DFG), as well as members of the MLPA Initiative facilitation staff.

Report Approach

This project involved two main components: collection of background information including input from local stakeholders; and the synthesis of that information into viable process design options. Information collected on the SFSR focused on current jurisdictions, existing projects and organizations, and active management programs. Research on SFSR processes and activities concentrated on how these efforts may relate to or overlap with MPA planning. Additional information and insight was gathered through a series of informal conversations with local stakeholders such as representatives of government agencies, non-profits, and industry (including fishing), researchers, and independent consultants. Once the relevant information was collected, it was distilled into key considerations that helped define the process framework for each option presented in this report.

Key Considerations

Recognizing there are a number of considerations that fall beyond the scope of this project, this report aims to prioritize key factors that could be further examined as part of considering MPA planning in the SFSR. These key considerations are mindful of the SFSR's unique ecological setting and concerns; complexities associated with multiple regulatory and management agencies; economic interests; past and current bay processes; and existing MPAs and associated compliance issues. Other considerations treated in the report relate to the process, and include available funding and resources; information and data needs; engagement and use of various formal and information groups; process design; and financial and political commitment.

Options for Consideration

The report presents six process design options that could be considered in the SFSR. The options are designed to be flexible and responsive to project goals, preferred process components and available resources. The options can be approached individually or as a series of steps, beginning at Option Zero (no process) and moving toward Option Five (comprehensive MLPA Initiative-type planning process). Some options, but not all, include developing MPA proposals; those that do not include an MPA planning component still provide valuable services in the SFSR and, as in the case of information collection and data analysis, lay a foundation for future regional planning.

- **Option Zero: No Process and No Change to Existing MPAs** - offers the choice to not move forward with MPA planning or any components of MPA planning in the SFSR. Rationale may be based on funding concerns, a decision that sufficient efforts to address ecological goals already exist in the SFSR, or the need for progress in other planning processes.
- **Option One: Collect and Compile Existing Information** - provides the initial foundation for any regional MPA planning process by compiling existing information and data on the SFSR into one resource that is accessible to all users and members of the public. Rationale may be that there is insufficient interest in redesigning MPAs but support for providing the SFSR with the valuable service of organizing all available data in a central location.
- **Option Two: Analyze Existing Information and Enhance Communication** - takes the next step in planning by synthesizing the collected information and revising MLPA science guidelines to reflect the unique setting of the SFSR. Option Two also provides feedback on how existing MPAs are contributing to MLPA goals and what guidelines are not yet met. Rationale may be that there is insufficient interest in redesigning MPAs but support to receive an initial assessment of how well MLPA goals are currently being achieved and what additional work would need to be done to meet guidelines specific to a large estuary.
- **Option Three: Conduct MPA Planning Process through Self-Organized Groups Only** - involves MPA planning through a low-cost process that relies on self-organized, independent regional groups developing proposals without an MPA staff- supported process used in previous study regions. This option offers the possibility of redesigning existing MPAs within the limits of a significantly smaller budget than was provided for past MLPA Initiative planning efforts. Rationale is that there may be interest in redesigning MPAs, but through a process that requires minimal support and relies on the ability of existing regional groups to organize and work together to develop MPA proposals.
- **Option Four: Conduct MPA Planning Process that Integrates Elements of Bay Processes and Programs** - involves a hybrid MPA planning process that adapts the MLPA Initiative framework to build on lessons learned from previous study regions, while incorporating key elements of and groups involved with existing SFSR processes. Option

Four involves the appointment of a regional stakeholder group to develop MPA proposals through a staffed planning process, but builds upon existing bay processes with their key players, relationships and goals. Rationale is that lessons learned from SFSR and MLPA Initiative processes may show how staff support and structured planning can ensure an inclusive, cross-interest process, resulting in MPA proposals that improve on Option Three in meeting MLPA guidelines and integrating the needs of the study region.

- **Option Five: Conduct MLPA Initiative-type MPA Planning Process** - involves a robust, MLPA Initiative-type planning process wherein significant resources are dedicated to run the process and address issues as they arise. Option Five includes developing new information, such as, for example, on the socioeconomic impacts of proposals, to inform the process. Rationale is that resources are available for this level of effort and that the SFSR, like the past four study regions, would benefit from the MLPA Initiative approach to planning that involves a comprehensive, science-driven, stakeholder-based process with dedicated staff support.

This report does not recommend a particular option, but instead provides similar information for each option to ensure that decision-makers have the necessary context to understand and compare options. The information presented for each option includes a description, rationale, how options differ from existing bay efforts, and key considerations. Each option is based on a basic process design, which includes suggestions as to groups that might conduct the work, and staff and tools that would be helpful or necessary to support the process.

Next Steps and Conclusion

Completion of the *San Francisco Bay Options Report* is the first step toward determining a preferred approach for MPA planning in the San Francisco Bay Study Region. This report provides important background information, including the study region setting, existing SFSR processes and activities, and lessons learned from MPA planning in California. It offers a vision for how to pursue an MLPA Initiative planning process in the SFSR that embodies essential elements for successful planning while remaining flexible and adaptive. The decision-making process may also benefit from additional information and considerations not included in this report, such as the determination of available funding and the scientific assessment of how the MLPA's goals may be achieved in the SFSR. When a decision is made as to how to proceed in the SFSR, it will be important to maintain transparency by communicating decisions and next steps to the public.

Chapter 1 Report Overview and Context

1.1 Purpose

The MLPA San Francisco Bay Study Region (SFSR) is defined as the waters within San Francisco Bay, from the Golden Gate Bridge northeast to the Carquinez Bridge, and is the fifth and final study region for consideration under California's Marine Life Protection Act (MLPA). At this time, it is unclear whether an MPA planning process will take place in the San Francisco Bay study region (SFSR); there is no plan in place or identified funding to support such a process. The work in previous MLPA study regions was conducted under the terms of a memorandum of understanding (MOU) whose signatories were the California Natural Resources Agency (Resources), the California Department of Fish and Game (DFG), and the Resources Legacy Fund Foundation (RLFF). This MOU set the process framework and secured the necessary funding for the other study regions, but does not specifically commit to a process for the SFSR. Rather, the signatories agreed that, after substantially completing work on the first four study regions, they would assess the progress made to date toward the MOU's objectives, and determine a mutually agreeable process for the SFSR.

The purpose of this report is to help inform discussions by the MOU's partners as they seek an appropriate way forward. MLPA Initiative staff undertook this project with a focus on the following objectives:

- investigate the unique SFSR setting (which included gathering information and input from local SFSR stakeholders);
- reflect on existing bay processes and activities, as well as lessons learned from MPA planning in California; and
- consider an achievable range of options for approaching a planning process in the SFSR, especially if there are funding limitations.

This information is brought together in a flexible series of options for considering MPA planning in the SFSR, including an option to take no substantial action.

This report presents a series of options whose selection will depend on project goals and available resources. This report does not recommend a particular option, but instead presents a rationale for each, as well as potential benefits and costs. The options have been designed to be flexible and adaptive. To help illustrate what a given option involves in terms of effort and cost, this report also suggests anticipated resources and tools, and how the work might be accomplished.

The purpose of this report was not to evaluate the ecological merit of MPAs in the bay, nor to address MPA-related science questions for San Francisco Bay. These questions are currently under consideration by a work group consisting of some MLPA Master Plan Science Advisory Team members and a handful of San Francisco Bay scientists; the outcome of these efforts will be presented in a separate, forthcoming document.

The MLPA Initiative funded this project as well as the group of scientists addressing science questions for San Francisco Bay to help inform the California Natural Resources Agency and California Department of Fish and Game and their consideration of MPA planning in the SFSR. This report was developed with substantial stakeholder input and was designed to serve as a starting point for future discussions regarding the preferred approach for the SFSR.

1.2 California's MPA Planning Framework

The following is a brief review of the MLPA and the history behind California's MPA planning framework. This information should help put into context the options presented in this report. For more detailed information about the history of the MLPA Initiative, the work done in previous study regions, and more detailed descriptions of process design, see Appendix A. Also see Appendix D for details about the roles of key groups in a potential SFSR process.

1.2.1 Background

Signed into law in 1999, the MLPA directs the state to redesign California's system of MPAs to increase the coherence and effectiveness of MPAs in state waters. The MLPA goals also describe that MPAs should be designed to protect the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems.

The MLPA requires a master plan to guide the adoption and implementation of California's system of MPAs. The *California Marine Life Protection Act Master Plan for Marine Protected Areas* (2008) (Master Plan) provides the following: context for implementing the MLPA goals and objectives, background information on California's marine resources and policies, a description of the process for designing alternative MPA proposals, and an overview on the design, management, enforcement, monitoring and funding of California's MPAs. As a living document, the Master Plan is adopted and amended by the California Fish and Game Commission (F&GC) and is used by the DFG to guide MPA implementation.

After two unsuccessful attempts to implement the MLPA in California, the MLPA Initiative was created. The MLPA Initiative, established in 2004, is a public-private partnership between Resources, DFG, and RLFF, which is defined in the MOU as mentioned above. The MLPA Initiative aims to help the state implement the MLPA by using the best readily available science, as well as the advice and assistance of scientists, resource managers, experts, stakeholders and members of the public to develop recommendations for redesigning the state's MPAs. Since 2004, planning has been completed in four of the five MLPA geographic study regions through the MLPA Initiative.

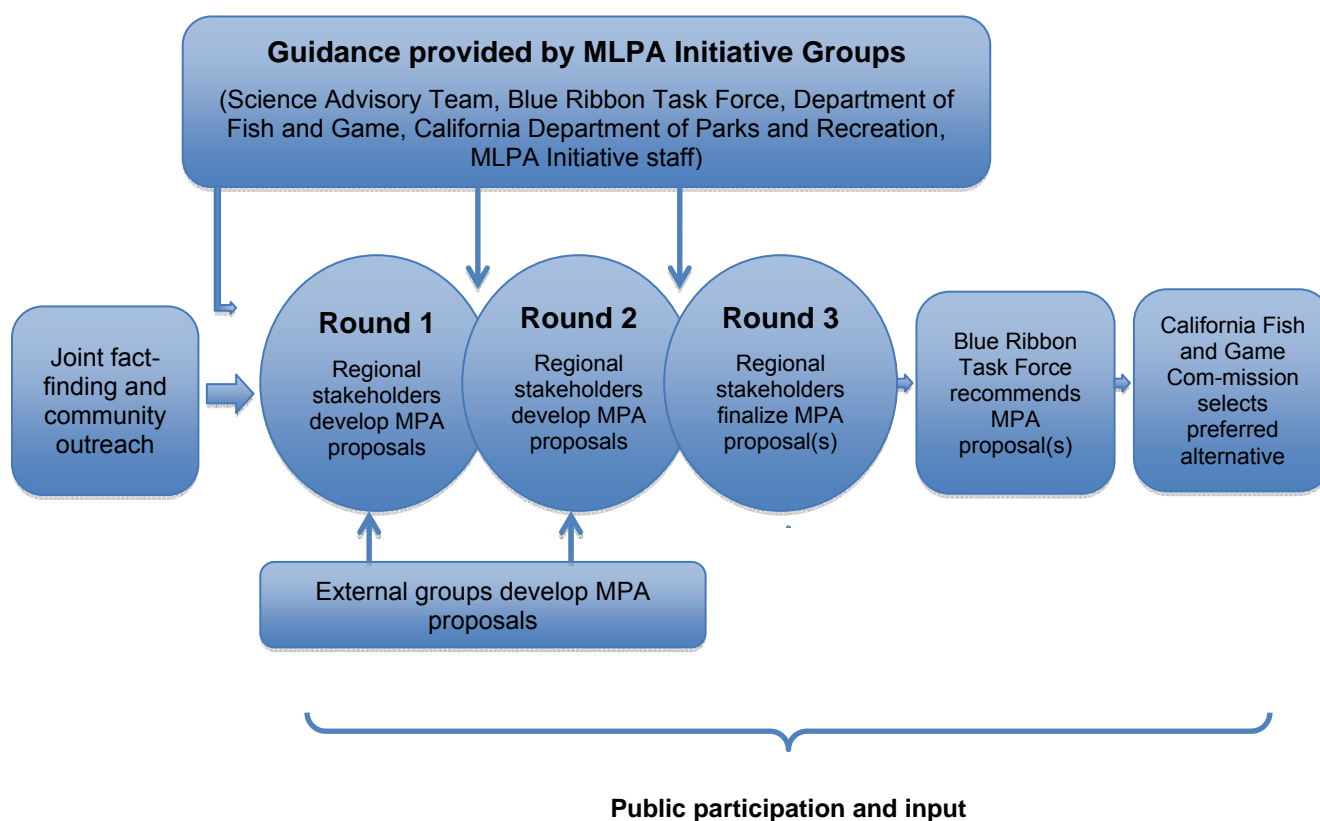
1.2.2 Description of MLPA Initiative Process Design

The MLPA Initiative framework for MPA planning is a science-driven, stakeholder-based design guided by the Master Plan. The MLPA Initiative MPA planning process (Figure 1) begins with MLPA Initiative staff, which conducts an assessment of process design and develops process adaptations to reflect unique characteristics of that study region; such adaptations continue throughout the planning process as needed. A policy-level blue ribbon

task force composed of public leaders is appointed by the California secretary for natural resources to oversee the development of MPA proposals and, ultimately, to make recommendations for regional MPA proposals to the F&GC.

At the outset of planning in a given study region, existing information and data were collected for inclusion in a spatial database that was used as a decision support tool (e.g. DORIS, MarineMap). A joint fact-finding process was initiated with local experts, stakeholders and scientists to assist in identifying additional available data and information. Decisions were also made at this time regarding what new data or information might be helpful, as well as what resources were available to support any new data collection efforts. All information gathered in a given study region was compiled by MLPA Initiative staff and summarized in a regional profile as well as made available via a spatial database.

Figure 1: General framework of the MLPA Initiative’s MPA planning process



Also at the beginning of planning in a study region, a science advisory team (SAT) was appointed, and began reviewing the data and assessing science methods. A series of public open houses were held throughout each study region, where members of the public could learn about the MLPA, MLPA Initiative, and opportunities for participating in the MPA planning process.

Following initial outreach, the director of DFG and the chair of the task force appointed a regional stakeholder group (RSG). The RSG led the development of MPA proposals over a series of three iterations, or rounds. The RSG was supported in this effort by both staff (facilitators, planners, state agency staff, and GIS specialists), tools (MarineMap and a regional profile) and various guidance and guidelines.

At the completion of each round, proposals were reviewed and evaluated by the SAT for the region, DFG, California Department of Parks and Recreation (State Parks) and members of the MLPA Initiative staff. Guidance was also provided by a policy-level MLPA Blue Ribbon Task Force. Members of the public had the opportunity to provide input and feedback on all stages of MPA proposal development.

Upon completion of the third round of proposal development, the regional stakeholder group submitted its final recommendation to the task force. The task force considered the proposal(s) and submitted its recommendation to the F&GC, the decision-making body under the MLPA. In the first four study regions, the task force's recommendations have been based on the MPA proposals developed by the RSG, while also taking into consideration the potential need for a broader range of alternatives, addressing outstanding gaps in guidelines and/or addressing design issues where a policy decision is needed, such as to what degree to meet science guidelines or agency feasibility guidance.

In addition to MPA proposals having been developed by the RSG, coordinated "external" groups also developed MPA proposals as part of the MLPA Initiative framework (Figure 1). This additional input of ideas and information allowed for an inclusive process wherein robust local knowledge available within a given study region could be fully integrated into the planning process. MPA ideas and/or proposals developed by these external groups underwent the same evaluation process as proposals developed by the RSG and were incorporated into the internal design process either in the first or second round. In some cases, members of the RSG have also helped develop external proposals.

Other key components of the MLPA Initiative planning process have included extensive public participation and a flexible framework that supports process adaptations to accommodate for study region characteristics and lessons learned. The MLPA Initiative has recognized the value of public input and involvement in redesigning California's system of MPAs and has included extensive public participation in all stages of each study region process. Understanding the needs and limitations of regional communities, working directly with those communities to identify the appropriate ways to engage the local public, and responding to public feedback on outreach tools and techniques have all helped ensure that information and opportunities for involvement were accessible to a wide range of interested parties.

The language of the MLPA recognizes the unique nature of California's 1,100-mile coast, providing sufficient flexibility to achieve the goals of the MLPA without requiring an identical planning approach across study regions. Adaptations to process design have been made by the MLPA Initiative in response to lessons learned from previous study regions, as well as regional characteristics and needs. Additionally, as issues arise throughout the process, staff considers adaptations to be responsive to unforeseen circumstances and/or the needs of local community.

To date, MPA redesign efforts have been completed in four of the five study regions: the central coast (Pigeon Point in San Mateo County to Point Conception in Santa Barbara County), the north central coast (Alder Creek/Point Arena in Mendocino County to Pigeon Point, including the Farallon Islands), the south coast (Point Conception to the California border with Mexico in San Diego County, including offshore islands), and the north coast (California-Oregon border in Del Norte County to Alder Creek). A mutually agreeable process for San Francisco Bay is still to be determined by the MLPA Initiative MOU partners.

Chapter 2 Report Approach and Discoveries

The range of options presented in this report were developed from January to April 2011. The project was coordinated by three MLPA Initiative staff who led the research and writing of this report. Guidance was provided to this core group by an internal work group consisting of senior staff of the MLPA Initiative and DFG. Input was also provided, pro bono, by professionals of Kearns and West, who are former MLPA Initiative contractors and heavily involved in designing the MLPA Initiative MPA planning process.

Background information on San Francisco Bay was collected, including current jurisdictions, existing projects and organizations, and active management efforts. Key documents, including reports and management plans, were reviewed. Bay Area planning processes, existing and active, were also reviewed, including documents detailing lessons learned in the planning processes of the first four study regions. (see Appendix C for lists of resources).

A series of informal conversations were conducted with local stakeholders to gain input on Bay Area planning processes, management activities, reports and data sets, and additional key contacts (see 0 for a list of key contacts and Appendix F for a list of questions the informal conversations followed). Initial conversations with DFG staff helped to populate a contact list, which was further informed by conversations with local experts. Project coordinators and the internal work group also assisted in populating the contact list to ensure contacts represented the diverse perspectives and users of the Bay Area. Individuals who could share a broad perspective on bay-wide activities were identified as key contacts.

Conversations were held with representatives of government agencies, non-profits, and industry (including fishing), researchers, and independent consultants. Key themes that emerged from these informal discussions include:

- Recognition of the complicated, multi-layer jurisdictional realities of the bay, and there is concern regarding “one more process,” regardless of whether MPAs could provide added value to the ecological goals of the bay.
- Existing Bay Area processes are based on ecological goals and priorities for certain habitats within the bay. Some believe it is important to use existing processes as a framework within which MPA planning could work. How can the MLPA help achieve the existing habitat goals of San Francisco Bay?
- MLPA Goal 3, which focuses on improving recreational, educational and study opportunities, was identified as an opportunity to align MPA planning efforts with similar goals of past and existing bay processes such as the San Francisco Bay Plan. In addition to conversations with local experts, support in prioritizing Goal 3 was also found in policies related to public access, education and recreational opportunities, as well as the San Francisco Bay Water Trail planning process, which focuses on improving public access, as well as the enjoyment of, and education on, the bay (BCDC 1998, BCDC 2007).

- To date, Bay Area processes have been limited in scope, focusing primarily on a specific region within the bay. Bay-wide efforts have focused on certain habitats and have not considered the bay from a comprehensive ecosystem-based management perspective.
- Current bay-wide initiatives have focused on developing a vision for the bay, but are not assigned to any state authority for implementation. There are opportunities for MPA planning to play that role.
- There are a number of existing MPAs in San Francisco Bay designated as state marine parks (SMPs) that do not conform to the Marine Managed Areas Improvement Act (MMAIA). Additionally, the California Park and Recreation Commission has proposed two state marine reserves (SMRs), but has not yet received the required concurrence of the California Fish and Game Commission. Regardless of the option chosen to move forward in the SFSR, the existing MPAs and proposed SMRs should be brought into compliance with the MMAIA and be made consistent with the MLPA.
- It is important to look at how other groups and agencies, particularly those responsible for managing traffic on the bay, balance user needs, especially commerce and industry.
- It is important to recognize that regional goals of MPAs in the bay might be prioritized differently than MPAs located along the coast (e.g. SFSR is a different ecological setting).
- There exists a challenge in involving the Bay Area's diverse communities in environmental decision-making processes. Bay activities tend to mirror regional divisions that exist within communities; publics identify with north, south or central bay, not the bay as a whole.
- There exist limited relationships and/or partnerships with local tribes and tribal communities. Interest was expressed to develop a tribal regional profile as was conducted in the north coast study region.
- MPA planning provides an opportunity to improve the public's understanding of the connection between San Francisco Bay and the coast.

In reviewing existing bay processes, a number of successful tools have been implemented that could be valuable in an MPA planning process:

Local Government Forums: Deemed a valuable asset to the South Bay Salt Ponds Restoration Project, a local government forum allows for periodic dialogue and updates among local governments, project staff and local stakeholders. Participation in the forums is voluntary, with invitations circulated to an active list of elected officials.

Dispute Resolution Methods: To address any technical or policy disputes, some bay processes such as the South Bay Salt Ponds Restoration Project have established a protocol for reviewing and resolving disputes. This formalized process helps maintain transparency so disputes can be effectively managed and clearly understood by the public.

Work Groups: Due to the complex patterns of jurisdiction in the Bay Area, some bay processes have been designed to involve local regulatory agencies in many, if not all, work groups. The blending of science and policy is ever-present in the bay and its activities, and

efforts to ensure open discussions across disciplines have assisted in proactively addressing issues and concerns.

In addition, the Center for Collaborative Policy at California State University, Sacramento identified a number of stakeholder priorities when considering environmental decision-making processes in San Francisco Bay (CCP 2003). Among them are these:

- Maintain, or improve, public access within a given project site.
- Consider the ecological health of the entire bay, not just specific sites or habitats.
- Develop projects that make substantive decisions, while building on existing bay regulations.
- Ensure there is adequate funding for planning and implementation.

Suggestions for where these tools might fit into an MPA planning process are provided in Chapter 4 of this report.

Chapter 3 Key Considerations

The potential implementation of an MPA planning process in the MLPA San Francisco Bay Study Region raises important ecological, governance and socioeconomic issues related to the study region setting. There are also relevant process considerations such as funding and data needs, participation, and process design. The following section identifies some considerations that are likely to influence the assessment of the options presented in Chapter 4 of this report.

3.1 Study Region Setting

When considering the range of options presented, the preferred process design is likely to be based, in part, on the unique setting of the bay. Some of the characteristics to consider include:

- ecological considerations, such as the potential to achieve MLPA goals in an estuarine study region
- numerous regulatory and management agencies
- economic interests
- process overload
- existing MPAs

3.1.1 Ecological Considerations

The SFSR is the only study region entirely captured within an estuary. This has implications for the Master Plan science guidelines and how guidelines apply to estuarine-only MPA proposals. It is expected that the science guidelines would need to be reassessed and potentially re-crafted to reflect the characteristics of a large estuary. Local stakeholders identified two important questions relative to the MLPA goals specific to the SFSR: First, how can the goals of the MLPA be effectively achieved in the bay given its highly urbanized setting? Second, should the priorities of the MLPA goals be shifted to place greater emphasis on Goal 3, which promotes recreational, educational and study opportunities? These considerations require both a scientific assessment of the bay by a science team and a policy-level discussion of what may be appropriate and achievable in the bay given certain conditions.

3.1.2 Jurisdictional Fabric

It is clear that the complex jurisdictional setting of the SFSR requires consideration of how best to coordinate with existing entities to address additional layers of regulation (for a comprehensive summary of regulatory and management agencies active in the bay, please see section B.2 of Appendix B). Conversations with local stakeholders suggest there is an opportunity for the MLPA, and more specifically the implementation of a network of MPAs, to complement the bay's many regulatory, planning and restoration activities and coordinate with bay-centered agencies to strengthen existing efforts. Stakeholders also suggest that the regional, ecosystem-based management approach of the MLPA may be an effective

framework for improving coordination among agencies. Lessons learned from previous bay efforts indicate that whoever manages an MPA planning process needs to have a solid understanding of a number of jurisdictional considerations before entering into conversations with these agencies, including the existing agencies' regulatory and management authority; how the MLPA and MPAs in general fit with other agency efforts; and what agencies with authority in the bay would need to be involved in the implementation of any new MPAs.

3.1.3 Economic Interests

The economic setting of the San Francisco Bay is also different from previous study regions. The presence of commercial and/or recreational fisheries in the SFSR is not as prevalent as in other study regions. This is not to say that fishing is not a vital part of the social and cultural identity of the region, but these industries play less of a role in economic considerations. For San Francisco Bay, industries such as ports, dredging and marine commerce are the major economic sectors. In conversations with local stakeholders, concern was expressed regarding how MPAs might impact commercial activities and uses in the bay, and more specifically the redundancy in regulations that MPAs might pose. However, stakeholders also expressed interest in considering how MPAs might complement or benefit existing regulations and/or processes. Given the strong presence of industry in the bay and its high level of organization (see Appendix B.4), it will be important to consider commercial industrial uses in the bay and, as was done regarding socioeconomic considerations in other study regions, design a process that aims to meet the goals of the MLPA while minimizing impacts to local economies. While information exists on local industrial economies, additional information gathering processes, including the collection of new data, may be required when considering the potential economic impact of MPAs in the bay.

3.1.4 Process Overload

Research and conversations with local stakeholders has made it clear that a tremendous amount of time, resources and effort are applied to other processes and planning efforts in San Francisco Bay. These efforts involve many of the agencies with jurisdiction in the study region, but also include leaders from non-government organizations, industry representatives and other stakeholders. Feedback from conversations with local experts emphasized that most processes in the bay are visionary exercises and that the region could benefit from a process that takes established bay goals and puts them into action through implementation. Local stakeholders also recognized how MLPA goals align with many priorities currently identified by these visionary processes, particularly MLPA goal 3.

The options presented in this report articulate how an MPA planning process would differ from the existing efforts and add value to what is currently occurring in the bay. It is important to emphasize that existing bay efforts should be considered when assessing the options for how to proceed with MPA planning, and to reiterate the potential ecological and process benefits of considering the bay from a regional, ecosystem, multi-interest perspective. For example, conversations with local stakeholders have made it clear that there is little, if any, active involvement of local California tribes and tribal communities in Bay Area processes. The inclusive approach of MLPA planning would increase awareness and support opportunities for education and cross-jurisdictional partnerships. Because of the presence of other bay

processes in the study region, there is concern about the added work of another process and how an MLPA-focused effort would differ from existing bay projects. Outreach and planning would be important to address this concern. Outreach could help San Francisco Bay stakeholders understand the MPA planning process and how it relates to and differs from other processes, thus helping to minimize local concern about compounding and conflicting regulations. In addition, the process should be adapted to place greater emphasis than in previous study regions on coordination and collaboration with existing agencies and organizations.

3.1.5 Existing MPAs

In the MLPA San Francisco Bay Study Region, there are existing MPAs that need to be brought into compliance (see Chapter 2 and Appendix B for more information). Regardless of the option chosen by the MOU partners for the SFSR, the existing MPAs and proposed SMRs must be brought into compliance with the MMAIA and be made consistent with the MLPA. It is recommended that DFG and State Parks coordinate their efforts to bring these MPAs in compliance if no recommendation for the implementation of new comes out of the SFSR process. If a planning process takes place that includes a recommendation for the implementation of MPAs in the SFSR, the existing MPAs will have been considered and brought into compliance through that planning process.

3.2 Process Considerations

Decision makers will need to take into account key process considerations when trying to determine the appropriate planning process option for San Francisco Bay. This section outlines those considerations and provides some discussion of how to weigh them according to certain priorities. Key process considerations include:

3.2.1 Funding

It is important to determine early the available funding for a planning process in the San Francisco Bay study region. This information will certainly narrow the options under consideration to focus on those that can be realistically achieved within a given budget. As many processes have shown, success is intimately connected to adequate funding to fulfill the objectives and intended scope of work. Therefore the funding available for resources and staff support may influence the option selected to move forward in San Francisco Bay. Assuming funding is a limiting factor, decision-makers may want to consider approaching the San Francisco Bay process in a series of phases. This flexibility provides the State the choice to undertake some initial, lower-cost efforts, and then move forward with more cost-intensive options as it may be determined that they are needed and that funding for them become available.

Funding considerations will continue to be addresses in the Key Considerations section, since most aspects of process have a cost component.

3.2.2 Information and Data

An MPA planning process is largely based on the best readily available information. In recognition of this, previous study regions began with an assessment of available information to help determine additional data needs, outlined in this report as Option 1. In addition, the availability of data may also determine, or favor, a preferred MPA planning option. Asking well-chosen questions about available information and data, some of which have been included in the Chapter 5 of this report, will help when considering the range of options.

It is important to be aware of the difference between data needs and data wants. A science team may determine that there is sufficient existing information to answer key science questions, but stakeholders may want more data on potential socioeconomic impacts. While the MLPA Initiative MPA planning process has operated to date with a well-funded data collection effort, decision-makers may consider whether the kind of information gathered in the past is required to move a process forward in the bay. If funding is a limiting factor, there are opportunities within the presented series of options to cut costs by minimizing the collection and development of information. For example, within Option 5 (a full MPA planning process like those in the other MLPA Initiative study regions), it may not be necessary to evaluate fishery impacts.

3.2.3 Participation and Establishment of MPA Planning Groups

The options presented in this report form a progression, and with each subsequent option there is an increase in the involvement and convening of MPA planning groups (regional stakeholder group, science advisory team, blue ribbon task force, etc.). To some extent, the stakeholder participation and establishment of MPA planning groups is determined by the process needs of a given option. As the level of effort and involvement increases, so do the process complexity and associated costs. However, there is also some flexibility as to when and how to engage various stakeholders and groups. For example, there may be a need to address certain policy issues early in the process by involving a body similar to the MLPA Blue Ribbon Task Force. Or there may be a need to reduce costs associated with broad participation and the convening of MPA planning groups. Thus, while the objective of the process design is to ensure broad representation of interests, there may be more or less formal, and thus more or less costly, mechanisms for including the voices representing various interests into the process through informal channels. Utilizing partnerships and existing relationships among bay agencies and groups may assist in reducing costs associated with participation.

3.2.4 Process Design

The options presented in this report emerged from the experiences of bay processes and past MLPA Initiative study regions, as well as input from local stakeholders. The design concept of the options was based on two factors—budget and need—providing decision makers with a range of options that include suggestions for staffing, participation and resources (see Table 1). The options build on each other in succession, providing decision makers with a number of ways to consider the MLPA, and ultimately the development of MPA recommendations, in the SFSR.

While there are key elements of the process design that are less flexible than others, such as those that are prerequisites for other elements (e.g. the establishment of the science team early on to determine guidelines), the options are designed to accommodate a range of identified needs and available resources. Recommendations as to how to incorporate a number of valuable aspects of past MLPA Initiative MPA planning processes, even if it is determined that an MPA planning process is not appropriate or needed, are also included in each option. These include a suite of tools, services and resources, such as the launch of MarineMap in Option 3. It is important to acknowledge that the description of each option involves some judgment on the part of the authors as to when certain resources and staff are needed. The specific details of an option can be adapted to include, combine, delay or remove some of the design elements depending on identified need, budget limitations, or other factors.

3.2.5 Support and Commitment

Political will and sustained support from the Governor of California and certain state agencies and their appointed leads (DFG, State Parks, and the California Natural Resources Agency) were essential for completing coastal MPA planning, including the forwarding of MPA recommendations to the California Fish and Game Commission. The MLPA Initiative also benefited from the support of a public-private partnership. In order for any process to move forward in a meaningful way in the San Francisco Bay study region, similar commitment and support will probably be needed. When assessing the required level of support and commitment, it may be important to understand the major obstacles that exist for a process in the bay (e.g. limited funding, distrust of additional regulations, etc.).

Chapter 4 Options for Considering the MLPA in San Francisco Bay

4.1 Development of Options

This report reviews a limited range of options for potential approaches, if at all, to MPA planning in the SFSR that is consistent with the MLPA. The options can be considered individually or as a series of steps, beginning at Option Zero (no process) and moving toward Option Five (comprehensive MLPA Initiative-type planning process). The options for potential approaches are:

- Option Zero: No Process and No Change to Existing MPAs
- Option One: Collect and Compile Existing Information (No MPA proposal development)
- Option Two: Analyze Existing Information and Enhance Communication (No MPA proposal development)
- Option Three: Conduct MPA Planning Process t Self-Organized Groups Only (MPA proposal development)
- Option Four: Conduct MPA Planning Process that Integrates Elements of Bay Processes and Programs (MPA proposal development)
- Option Five: Conduct MLPA Initiative-type MPA Planning Process (MPA proposal development)

The options can be approached in succession, each building on the previous one, or ending at the completion of a given option. They are designed to be flexible depending on available resources and identified need. In many cases, the specific details of an option can be adapted to include, combine, delay, or remove some of the design elements depending on budget limitations, available staffing, or other factors. The report proposes suitable resources, tools, and methods for how the work might be accomplished to help illustrate what a given option involves in terms of effort. For example, the staffing responsibilities can be tailored to reflect the availability of staff hours and support. General duties could be provided by DFG staff, existing MLPA Initiative contracts, outside contractors, bay agency partners, or a combination of groups. Some of the more specialized steps unique to the MLPA Initiative planning process would benefit from staff with direct process experience.

Not all of the options presented assume an MPA planning process should take place in the SFSR. Options One and Two do not develop MPA proposals but do lay the foundation of information required for such a process and explore the benefits of incorporating MPA planning components in the SFSR. Options Three through Five all offer an MPA planning approach, however each option differs on the potential steps taken to develop MPA proposals. While not all of the options result in a recommendation for implementation of MPAs, each contains MLPA Initiative planning process elements that make progress toward developing recommendations for redesigning MPAs in the SFSR.

The following information is provided for each option: description, a rationale, how it differs from current efforts in the bay, and key considerations (see Tables 1 and 2). It is important to

clarify that this report does not recommend a particular option, but instead presents a rationale for each, as well as potential benefits and costs.

This report does not attempt to identify all the potential options available; instead it focuses on those that align with successful Bay Area processes and reflects the essential elements of the MLPA Initiative. Specifically, the following were identified as “essential elements” of any MPA planning process:

- neutrality
- coordination
- regional, cross-interest perspective
- team of staff or contractors focused on process
- public access to process and information

Options that lack these elements are not proposed, as they do not align with what the MLPA Initiative has found to be important for a meaningful, productive public process.

Table 1: Consideration of options: comparison by key components, funding and resources

FUNDING AND RESOURCES

Increases with each option

	Option Zero	Option One	Option Two	Option Three	Option Four	Option Five
	No Process and No Change to Existing MPAs	Collect and Compile Existing Information	Analyze Existing Information and Enhance Communication	Conduct MPA Planning Process through External Groups Only	Conduct MPA Planning Process that Integrates Elements of Existing Bay Processes	Conduct MLPA Initiative-type MPA Planning Process
Communicate decision	✓	✓	✓	✓	✓	✓
Information collection		✓	✓	✓	✓	✓
Development of new data						✓
Information and guidelines analysis			✓	✓	✓	✓
Development of MPA proposals by external groups				✓	✓	✓
Development of MPA proposals by RSG					✓	✓
Recommendation for alternative MPA proposal(s) in SFSR				✓	✓	✓
Issues and needs support						✓

Table 2: Comparison of components included in option zero through option five

	Option 0	Option 1	Option 2	Option 3	Option 4	Option 5
Public Outreach and Education						
Website	✓	✓	✓	✓	✓	✓
Listserv		✓	✓	✓	✓	✓
Print Materials				✓	✓	✓
Key Communicators			✓	✓	✓	✓
Public Workshops/Information Sessions						✓
Process Groups						
Dedicated I-team (see below for details)				Optional	✓	✓
Dedicated POE Team				✓	✓	✓
Convene SAT			✓	✓	✓	✓
Convene BRTF				✓	✓	✓
Convene Advisory Group			✓	✓	✓	✓
Convene RSG					✓	✓
Staff Support						
DFG and State Parks	✓	✓	✓	✓	✓	✓
Program Manager/Executive Director			✓	✓	✓	✓
Facilitation Staff					✓	✓
Planning Staff			Optional	✓	✓	✓
MarineMap/GIS Staff		Optional	Optional	✓	✓	✓
Outreach Staff			Optional	✓	✓	✓
SAT Support Staff		✓	✓	✓	✓	✓
Logistics Staff			✓	✓	✓	✓
Bay Area Partners		✓	✓	✓	✓	✓
MPA Planning Process						
External Round(s) of MPA Planning				✓	✓	✓
Internal Round(s) of MPA Planning					✓	✓
Recommendation to FGC				✓	✓	✓
Supporting Tools/Products						
Report on Final Option	✓	✓	✓	✓	✓	✓
Data Compilation		✓	✓	✓	✓	✓
Evaluation of Existing MPAs			✓	✓	✓	✓
Science Guidelines			✓	✓	✓	✓
MarineMap		Optional	Optional	✓	✓	✓
Regional Profile						✓
Potential Socioeconomic Impacts Data (fisheries)						Optional
Habitat Mapping						Optional

4.2 Option Zero: No Process and No Change to Existing MPAs

4.2.1 Description of Option Zero

Option Zero represents the decision to not engage in considering the MLPA or take any steps toward conducting an MPA planning process in the SFSR. Therefore, Option Zero would make no changes to existing MPAs in the SFSR. Option Zero should include a report or statement detailing why no planning process is taking place in the SFSR. This report could be authored by DFG or the MLPA Initiative, if staff are still available, or the MOU partners. The suggested report or statement should be made publicly available on the MLPA website, along with an announcement via DFG listservs to remain consistent with the MLPA Initiative partners' commitment to transparency.

4.2.2 Rationale for Option Zero

Option Zero requires limited additional funding from the MLPA Initiative and is presented as an option for consideration if it is not deemed feasible to complete an MPA planning process in the SFSR. Additional rationale for Option Zero include the long history of intense activity that has resulted in a number of existing regulations and overlapping jurisdictions for the management of ongoing, long-term projects (e.g. dredging) in the bay. Areas of the bay also are currently protected, as MPAs or under other designations, and may already achieve the goals of the MLPA. Bay Area agencies and organizations are also managing a number of restoration projects around the bay, such as salt pond, eelgrass and native oyster restoration projects. These agencies and organizations are also making efforts to work together on long-term planning goals such as the recently released San Francisco Bay Subtidal Habitat Goals Report. An MPA planning process may also be better suited after some existing planning efforts have made greater progress.

4.2.3 How Option Zero Differs from Existing Bay Processes

Option Zero does not represent a change from how the bay ecosystem is currently regulated and protected. Option Zero does not bring any additional services or benefits to the San Francisco Bay study region.

4.2.4 Key Considerations for Option Zero

In Option Zero, no additional information gathering, data synthesis or analysis, creation of new data, MPA planning, or recommendation for implementation of MPAs would take place beyond the report on the decision to adopt Option Zero. Option Zero would result in no recommendations for redesigning existing MPAs in the study region, nor would it address the issue of bringing existing MPAs into compliance (see Appendix B.6).

Option Zero does not include any aspects of MLPA Initiative-type planning process. Option Zero would not require any additional funding from the MLPA Initiative and only minimal support from the State to produce a report or statement explaining why no planning process is taking place. Given that five study regions are identified in the Master Plan and for the MLPA Initiative planning process, it is important to provide some basic communication to announce

the decision to not move forward with a process. Public outreach could be conducted via the website and listservs. Existing DFG project staff or existing MLPA Initiative staff contractors, if still available, could accomplish this work.

4.3 Option One: Collect and Compile Existing Information

4.3.1 Description of Option One

The main components of Option One are a literature review of existing scientific, spatial, socioeconomic, jurisdictional, management, recreational and commercial use, as well as other data and information about San Francisco Bay. Once the literature review is complete, the sources could be compiled and housed in a single location, preferably one that is online and/or readily accessible to the public. MarineMap¹ or a similar tool used in another bay process could be considered to house and display the collected spatial information.

It is recommended that a data outreach process occur in conjunction with the literature review. This would entail reaching out to federal, tribal, state, regional, and local governments, as well as industries, non-profit organizations and academic institutions to compile information. Outreach could occur on an individual basis, and should also include at least one data outreach meeting. This outreach meeting would support cross-disciplinary discussions about existing data, how best to manage the data collected and making data accessible to the public for future planning processes. The collected data could be compiled by topic, by data type, or by which goal of the MLPA it addresses; how to compile the data would be informed by data outreach efforts. The goal of this effort would be to reach beyond the typical topic-by-topic approach to data collection that currently exists in the bay and create an online library of information to inform future bay planning efforts, such as MPA planning. A minimal team of DFG and/or existing MLPA Initiative staff would be required to coordinate this data outreach process. Bay Area organizations could also compile their own data and provide it during the outreach process.

An additional component to Option One, provided there were adequate funding, would include some vehicle for public comment on existing data and would provide the public with an opportunity to submit anecdotal evidence. One way this could be accomplished is via an online feedback form, such as was used in the MLPA Initiative's north coast study region to collect public feedback on alternative MPA proposals. Staff time would be required for compiling and summarizing the public's feedback and anecdotal evidence.

¹ MarineMap is an online decision support tool used to display spatial data on oceanographic, biological, geological, chemical and human dimensions of the ocean and coastal areas. It allows users to create and share MPA ideas and reports on how individual MPAs and MPA proposals meet various guidelines to help achieve the goals of the MLPA.

4.3.2 Rationale for Option One

This option represents the foundation for a planning process for the SFSR, providing the region with a number of the essential elements of the MLPA Initiative's MPA planning process that could enhance existing and future non-MLPA bay efforts. The MLPA requires the use of best readily available science in the planning and implementation of MPAs. Therefore, the first option for any planning process to take place in the San Francisco Bay study region should be to collect and compile existing data and information on the bay. Even if an MPA planning process does not take place at this time, this option would still have great value as it helps organize data and information that can be used in other bay planning efforts, and could potentially support future MPA planning efforts. The recently published San Francisco Bay Subtidal Habitat Goals Report has prioritized creating a database to house the bay's collective data. This compilation and sharing of data could also support the process of updating the Master Plan to address the fact that the SFSR is located entirely within an estuary. The guidelines laid out in the Master Plan for designing a network of MPAs along the open coast may not be appropriate to the San Francisco Bay estuary, and updates may be needed.

4.3.3 How Option One Differs from Existing Bay Processes

Currently, the public is required to navigate through a myriad of websites and reports to attempt to piece together a comprehensive view of available data on the San Francisco Bay. For example, through the Internet, the public can access decades of scientific, spatial, socioeconomic, and recreational and commercial use data and information on San Francisco Bay. However, this information is not available in a cohesive, single location. Many federal, state and local agencies have a portion of their websites dedicated to publications, progress reports, monitoring and mapping data, management plans and other documents. In most cases, these are topic-specific compilations of information that are difficult to find and lack the bay-wide, inter-disciplinary approach an MLPA Initiative-type data gathering effort would provide. Effective MPA planning requires balancing the social, economic and ecological needs of a given study region; bringing together an array of competing user groups facilitates open dialogue regarding environmental decision-making. Currently, the information and data required for this kind of comprehensive, inter-disciplinary planning does not exist in one place for San Francisco Bay. In addition, while many public documents include a public review period before they are finalized, the public has not had the opportunity to comment across a suite of inter-disciplinary documents that capture a bay-wide ecological picture.

Several groups and agencies have existing mapping tools that display spatial data for San Francisco Bay. Again, these tend to be topic-specific, showing only certain types of ecological data, jurisdictions, or socioeconomic trends. A mapping tool, such as MarineMap, that provides much of this information in a single location would support cross-interest planning and decision-making.

4.3.4 Key Considerations for Option One

Option One does not accomplish data synthesis or analysis, the creation of new data, MPA planning, or the recommendation for implementation of MPAs. Option One would result in no recommendations for redesigning the existing MPAs in the study region and would not address

the issue of bringing existing MPAs into compliance (see Appendix B.6). This option does not include any initial outreach to the public about MPAs or the goals of the MLPA, nor does it process the information gathered into a more user-friendly format (e.g., regional profile). While all the relevant information would be housed in one location, the public would still have to wade through individual reports to find desired information. Option One does not address potential data gaps (e.g. habitat information, potential socioeconomic impacts), but this information may not be relevant if MPA planning does not take place in the bay. Option One does provide an initial effort to coordinate information to an inclusive group of bay agencies and organizations, both from a regional perspective and a multi-disciplinary approach.

Option One could be completed with a minimal amount of funding and staff support in a relatively short time (Table 1). Existing staff, from DFG or San Francisco Bay Conservation and Development Commission (BCDC), for example, could complete this option. Potential partner organizations and institutions, such as the San Francisco Estuary Institute and the Bay Institute, could assist in disseminating information to organizations with potentially useful data and information in a cost-effective way. Alternatively, contractors could be hired to perform this option at a relatively low cost due to the short time needed to complete the process of compiling existing data and information; no new information is required.

If a mapping tool component like MarineMap (or one used in other bay processes) were added, more funding would be required for its inclusion and maintenance. While still requiring funding, a local initiative such as the San Francisco Bay Joint Venture could be an alternative place to house the data and information; long-term funding for maintenance would also be required. DFG or a group like the MPA Monitoring Enterprise could be responsible for long-term operation and maintenance of this type of tool.

4.4 Option Two: Analyze Existing Information and Enhance Communication

4.4.1 Description of Option Two

Option Two builds on Option One by adding two main components. The first involves analyzing the information gathered in Option One through the convening of a science team. The second convenes the leaders from the major Bay Area processes to enhance communication between groups and to inform MPA planning.

A science team would be convened to analyze compiled SRSF data and information. Specifically, the science team would review and update the Master Plan relative to the San Francisco Bay estuary, develop guidelines for achieving MLPA goals in the SFSR, and evaluate existing MPAs relative to particular MLPA goals; the science team would not develop alternative MPA options. The responsibilities of this recommended science team would be similar to those described in the Master Plan for the MLPA Master Plan Science Advisory Team (SAT), including the SAT's tasks as performed in previous study regions. A recommended change would require the SFSR science team to develop science guidelines

and conduct evaluations relative to MLPA Goal 3². This would require social scientist appointed to science team. During the review of existing MPAs, DFG and State Parks would work together to provide recommendations for how to bring existing MPAs into compliance. This information would be presented to the California Fish and Game Commission (FGC) and, potentially the California State Park and Recreation Commission, for consideration.

The science team would be appointed by the Director of DFG, with members representing a variety of fields such as estuarine ecology, fisheries, the design of marine protected areas, economics and social sciences (e.g. cultural/tribal anthropology, recreation studies). In recognition of the unique ecological characteristics of the bay, it is recommended the science team include few veteran SAT members (from previous study regions) and many new members to adequately represent scientific fields relevant to the bay. In particular, the composition of the science team should include new appointments who can address Goal 3 as well as consider traditional, tribal ecological knowledge (given lessons learned in previous study regions to effectively incorporate this unique information)³. As in previous study regions, the science team would be supported by DFG and/or MLPA Initiative staff, if still available.

As the second component of Option Two, it is recommended that the process convene a group of representatives from major processes in the bay (SFB Advisory Group). In an effort to capture the institutional knowledge of bay activities, this group should be composed of high-level administrators from local, state and federal resource and regulatory agencies who are involved in wetlands and watershed management, regulation, planning and/or research. The SFB Advisory Group would help: identify important information; identify challenges unique to the study region; provide local knowledge to the science team; and begin to coordinate efforts regarding how MLPA goals, science guidelines and potentially MPA planning could fit into existing bay processes.

Option Two would require some initial outreach to inform the public about the MLPA, MPA planning, and opportunities to provide input. Science team meetings would be open to the public and include opportunities for public comment. During Option Two, partner groups and organizations (e.g. Key Communicators) would assist in informing their constituents using existing communication channels about MPAs through self-organized public information sessions. Key Communicators could be provided an “MPAs 101” PowerPoint presentation along with a number of print materials to help inform this effort.

Finally, during Option Two a MarineMap-like tool to display spatial data would be appropriate, if not already incorporated in Option One.

² MLPA Goal 3 was previously evaluated by MLPA Initiative staff. All other MLPA goals would be evaluated similarly to past study regions.

³ When developing a SFSR science team, decision makers should consider participants in the group answering science questions about San Francisco Bay (see the separate San Francisco Bay science questions document).

4.4.2 Rationale for Option Two

As part of Option Two, a science team would be required to reexamine existing MLPA science guidelines and adapt them to apply to this study region. The findings from the analysis conducted will help determine the importance of specific MLPA goals in this study region. This improvement would provide equitable consideration for all the MLPA goals, excluding Goal 5, which focuses on management and enforcement considerations and is conducted by DFG and State Parks.

It is recommended that the science team also include Goal 3 in its analysis. This is a change from previous study regions and would enable Goal 3 to be comparable to the other science evaluations, as well as provide the SFSR with recreational usage information that aligns with many existing bay process priorities.

Once DFG has reached out to the science community to convene the SCSR science team, it is important to avoid having the science team's efforts duplicate existing bay planning goals. Convening the SFB Advisory Group will help minimize the potential for redundancy. The SFB Advisory Group is new to the MLPA Initiative-type planning process and models a group used in the South Bay Salt Pond Restoration Project that proved to be instrumental for informing that process. The role of the SFB Advisory Group would evolve if the process were to move beyond Option Two.

4.4.3 How Option Two Differs from Existing Bay Processes

An interdisciplinary science team of this nature has not been convened before in the Bay Area. To date, there has been no analysis of existing MPAs in the bay to determine how well they would meet the goals of the MLPA or how to bring them into compliance. It would also be a unique effort to pull together representatives from the various Bay Area planning processes and have them work as a team to consider the MPA planning process and the various data and information being generated.

4.4.4 Key Considerations for Option Two

Option Two does not involve the development of new data, MPA planning, a recommendation for implementation of MPAs, or a major public outreach component. Option Two also does not process the information gathered in Option One into a more user-friendly format (e.g., regional profile). Option Two does accomplish the analysis of existing data, the development of science guidelines and the evaluation of existing MPAs. It also includes DFG and State Parks working together to determine how to bring the existing MPAs into compliance with the MMAIA and make them consistent with the MLPA.

Option Two would require a larger funding component than Option One in order to convene multiple groups. It is important to consider the proposed groups identified in Option Two, in particular the justification for convening these groups, recommended responsibilities, and the proposed composition. Meeting costs could be kept to a minimum by co-scheduling with other group meetings, utilizing venues managed or owned by members of the SFB Advisory Group or Key Communicators, and using teleconferences and webinars instead of in-person

meetings as much as possible. It will be important to accommodate the public at in-person meetings to maintain process transparency and increasing cross-interest involvement. Additionally, science team staff support would be needed and potentially fulfilled by DFG and/or MLPA Initiative staff, as available (Table 1)

Option Two would begin to inform the public about MPAs through the SFB Advisory Group and Key Communicators. Staff support might be required to manage these two groups. This option would also facilitate enhanced communication between inter-disciplinary Bay Area groups who may not regularly collaborate. Option Two recommends the inclusion of a spatial data tool, such as MarineMap or, depending on available resources, a spatial tool utilized by an existing bay process. If the MLPA planning process were to extend beyond Option Two, MarineMap would be the most appropriate tool as it offers additional functionality critical to the development of MPA proposals, such as drawing MPAs, recording attribute information, and generating reports.

Before effective MPA planning can happen in the SFSR, estuarine MPA design guidelines are needed to determine whether existing or redesigned MPAs can help achieve the goals of the MLPA. Option Two would lay the foundation for a potential MPA planning process by providing bay-specific science guidelines and levels of protection. It would also provide the evaluation of existing MPAs, which would help determine what may be required to achieve the goals of the MLPA. The Master Plan does not specifically address MPA planning guidelines in large estuaries. For example, based on estuarine habitat guidance provided in the north coast, the spacing guideline (31-62 miles) may not apply in San Francisco Bay. A report being concurrently developed may give more guidance on this point (see San Francisco Bay Science Work Group document). The science team may also want to consider restoration projects and protections outside of MPAs in this unique study region and assess the value of co-locating MPAs with the other projects.

Regardless of whether an MPA planning process were to this option, Option Two would provide valuable services to the bay and offers an initial opportunity for informing how existing bay processes might incorporate MLPA goals.

4.5 Option Three: Conduct MPA Planning Process through Self-Supported Groups Only

4.5.1 Description of Option Three

Option Three builds on the information collected and analyzed in Options One and Two and includes the previously mentioned MPA planning groups, staff support and recommended resources. Option Three includes an MPA planning process along with the addition of two major process components. The first is the convening of a policy-level blue ribbon task force (task force) to provide policy guidance for MPA planning, among other tasks. The second component of Option Three involves the development of MPA proposals through an independent, iterative, self-supported (or “external” see Chapter 1) planning process based on the best readily available information (Option One), design guidelines (Option Two and Three), and findings from the existing MPAs evaluations (Option Two). New resources and support

needed for Option Three include the incorporation of MarineMap, if not already added, and increased outreach. Additional staff support, such as planners, is suggested in Option Three, but not required (Table 1).

The task force would review MLPA goals, science guidelines, evaluations of existing MPAs and input from the SFB Advisory Group on how MPAs can align with existing bay processes (e.g. bay goals, existing regulations and protection, etc.). (See the rationale section, below, for the basis for the task force.) Based on these considerations, the task force would provide process guidance on developing MPA proposals in SFSR. The development of MPA proposals will involve the consideration of existing MPAs and how to bring them into compliance, as well as consider the creation of new proposed MPAs to address gaps in science guidelines. The MPA planning process would take place over a series of three rounds similar to previous study regions. For each round of MPA proposals, the science team, DFG, State Parks and support staff would conduct a series of evaluations. Feedback from these evaluations together with input from the SFB Advisory Group and members of the public, as well as guidance from the task force would help further inform the development of proposals. This process design would provide self-organized community groups the opportunity to gather information, test ideas, and learn from the evaluations and feedback.

Unique to the SFSR, Option Three's process design relies solely on self-supported groups to develop MPA proposals. These self-supported groups (e.g. agencies, communities, stakeholders) would work independently, outside of MPA planning meetings and without the direct support of facilitation and planning staff. Self-supported groups would have the opportunity to refine MPA proposals to better meet guidelines through the iterative process described above. Option Three could also provide the opportunity for self-supported groups to interact, share ideas and/or possibly merge. The task force would provide strong process guidance emphasizing the need for cross-interest composition of groups and meeting the various guidelines, among other priorities. Lessons learned from past study regions, specifically the north coast where community groups were responsible for independently developing the first round of MPA proposals, could provide guidance of how the process can provide necessary support and tools to SFSR self-supported groups (Appendix A).

Option Three would also involve the incorporation of MarineMap to support the development of MPA proposals. If an alternative special tool (e.g. from an existing bay process) were being considered it would need to possess the functionality of MarineMap, including the ability to view available data, design MPAs and MPA proposals, and generate reports.

An identified public outreach staff person or contractor would conduct outreach, building on the initial introduction to MPAs that occurred in Option Two. The Key Communicators would continue to work toward wide and inclusive outreach, so the public would become more informed about the best-readily available information, the MPA planning process, and how to participate as or with a group developing an MPA proposal. Print and electronic materials would be developed, including an informational video to help inform the public about the process. In addition, informal networking with existing groups and processes would take place to ensure all the key players were informed about the process and encouraged to participate. This option would also involve assessing what groups might be underrepresented and then reaching out to those groups to ensure broad participation.

4.5.2 Rationale for Option Three

MPA planning requires a baseline of information and guidance to inform deliberations and help ensure that reasonable alternative proposals are developed. This information would be gathered and analyzed in Options One and Two, and further developed in key components of Option Three. Option Three's design offers a cost-effective approach to MPA planning, maximizes the strengths of the SFSR's local institutional knowledge, and maintains essential elements from past MLPA Initiative MPA planning processes. These elements include science-driven, stakeholder-based process wherein local communities develop the ideas explored during the MPA redesign process (this approach differs from more traditional top-down approaches), and a robust, open, inclusive and transparent public process, with multiple opportunities for participation and learning.

Option Three differs from Option 2 by providing a task force, which offers a number of essential elements that can assist in the development of MPA proposals by community groups; the work of the task force differs from the role of, say, the SFB Advisory Group of Option 2. By providing policy-level guidance to SFSR groups congruous with guidance given to other regions, a task force can help ensure consistency in MPA design across study regions. A task force can also provide the service of delivering alternative MPA proposals to the FGC as described in the Master Plan. Task force membership should include distinguished people with experience in public policy, but who are not directly associated with MLPA or MPA issues (Master Plan 2008). To this point, the alternative of using of an existing bay advisory group or the newly formed SFB Advisory Group to provide policy guidance would not be appropriate given that those groups' interests focus primarily on the bay, and the groups have a direct stake in the outcomes of the MPA planning process.

While Option Three's design approach is different from that used in previous study regions, given the amount of collaboration, organization and interagency support that exists in the bay, the need to formally facilitate an internal regional stakeholder group process may not be as great in the SFSR. Lessons learned from the north coast study region suggest community groups can develop coherent MPA proposals that compare to those generated in an internally-facilitated process with proper tools and resources, strong guidance and the interest and will amongst local citizens to self-organize. Given the highly urbanized setting of the bay, a more flexible format for how these groups participate in the development of proposals may also be appropriate. Local organizations working towards identified, non-MLPA bay goals may already have an active process framework (e.g. committees, scheduled meetings, etc.), making participation in MPA planning relatively simple. The important consideration will be how to frame the process in such a way that it is accessible to those not formally included in other processes or organizations. The process suggestions provided by a task force is one example of how to address this consideration; the north coast process provides additional examples.

The inclusion of MarineMap in Option Three is essential to supporting developers of MPA proposals. MarineMap would be used to view available data, design MPAs and MPA proposals and run reports. The use of an alternative spatial tool (e.g. from an existing bay process) was presented in previous options. However, Option Three requires the unique functionality of MarineMap that other bay process tools identified as part of this report research cannot provide. If an alternative special tool were being considered it would require the unique

functionality of MarineMap, including the ability to view available data, design MPAs and MPA proposals and run reports.

Adopting an iterative approach for developing the community group's MPA proposals in Option Three builds on lessons learned from previous study regions. Experience suggests that an iterative process involving at least three rounds is needed for MPA proposals to incorporate and satisfy, to the extent possible, the various guidelines and guidance.

There are additional tools, resources and support that could be added to Option Three. However, Option Three takes a basic approach to MPA planning. Many of these additional planning components are described in other, more costly options (Table 1) and could be added to Option Three as resources are available.

4.5.3 How Option Three Differs from Existing Bay Processes

Option Three provides an ecosystem-based, bay-wide approach to redesigning MPAs in San Francisco Bay. Option Three would result in a detailed recommendation to the State of California for implementation; most bay processes are vision-based and do not result in specific, proposed regulations. This MPA planning process would consider the bay as an ecosystem at a regional scale, and would provide the opportunity to coordinate and explore co-management opportunities with other agencies. Finally, while many processes are linear in approach, the MPA planning process described in Option Three offers the opportunity to refine ideas through multiple rounds, or iterations, of planning and feedback.

Option Three would also serve as a model for effective public and stakeholder engagement. It would be a collaborative process that engages not only relevant agencies, many of which are involved with existing processes, but also the myriad of stakeholders, interests and concerned citizens who have not always been included in past and current processes. Option Three would also help build capacity for how SFSR groups interact and coordinate during participation in the MPA planning process and beyond.

4.5.4 Key Considerations for Option Three

Option Three does not involve the development of new data (e.g. potential fishery impacts), processing information into a more user-friendly format (e.g. regional profile), convening of a regional stakeholder group, or the capacity to respond to developing issues. These process components were intentionally not included in an effort to keep costs down and to empower already well-organized SFSR groups. This option proposes only the basic, essential elements necessary for conducting an MPA planning process. Option Three initiates an iterative MPA planning process with necessary tools (e.g. MarineMap) and support (task force guidance) and concludes with a recommendation for implementation of MPAs. As a result, the overall level of effort required, the resources needed (e.g. public outreach) and staff support increase for this option.

San Francisco Bay differs from any other study region in being entirely captured within an estuary and nearly surrounded by urban development. San Francisco Bay also includes a significant amount of jurisdictional overlap. Given these characteristics of this study region, the

science team and task force will need to assess how well MLPA goals and guidelines can be met with the existing available data. In addition to a potential shift in prioritization of MLPA goals as identified in Option Two, new issues may arise such as invasive species and industry activities (e.g., dredging). It will be important to consider how the process will respond to arising issues with an anticipated limited budget and staff capacity when compared to previous study regions.

Option Three involves the support of both the development and evaluation of MPA proposals. These additional components require a significant increase in the allocated budget compared to Option Two. Additional staff would likely be needed to design the MPA planning process, prepare and maintain MarineMap, implement outreach strategies and provide necessary support to community groups and the task force. Unlike previous Options where support could be provided by almost any partner agency, Option Three requires more specialized skills and would benefit from the support of experienced staff. Additionally, MPA planning groups responsible for conducting evaluations in Option Two (e.g., science team, DFG, State Parks) will now provide evaluations for three rounds of MPA proposal development. The role of the SFB Advisory Group grows to include providing advice on regional considerations to the task force and feedback to community groups on how MPA proposals could better align with existing bay processes.

Other funding considerations include increases in costs to convene the additional groups, host informational and support workshops and conduct evaluations. There may be ways to reduce costs, such as co-scheduling with other group meetings, utilizing venues managed or owned by partners, and relying more on virtual meetings and online tools. However, some portion of the meetings and public outreach would require in-person events. The number of MarineMap accounts provided to members of the public could be limited to those participating in the development of an MPA proposal to reduce costs, if necessary.

Option Three relies solely on external groups to develop MPA proposals. Concerns with this approach may include: lack of cross-interest proposals and regional perspective, challenges with incorporating underrepresented groups and the risk of proposals not sufficiently meeting the various guidelines and guidance. The concerns can be managed by strong guidance from a task force. Such guidance might include emphasis on regional collaboration, meeting the various guidelines, cross-interest based groups, incorporation of members of the public and underrepresented groups, and capitalizing on the knowledge from existing bay processes. Option Three also runs the risk that the task force may have to take on more responsibility to actually design MPAs to develop proposals that better meet the guidelines and address outstanding policy disputes. Again, thoughtful process design and periodic assessments by staff can help reduce the possibility of this scenario.

If Option Three is the final option in an MPA planning process, then the task force would forward selected recommendations to the FGC. If the process is scheduled to move on to Option Four, then Option Three would be modified to incorporate a regional stakeholder group component and reduce the iterations of the community groups to only one or two round(s).

4.6 Option Four: Conduct MPA Planning Process that Integrates Elements of Existing Bay Processes

4.6.1 Description of Option Four

Option Four involves an MPA planning process that includes the convening of an internal, appointed regional stakeholder group (RSG). Similar to Option Three, it requires the information gathered, recommended groups, support and resources described in Options One and Two. This option's process design will also take place over three iterative rounds and include a policy-level blue ribbon task force, as proposed in Option Three. However, unlike the previous options, Option Four calls for a transition from the independent community groups to an internally facilitated RSG. The RSG would submit its final proposal recommendation(s) to the task force. Option Four also introduces the organization of work groups including a public outreach work group.

In Option Four, the iterative process for engaging the community groups and RSG, together with the division of work to develop MPA proposals would need to be determined. Recalling the north coast process design, community groups were responsible for developing MPA proposals during the first round. The RSG participated in the subsequent two rounds of proposal development and was charged to build from those initial community-developed proposals; ultimately the RSG forward MPA recommendations to the task force for consideration (Appendix G). This process resulted in an MPA recommendation from the task force to the FGC to consider for implementation. A similar process design could be considered for Option Four.

Option Four places an emphasis on incorporating elements of existing bay processes into the MPA planning. The process design would include MPA planning exercises adapted to incorporate considerations of existing bay processes (e.g., process goals or targeted areas for protection). For example, the sequence of MPA discussions can be structured to have RSG members: 1) consider existing MPAs with relation to the MLPA goals and how to bring these MPAs into compliance with the MMAIA and DFG and State Parks guidelines, 2) explore the opportunity to co-locate MPAs with existing regulations and/or complement/enhance completed or active restoration projects, and 3) design additional MPAs to address any gaps in the MLPA goals so the MPA proposals collectively strive to meet the guidelines developed by the science team. This strategy would promote greater cross-pollination between MPA planning and the various bay processes.

It is recommended the RSG be primarily made up of those who participate in the external groups and/or have been active participants in other bay processes. A targeted nomination process would be conducted to specifically address any gaps in representation to ensure all key groups are involved. Stakeholder lists from existing bay processes will help identify key groups in the bay and process contacts (e.g. South Bay Salt Pond Restoration Project) may be able to suggest underrepresented groups.

A public outreach work group composed of Bay Area outreach experts would assist in developing outreach strategies and implementation; the responsibility of conducting outreach is shared amongst key groups in the bay under the coordination of a contractor. Additional

work groups, such as groups to assist in increasing communications with local governments as identified in Chapter 2, may also be considered in Option Four.

4.6.2 Rationale for Option Four

Option Four offers an inclusive, well-supported MPA planning process. This option integrates elements of existing bay processes and includes proven elements of the MLPA Initiative MPA planning process (i.e., appointing an RSG). The design of this ecosystem-based approach respects and is responsive to the unique ecological, socioeconomic and jurisdictional characteristics of San Francisco Bay. Option Four specifically incorporates the institutional knowledge and process design components of existing bay processes in a number of ways, including: providing feedback on the proposals from the SFB Advisory Group (described in Option Three), designing MPA planning sessions to focus on project goals of existing bay processes, the consideration of work groups to assist with outreach and local government relations, and convening MPA planning groups composed of participants from existing bay processes (e.g. RSG composed primarily of participants from independent community groups active in first round of proposal development).

In Option Three, MPAs are developed entirely through an external process. While there is value in this approach such as cost savings, empowering community mobilization and operating in a study region with extensive experience in environmental decision-making, there are also drawbacks. As seen in previous study regions, MPA proposals developed outside of a supported process may not meet various guidelines and/or address cross-interest perspectives. External MPA proposals tend to focus on the interests of a few user groups or an individual geographic region, thus creating “book ends”. This could lead the blue ribbon task force to assuming more responsibility in developing alternatives forwarded to the FGC. Option Four proposes to include a regional stakeholder group to address these concerns and develop proposals that act as a bridge amongst interests and different regions in the bay.

The inclusion of an internal process has proved to be a critical component to developing cross-interest proposals that strive to meet MLPA goals while aiming to minimize potential socioeconomic impacts. Under the auspices of a regional stakeholder group and with the support of staff and contractors, particularly marine planners, facilitators and GIS specialists, stakeholders are provided a new opportunity to take risks and build unexpected alliances and relationships. Lessons learned suggest that there can be many ways to develop an MPA proposal but not all result in the successful completion of the process; experience shows that the facilitated approach to MPA proposal development used in the MLPA Initiative is quite effective. The planning process is designed with the end goal in mind, but is approached in a series of well-thought out options that allow the stakeholders to focus on benchmarks that are within reach; this is key to the internal process and provides tremendous opportunity for stakeholders within the Bay Area—many of whom have worked together extensively—to approach environmental decision-making in a new way. Stakeholders also benefit from the experience of four previous study regions on how to best approach the process of developing MPA proposals that meet guidelines and address interests.

Option Four integrates both an external and internal process for developing MPA proposals. This integrated approach presents the greatest opportunity for achieving cross-interest support

by the bay's stakeholders. Additionally, having a specific round dedicated to only external groups as was done in the north coast, could provide some of the same benefits seen in Option Three by allowing existing organizations and processes to self-mobilize and develop proposals that also meet their interests. It is expected that Option Four would also offer the task force a suite of MPA proposals that balance the many competing interests within the bay while striving to achieve the goals of the MLPA. Thoughtful process design and consistent assessments and guidance by staff can help to support this effort.

4.6.3 How Option Four Builds Upon Existing Bay Processes

As stated in the previous options, the MLPA is an ecosystem-based approach to planning—an approach that San Francisco Bay processes to date have yet to put into a regulatory (or action-based) process. The significant investment of time and energy committed by local stakeholders in developing such visionary goals documents as the Baylands Ecosystem Habitat Goals and the San Francisco Bay Subtidal Habitat Goals Report warrants the opportunity to utilize MPAs as a tool to enhance these active projects.

MPA planning can also be used as a catalyst for inspiring new restoration and/or research, perhaps as identified as priorities under the San Francisco Bay Subtidal Habitat Goals Report. During conversations with local stakeholders, it was revealed that the development of the priorities outlined by the Subtidal Habitat Goals Report considered, among other things, potential implementation of the MLPA in the bay. Similar to Option Three, Option Four also provides additional opportunities to coordinate with other organizations, including private landowners, and explore co-management opportunities.

Option Four continues to promote and improve upon an inclusive approach to environmental decision-making within the Bay Area, providing expanded opportunities for stakeholders, interests and concerned citizens, especially those who may have been left out of previous bay processes, to become actively involved in MPA planning. For example, Option Four can provide a unique opportunity to engage local tribes and tribal communities that have been largely uninvolved with other bay efforts. This process design could serve as a model for how to effectively engage diverse groups and individuals.

4.6.4 Key Considerations for Option Four

Option Four provides many of the key components of previous MPA planning processes under the MLPA Initiative, but not all. It does not include the development of new data (e.g. potential socioeconomic impacts), processing information into a more user-friendly format (e.g. regional profile), or the capacity to respond to developing issues. This option does include a more specialized MPA planning process than the previous option and leads to a recommendation for implementation of MPAs. It also involves the formation of some new groups. Not surprisingly, with a more robust process comes greater costs and required staff and resource needs. Many of the key considerations for Option Three are also important to consider for Option Four. In addition, the modified design of Option Four to include a regional stakeholder group requires a higher level of staff support and funding. Additional contractors, such as facilitators, planners, logistics coordinator and GIS specialists, are needed to manage the stakeholder process. The increased budget would primarily cover additional meeting costs, outreach events and

additional contractors. Relying on virtual meetings and online tools, particularly for work group sessions and increased public outreach efforts, could help minimize costs. Utilizing partners, specifically those organizations and agencies that have conducted similar planning processes, to assist with increases in communications and public outreach will be essential in efforts to keep costs lower.

Due to the complex jurisdictional composition of the bay, it might be difficult to consider science questions and address technical issues without involving policy issues as well. To help mitigate this, all work groups (technical, policy, outreach) should involve as cross-disciplined a composition as possible.

Option Four resembles the previous MLPA Initiative planning processes, but lacks a number of the extra resources (e.g. development of new data) and support. However, given the existing resources and processes in the bay, the additional resources of an MLPA Initiative-like process as outline in Option Five may not be necessary.

When reviewing lessons learned of existing bay processes, all projects reviewed had a limited or specific scope (sub-regional, site-specific, habitat-specific). Feedback from local stakeholders has revealed this targeted approach has led many stakeholders to identify with their local restoration or ecological priorities. This approach also has failed to promote a bay-wide perspective on environmental decision-making processes; this is important to consider if deciding on the composition of an RSG.

If Option Four is the final option in SFSR, then it is important to consider how to address any information gaps and manage developing issues before the process moves forward. This could include inviting RSG members to share geographic areas of interest, areas of expertise and coastal resource uses/priorities to help fill gaps with local knowledge. If the process moves on to Option Five, then some of those components (e.g. data collection, development of a regional profile) would take place prior to MPA planning.

4.7 Option Five: MLPA Initiative-type Planning Process

4.7.1 Description of Option Five

Option Five would involve an MLPA Initiative-type MPA planning process with adaptations responsive to the study region setting. Option Five would function at a capacity and budget comparable to previous MLPA study regions. This option would include the actions outlined in Option One through Option Four, while also adding the effort to develop new information to better inform the design of MPAs for the region. It would also increase the level of staff support to plan for, and be responsive to, developing issues and needs, including those potentially outside the scope of the MLPA.

The development of new information would occur at the outset of the MPA planning process. An assessment of existing information helps determine the informational needs for the study region. Once data gaps are determined, decision makers would prioritize and decide which gaps should be addressed. In previous study regions, the development of information on potential recreational and commercial fishery impacts is an example of new data that was

generated for the process. Option Five would also create a regional profile for the MPA planning process, which is a comprehensive document that summarizes the features and characteristics of the study region. (For examples of regional profiles from previous study regions see the Works Cited section at the end of this report.)

Option Five builds the capacity to anticipate and respond to developing issues and process needs. Regular communication and check-ins with stakeholders and Key Communicators will help identify issues in the early stages of the process. The addition of elements from existing bay processes, such as local government forums and technical dispute resolution approaches, together with the task force, would assist in identifying potential areas of conflict.

An optional addition to Option Five would include the adoption of a formal protocol for addressing issues that arise. The protocol could include the formation of a working group to investigate the issue and recommend a solution to the MPA planning contractors and the task force, as appropriate.

4.7.2 Rationale for Option Five

Option Five would be the most comprehensive planning approach for SFSR and follows the successful model of the MLPA Initiative MPA planning process as executed in previous study regions. If resources are available, this option would ensure the process had all the tools and support needed to conduct a thorough and comprehensive MPA planning effort in the SFSR. This process would generate new information that has been identified as a priority by other bay processes.

In Option Three, MPAs are developed entirely through an external process. While there is value in this approach, developed MPA proposals may not meet various guidelines, nor address cross-interest perspectives. Option Four addresses these concerns by including an internal process component with the appointed RSG. Option Five further addresses these concerns by providing a solid base of information to inform cross-interest discussions (e.g., regional profile, potential socioeconomic impact data, etc.) and increased staff support. While not required by the MLPA, it has been important to past RSG processes to have additional socioeconomic data. Such data has helped build trust amongst consumptive representatives that their interests could be considered simultaneously with science guidelines. Having both types of information in MarineMap helped with creative MPA designs that capture required habitat while minimizing impacts.

4.7.3 How Option Five Differs from Existing Bay Processes

In addition to the added benefits mentioned in the previous options, the Option Five planning process involves addressing critical data and information gaps. Similar to Option Four, Option Five creates the opportunity to serve as a model for how to effectively implement public policy outside the more traditional top-down approach. While some bay processes have prioritized emerging issues, Option Five identifies a dedicated team of contractors with demonstrated success at recognizing issues early to work with affected parties to resolve such issues both within and outside the MPA planning process.

4.7.4 Key Considerations of Option Five

Option Five provides all the key components of an MLPA Initiative-type planning process, including information gathering, creation of new data, analysis of data, development of science guidelines, MPA planning, capacity to respond to developing issues, and the recommendation for implementation of MPAs. It is the highest cost option presented in this report, as it requires a full-time team and outside contractors. The major new costs associated with Option Five are incurred by collecting new information. This option does not require holding additional meetings, unless any new groups are formed.

Habitat mapping is an expensive effort. Yet the fine-scale substrate data that can be produced from such mapping efforts have been instrumental in the design and placement of MPAs in previous study regions. This type of data can improve the process and enable stakeholders to target areas where multiple habitat types exist (e.g. the data provides greater detail and often reveals the existence of multiple habitat types where less detailed mapping may indicate only one habitat type). Given the amount of marine commerce in the bay and the other bay processes, it would be important to confirm that the State of California has gathered all available data before beginning Option Five. If additional habitat mapping is needed, it is a time-intensive effort and would need to occur prior to the project commencing if it is to inform MPA planning. As in previous study regions, partnering with existing data collection efforts (e.g. NOAA) will help minimize costs, however can create challenges in achieving specific timelines. In past study regions, data collected from mapped areas by partner organizations was not ready before the first iteration; this could be particularly hindering for external groups if they do not have all the information possible when developing MPA proposals.

Option Five involves the collection of recreational, commercial passenger fishing vessel and commercial fishery values and uses information. Based on some initial feedback from process and agency representatives, subsistence fishing is relevant for consideration in the San Francisco Bay. This user group has not previously been included in fishery data collection efforts, but it may be an opportunity to engage an underrepresented group that other processes have had difficulty engaging due to language barriers. In recognition of the socioeconomic fabric of the bay, collection of new information specific to the economic status of bay industries and commerce may need to be considered.

The development of a regional profile is a time-intensive process that requires significant staff time. This process component was not included in previous options because of costs, nor it is considered an essential tool for MPA planning. Most of the information included in the regional profile already exists (e.g., in MarineMap data layers), but a regional profile presents the information in a more user-friendly format. It also provides the public with an opportunity to provide comments and contribute local knowledge to this bay-wide, interdisciplinary document.

This option is the first where the process is designed to be responsive to issues and needs that arise during planning. This added process element brings an unknown requirement of time and money. In past study regions, staff found some issues can quickly consume large quantities of time and resources. Having some process to prioritize issues can help save time, reduce costs and avoid distractions from the end goal. One important consideration is asking whether the issue will help inform the design of MPAs or improve meeting important guidelines.

Tribal concerns have gained greater acknowledgment as planning progressed through the MLPA study regions. It would be helpful to consider early on how to effectively work with tribes and tribal communities in the study region. Ongoing discussions since the north coast may help inform this consideration.

Anticipating process needs should include assessing how Option Five might compare to previous study regions, as this will help to determine approximate costs. Option Five resembles each of the four previous study regions in different ways. The appropriate size for the RSG might best compare to the north central coast where a smaller group was used and individuals were able to represent multiple interests. San Francisco Bay's urban setting is most similar to the south coast, with the large population centers, diverse communities, limited resources (e.g., limited public access to the shoreline), water quality issues and a more technically-inclined audience. The outreach strategy from the south coast might work best with the San Francisco Bay community, including regional coordinators who would be available, on-the-ground resources. The suggested MPA design process is similar to the north coast, by including an external group only first round, but also includes adaptations to reflect the unique characteristics and existing processes in the bay. In particular, the external group process in the first round should require about the same level of support as the north coast.

Chapter 5 Next Steps and Conclusion

5.1 Next Steps

This report provides an initial look at the MLPA San Francisco Bay Study Region and examines a range of options for how, if at all, to approach an MPA planning process in the bay. This report is intended to be used as a guide by decision makers to help make an informed decision as to which option is the right fit for this complex study region. Based on insight and reflections from this project, the following are some examples of potential next steps and additional information to consider before deciding on the preferred approach for San Francisco Bay:

- Incorporate two projects: Concurrent to this project, an effort is underway to provide an initial assessment of ecological considerations. The findings from that effort should be presented with this report as a separate but complementary document to the secretary for natural resources and the director of fish and game.
- Funding and support: Funding and available support are critical factors in which option is selected. Therefore, a key next option is to determine the available funding, resources, and potential partners to support a process, if any. This information will help focus on options that are both affordable and achievable within the given budget and allocated resources.
- Scientific assessment: A more extensive scientific assessment of key ecological considerations may be desired in an effort to determine whether the MLPA goals can be achieved in San Francisco Bay.
- Establish decision-making process: Communication with the decision makers is needed to determine what additional information, if any, is desired in order to select the appropriate approach for San Francisco Bay. Once all information is collected, the process for making a decision regarding the MLPA San Francisco Bay Study Region should be determined and communicated to the public (e.g. through a press release and posted to the MLPA website), together with any identified next options.

These suggested interim options may help to support the decision-making process. There may be additional information not described in this report that may also enhance the decision-making process.

5.2 Conclusion

The MLPA San Francisco Bay Study Region is the fifth and final study region for considering MPA planning, but by no means the least challenging or complex. The current MLPA Initiative MOU partners have not yet determined how, if at all, an MPA planning process will be approached, and this project was intended to help inform the decision-making process. This report gives a range of options for what a successful planning process in this study region could look like, and by providing background information on the bay, lays the foundation for making the decision about a potential planning process. This report outlines the components of each option (support staff, public outreach, types of meetings and support tools), but the actual

design of each option can vary based on the final budget, support offered by other agencies, etc. While this report is a good starting place, it does not necessarily provide all the information to make a decision about which option is the best fit for the bay. As such, some suggested next options also provide a reference of additional information that may be requested before a decision is made.

Whatever the final outcome for the MLPA San Francisco Bay Study Region, the public will expect to be involved. Initial conversations with representatives of bay-area agencies and organizations indicate that the San Francisco Bay community is anticipating and there appears to be some support for an MPA planning process. Furthermore, throughout the MLPA Initiative, San Francisco Bay has been identified as the fifth study region in developing a statewide system of MPAs. The precedent for extensive public involvement from the beginning of any MPA planning process has been set in the previous four study regions. Therefore, it is important to communicate the decision made about this study region to the broader California community (e.g., those in past study regions, the SFSR and on the MLPA Initiative listserv).

Appendix A History of the MLPA Initiative

The Marine Life Protection Act (MLPA) was signed into law in 1999 and directs the state to redesign California's system of marine protected areas (MPA). At the time the MLPA was signed, California had over 80 MPAs that were created in an *ad hoc* fashion, with no overarching goals or objectives. Most MPAs were designed without the benefit of a rigorous, scientifically-based public process. The MLPA is designed to increase the coherence and effectiveness of California's MPAs to protect the state's marine life and habitats, marine ecosystems and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems.

In 2004, the California Natural Resources Agency, California Department of Fish and Game (DFG), and Resource Legacy Fund Foundation (RLFF) signed a memorandum of understanding (MOU) launching the MLPA Initiative. This public-private partnership aims to help the State of California implement the MLPA by using the best readily available science, as well as the advice and assistance of scientists, resource managers, experts, stakeholders and members of the public. Guided by an MLPA master plan and guidance from a policy-focused task force, science team, DFG, and California Department of Parks and Recreation (State Parks), an appointed regional stakeholder group develops MPA proposals with advice and input from user groups and the public. These proposals are evaluated based on scientific and feasibility criteria by a science advisory team, DFG, State Parks and MLPA Initiative staff. MPA proposals are also reviewed by a policy-level, blue ribbon task force that makes recommendations to the California Fish and Game Commission, the decision-making body under the MLPA.

Seeing that California has 1,100 miles of coastline to consider, five individual geographic areas, or study regions, were defined in a draft master plan for MPA planning purposes. To date, MPA redesign efforts have been completed in four of the five study regions: central coast (Pigeon Point in San Mateo County to Point Conception in Santa Barbara County), the north central coast (Alder Creek/Point Arena in Mendocino County to Pigeon Point, including the Farallon Islands), the south coast (Point Conception to the California border with Mexico in San Diego County, including offshore islands), and the north coast (California-Oregon border in Del Norte County to Alder Creek).

Currently the MOU between the two state agencies and RLFF does not specifically commit to a planning process for the fifth study region, San Francisco Bay (waters within San Francisco Bay, from Golden Gate Bridge northeast to Carquinez Bridge). Instead, the MOU commits to assessing progress of the MOU and determining a mutually agreeable process.

A.1 Summary of Past MLPA Initiative Study Regions

Though the planning processes for each study region in the MLPA Initiative are separate, all are conducted in an effort to help achieve the goals of the MLPA and have maintained a similar process design, with an emphasis on public participation. For a general description of the traditional MLPA Initiative MPA planning process, see Chapter 0 of this report.

A.1.1 Master Plan Framework and Central Coast Study Region (2004 - 2007)

The MLPA requires DFG to prepare a master plan to guide the adoption and implementation of California's network of MPAs. The *California Marine Life Protection Act Master Plan for Marine Protected Areas* (2008) is a living document that provides the context for implementing the MLPA goals and objectives, background on California's marine resources and policies, a description of the process for designing alternative MPA proposals and provides an overview on the design, management, enforcement, monitoring and funding of California's MPAs.

Drafting a Master Plan framework was the first step in developing a complete approach for MPAs in California. As part of its development, an internal science team, together with an external scientific peer review, provided input on the development of science guidelines. Interested members of the public were also involved in reviewing and providing input on the framework. In April 2005, the MLPA Blue Ribbon Task Force (BRTF) recommended a draft Master Plan framework to the California Fish and Game Commission (Commission), which was ultimately adopted in August 2005. As a living document, regional updates to the Master Plan occur after the completion of each study region to include information about newly adopted MPAs, regional management plans, lessons learned and an outline of scientific methodology for monitoring and evaluation.

During this initial phase, the BRTF also forwarded a series of recommendations for long-term funding and improved coordination of MPA-related responsibilities among state and federal agencies to the Secretary of Natural Resources. This included a recommendation for how the state could secure agreement and commitment among state agencies with MPA responsibilities to complete statewide implementation of the Master Plan by 2011.

Beginning in June 2005, interested members of the central coast public were introduced to the MLPA and MLPA Initiative through a series of informational workshops. An extensive stakeholder process was used to develop draft alternative MPA proposals for the central coast study region, which were reviewed by the MLPA Master Plan Science Advisory Team (SAT), MLPA Initiative staff, and the public. In March 2006 the BRTF forwarded three MPA proposals, with one selected as a preferred alternative, to DFG. In June 2006, DFG developed and forwarded its recommendations to the Commission. The Commission selected a preferred alternative and two other proposals for regulatory review under the California Administrative Procedures Act and environmental review under the California Environmental Quality Act.

A total of 29 MPAs were designated along the central coast, including 13 state marine reserves, 14 state marine conservation areas, and 1 state marine park, as well as 1 state marine recreational management area (a type of marine managed area). The MPAs in this region went into effect in September 2007, covering 18% of state waters within the study region; 9% of the study region was designated as state marine reserves.

A.1.2 North Central Coast Study Region (2007 - 2008)

Beginning in March 2007, a series of public workshops were held throughout the north central coast study region to introduce the MLPA and the MLPA Initiative planning process to stakeholders and the general public (MLPA Initiative 2007). These workshops provided a

forum for discussion of key issues and an opportunity for the public to interact with MLPA Initiative staff.

In May 2007, the MLPA North Central Coast Regional Stakeholder Group (NCCRS) convened for a series of formal meetings and work sessions to develop alternative MPA proposals for the MLPA North Central Coast Study Region. The NCCRS underwent three rounds of alternative MPA proposal development, which were evaluated by a science team, DFG and MLPA Initiative staff. In addition, the BRTF provided the NCCRS with policy guidance, and the public was invited to provide input at each stage of proposal development.

Lessons learned from the central coast led the role of DFG to be modified in the north central coast study region. Instead of DFG developing its own preferred alternative the Department would now actively participate in MPA proposal development with the regional stakeholders and BRTF by providing feedback and guidance. Criteria used for the analysis and comments was developed to assist the NCCRS with incorporating DFG guidelines into their MPA proposals to enhance enforcement, implementation and management of MPAs ultimately adopted for a given study region.

Three final alternative MPA proposals were presented to the BRTF in April 2008. These proposals were recommended to the Commission along with an Integrated Preferred Alternative (IPA), which incorporated proposed MPAs from all three NCCRS proposals and input from the public. The commission selected the IPA as its “preferred alternative,” as well as the three NCCRS proposals as regulatory alternatives for a full breadth of options.

In October 2008 the commission held its first public hearing for the regulatory review under the California Administrative Procedures Act and environmental review under the California Environmental Quality Act of the proposed north central coast MPAs. In January 2010 the commission made a final decision, adopting its preferred alternative of north central coast MPAs. The north central coast MPAs went into effect in May 2010. 25 MPAs and 6 special closure areas were designated in the north central coast, including 10 state marine reserves, 12 state marine conservation areas, and 3 state marine recreational management area. The MPAs cover 20% of state waters in this region, with 11% designated as state marine reserves.

A.1.3 South Coast Study Region (2008 - 2009)

Similar to the north central coast, a series of public open houses were held throughout the south coast study region to introduce the MLPA and the MLPA Initiative planning process to stakeholders and the general public in the summer of 2008. In recognition of the dense and diverse population of Southern California, a public outreach and education team was hired as part of the MLPA Initiative staff to assist with the planning and implementation of a comprehensive outreach strategy (MLPA Initiative 2008).

In September 2008 an MLPA South Coast Regional Stakeholder Group (SCRS) was convened and underwent three rounds of alternative MPA proposal development. Over a 12-month period, the SCRS developed three alternative MPA proposals, which were presented to the BRTF in October 2009. Additional focus on regional issues such as water quality, as well as jurisdictional issues with the Department of Defense was addressed in this study region.

Also, greater outreach was conducted to those stakeholder groups that had been underrepresented in the past, such as California tribes and tribal communities.

Another adaptation to the south coast study region included the role State Parks played in the development of MPA proposals. In past study regions, State Parks had participated in the process as a member of a regional stakeholder group. In recognition of the role State Parks plays in evaluating the state marine park (SMP) MPA designation, particularly those proposed SMPs associated with land-based State Parks, a State Parks staff member was brought on as part of the MLPA Initiative team and, similar to DFG, State Parks provided feedback and guidance on MPA proposals directly to the regional stakeholders and the BRTF.

In December 2009, the BRTF presented to the California Fish and Game Commission the three MPA proposals developed by the SCRSG, together with a South Coast Integrated Preferred Alternative (IPA), which incorporated proposed MPAs from all three SCRSG proposals and input from the public. The commission selected the IPA as its “preferred alternative,” and the three SCRSG proposals as regulatory alternatives.

On December 15, 2010, the commission adopted its preferred alternative of south coast MPAs. Informed by recommendations generated through a two-year public planning process, the regulations include designations for 36 MPAs (excluding MPAs located within the Northern Channel Islands) encompassing approximately 8% of state waters in the study region. The south coast MPAs are expected to go into effect in mid-2011.

A.1.4 North Coast Study Region (2009-2011)

In previous MLPA study regions, groups and individuals “external” to the regional stakeholder group have submitted MPA proposals concurrently as the regional stakeholders developed “internal” arrays and proposals. External MPA proposals with broad geographic coverage outlining details of MPAs, including specific boundaries and proposed regulations, were forwarded to the regional stakeholder group for consideration. Such proposals were included in the MPA planning process in a variety of ways. In some cases, a regional stakeholder group incorporated elements of the external MPA ideas into internal MPA proposals. Other external ideas continued as separate MPA proposals and were revised based on feedback from the SAT, DFG, State Parks, BRTF, MLPA Initiative staff and the public. These two parallel, “internal” and “external” processes required time and resources on the part of both staff and stakeholders.

In recognition of the unique characteristics of the north coast, and to fully integrate the robust local knowledge available in the region, the first of three rounds of MPA planning was dedicated to encouraging community groups and/or individuals to develop “external” MPA arrays. The nine MPA arrays that were developed during this first round in the north coast provided the MLPA North Coast Regional Stakeholder Group (NCRSG) a foundation from which to build its MPA proposals.

Working over nine months, the NCRSG convened and underwent two rounds of alternative MPA proposal development culminating in a single, unified MPA proposal that was presented to the BRTF in October 2010. The BRTF took several actions during that meeting, including a

decision to forward the stakeholders' unified proposal and recommendations for special closures, as well as adopting the North Coast Enhanced Compliance Alternative MPA Proposal (ECA) to also be forwarded to the commission for consideration. In addition to the NCRSG MPA proposal and ECA, the BRTF adopted three additional recommendations related to traditional tribal uses in the north coast region and recognizing a tribal use category within MPAs, a recommendation for the state to seek co-management partnerships between sister agencies and California tribes and tribal communities.

In February 2011, the BRTF presented to the California Fish and Game Commission the NCRSG unified proposal together with the ECA for review and consideration. The commission will announce the start of the regulatory and environmental review processes in the coming months. *For additional information regarding public participation and regional adaptations as part of the MLPA Initiative see Section 1 of this report.*

A.1.5 San Francisco Bay Study Region (2009-2011)

The MLPA San Francisco Bay Study Region (waters within San Francisco Bay, from the Golden Gate Bridge northeast to the Carquinez Bridge) is the fifth and final study region for consideration under the Marine Life Protection Act (MLPA). As detailed in a memorandum of understanding among the California Natural Resources Agency, California Department of Fish and Game, and Resources Legacy Fund Foundation, and in recognition of the unique characteristics of the bay area, the MLPA Initiative has developed a report to identify a limited range of options for approaching a planning process in the MLPA San Francisco Bay Study Region (SFSR). This includes a "no option" approach.

A.1.6 Public Participation

Since its inception in 2004, the MLPA Initiative has recognized the value of public input and involvement in redesigning California's system of MPAs and has included extensive public participation in all stages of each study region process; in the third and fourth study regions, additional resources were allocated to establish a dedicated outreach team. The MLPA Initiative provided a forum for local communities to share historic and relevant knowledge, including firsthand observations, socioeconomic information, and suggestions for the siting, management, and stewardship of MPAs. Understanding the needs and limitations of regional communities, directly working with those communities to identify the appropriate ways to engage the local public, and responding to public feedback on outreach tools and techniques helped ensure that information and opportunities for involvement were accessible to a wide range of interested parties.

Over the course of the MLPA Initiative and drawing on lessons learned, traditional outreach methods such as print materials, public comment at meetings, public workshops, and open houses were coupled with supplemental tools such as establishing a "Key Communicators" network, coordinating local social events (e.g. potlucks and community mixers) to facilitate additional exchanges between RSG members and the public, online decision-support tools to assist in developing and reviewing draft MPAs, remote public participation locations, and social networking sites. This adaptive public outreach approach helped ensure a significant role for the public in informing and influencing the redesign of California's system of MPAs.

In recognition of the value and importance of public outreach, all the options presented in this report maintain open communication with the public about the process and transparency about decisions made. Public involvement has been one of the cornerstones of success in past study regions, and is expected to play an important role in any process that takes place in the MLPA San Francisco Bay Study Region.

A.1.7 Adaptations to MPA Planning

The language of the MLPA recognizes the unique nature of California's 1,100-mile coast, providing sufficient flexibility to achieve the goals of the MLPA without requiring an identical planning approach across study regions. Adaptations to process design have been made by the MLPA Initiative in response to lessons learned from previous study regions, as well as regional characteristics and needs. Adaptations have been integrated into process design in a number of ways. At the start of each study region, MLPA Initiative staff commission a lessons learned report from a neutral third party as well as review the unique characteristics of the new study region to develop adaptations in process design. Additionally, as issues arise throughout the process, staff considers adaptations to be responsive to unforeseen circumstances and/or the needs of local community.

Examples of adaptations include:

- The creation of the MLPA Initiative in 2004 was an adaptation that developed out of two unsuccessful attempts to implement the MLPA in California. Led by DFG, these early attempts lacked a comprehensive stakeholder-based process as well as the resources required for implementation. The MLPA Initiative framework for MPA planning aimed to address these initial lessons learned and continued to evolve through the progression of each study region.
- In the central coast, DFG, the MLPA regulatory agency, was responsible for developing an MPA proposal along side of the regional stakeholder group. As part of the lessons learned, DFG's role was identified as a conflict of interest. In future study regions DFG has played an advisory role, helping to guide proposal development by way of a DFG feasibility evaluation.
- To fully integrate the robust local knowledge available within the MLPA North Coast Study Region, community groups and/or individuals were invited to develop external MPA arrays as the first round of MPA proposal development. This process design differed from past study regions, as a regional stakeholder group was not convened until the second round; this allowed the first round to be completely an "external" process where communities laid the foundation for MPA ideas.

In addition to considering adaptations in a given study region, the MLPA Initiative has aimed to consistently integrate a number of essential elements to ensure a meaningful, productive public process. These include:

- neutrality and transparency in approach and design;
- ensuring MPA proposals are developed from a regional and cross-interest perspective;

- a dedicated team of staff focused on process, coordination and facilitation; and
- public access to process and information.

Appendix B Review of the San Francisco Bay Setting

B.1 Description of the San Francisco Bay Study Region

The MLPA San Francisco Bay Study Region (SFSR) covers state waters that extend from the Golden Gate Bridge (section of U.S. Route 101 that spans across the opening of the Bay into the Pacific Ocean and connects traffic between the city of San Francisco and the Marin County) northeast to the Carquinez Bridge (part of Interstate 80 that crosses the Carquinez Strait and connects traffic between Crockett and Vallejo). The SFSR is the only MLPA study region that is captured entirely within an estuary.

The San Francisco Bay is approximately 1,600 square miles; the average depth of San Francisco Bay is 20 feet. The study region includes state waters surrounding a number of islands and offshore rocks including: Yerba Buena Island, the Marin Islands, Brooks Island, Brother Island, Angel Island, and Alcatraz Island. In addition, San Pablo Bay, San Rafael Bay and Richardson Bay also fall within the study region.

San Francisco Bay is a complex system that is important for both ecological and socioeconomic reasons. As the largest estuary in California, it is utilized by many fish and wildlife populations, some of which are considered endangered, threatened or species of special concern by federal or state agencies (e.g. chinook salmon, steelhead trout). Over a million migratory birds on the Pacific Flyaway depend on the bay for resting, food, and other habitat services. Soft bottom



habitats are the dominant habitat types in the bay. Less common or sensitive habitats that populations also depend upon during their life cycles include mixing zones, eelgrass beds and oyster reefs. In addition, there are a number of natural and artificial islands and offshore rocks.

The bay's diverse habitats are influenced by the daily tides, fresh water inflow and sediment transport. It receives approximately 40% of California surficial water. The Sacramento and the San Joaquin are two major rivers that drain into the bay, but the study region also receives inputs from Napa River, Sonoma Creek, Corte Madera Creek, Petaluma River and Tolay Creek. The fresh water inflow carries sediment and a number of agricultural and industrial pollutants including municipal discharges, dredging and mining pollutants, and non-point runoff. San Francisco Bay provides an important wetland function of buffering and filtering the runoff. As such, it is also considered an impaired water body with almost 40,000 metric tons of pollution entering its waters each year (BCDC 1998).

Over the past few centuries, human activities have significantly altered San Francisco Bay. Perhaps most notable are changes to habitat as a result of diking, levees and fill. These changes included a loss of habitat such as approximately 40% of open water habitat, 80% of tidal marshes and 40% of tidal flats (BCDC 1998).

Presently with over 7.5 million people living around the bay, there is a significant demand on the bay resources from commercial and recreational interests. Types of uses include maritime commerce (ports, shipping, dredging), wastewater treatment, sand mining, boating, bird watching, and commercial and recreational fishing. In particular, the maritime industries are a major component of the economy and they depend on navigable waters from the Pacific Ocean into the bay's various ports and harbors. Dredging is required to maintain navigation. Annually, 2–10 million cubic yards of dredged material is excavated from the bay. The excavation and placement of that material is a defining characteristic of the bay and involves the input of many agencies and stakeholders.

There are a number of local, state and federal agencies with jurisdiction in San Francisco Bay to help manage the resources and competing uses. Many of these agencies participate in interagency programs to better coordinate efforts. Some of these interagency programs have developed long-term plans for how to manage the bay's various resources. Developing these plans often requires compiling local data, generating mapping tools and developing programmatic reports, some of which helped inform this report and may be useful resources as the State considers how to approach an MPA planning process in San Francisco Bay. The next section will explore some of the local characteristics of San Francisco Bay in greater detail.

B.2 Key Federal, Tribal, State and Local Jurisdictions and Programs

No single federal, tribal, state or local government agency has jurisdiction over the entire coastal and marine environment. Rather, jurisdiction varies spatially and with respect to the resource being managed. In terms of spatial jurisdiction, although the SFSR lies entirely within state waters it is not considered part of the California coastal zone under the jurisdiction of the California Coastal Commission. This is due to the fact that the study region falls within the boundaries of the San Francisco Bay Conservation and Development Commission's

jurisdiction (defined at CA Government Code § 66610) and as such is excluded from the California coastal zone per California Public Resources Code § 30103(a). While this does simplify spatial jurisdiction within the study region as compared with that in MLPA regions on the open coast, there still remains a complex web of federal, tribal, state and local entities and partnerships with jurisdiction in the study region. Some of the key entities are highlighted in this section along with a brief description of their respective roles and responsibilities.

B.2.1 Federal Agencies and Programs

B.2.1.1 U.S. Department of Commerce

The U.S. Department of Commerce has several agencies with responsibility for ocean and coastal resources, which are described below.

The National Oceanic and Atmospheric Administration (NOAA) conducts research and manages ocean resources through three units that have direct interest in MPA issues: the National MPA Center, the Office of National Marine Sanctuaries, and NOAA Fisheries (NOAA 2004). In addition, NOAA partners with coastal states in administering the National Estuarine Research Reserve System.

The National MPA Center was established by Presidential Executive Order (E.O.) 13158 in 2000 to oversee efforts to create a national system of MPAs and to assist government agencies participating in this effort. The E.O. directed NOAA to establish the MPA Center and to lead its efforts in partnership with the U.S. Department of the Interior. National MPA Center headquarters staff (located in Silver Spring, Maryland) are responsible for program management, planning, policy development, consultation, coordination and outreach. The National MPA Center also maintains an office in Monterey, California, which focuses on targeted scientific research, assessment and policy analysis on aspects of MPA design, management and evaluation. The National MPA Center also supports the MPA Federal Advisory Committee established under the E.O. (NOAA National MPA Center 2009)

The Office of National Marine Sanctuaries (ONMS) manages 14 MPAs that encompass more than 290,000 sq. mi. of marine and Great Lakes waters from Washington State to the Florida Keys, and from New England to American Samoa (NOAA ONMS 2011). The National Marine Sanctuary System includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. The National Marine Sanctuaries Act (NMSA) (16 U.S.C. 1431 et seq.) is the organic legislation governing the ONMS. The ONMS authorizes the Secretary of Commerce to designate as national marine sanctuaries areas of the marine environment or Great Lakes with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities. The ONMS works cooperatively with the public and federal, state, and local government agencies to protect sanctuary resources while allowing commercial and recreational activities that are compatible with its primary goal of resource protection (NOAA ONMS 2011). The ONMS raises public awareness and understanding about sanctuary resources and management issues through programs focused on research, monitoring, exploration, education and outreach (NOAA ONMS 2011). Sanctuary system-wide and individual sanctuary regulations are codified at 15 CFR 922. There are no national marine

sanctuaries with boundaries inside the SFSR. However, three national marine sanctuaries are located along the nearby Pacific coast stretching from Marin County southward past San Mateo County: Cordell Bank, Gulf of the Farallones, and Monterey Bay. In addition, the Gulf of the Farallones sanctuary maintains a waterfront visitor center at Crissy Field in San Francisco. Additional information is at <http://sanctuaries.noaa.gov/protect/regulations/welcome.html>.

NOAA Fisheries (the National Marine Fisheries Service or NMFS) manages Federal fisheries, related habitat and certain protected marine species. It has regulatory authority for marine finfish and invertebrates in coastal waters from three to two hundred nautical miles from shore and for any fishery that is the subject of a fishery management plan developed by regional fishery management councils (see below) as well as some non-fishery management plan species (California Marine Life Protection Act Initiative 2005). NOAA Fisheries also has regulatory authority for marine mammals (except sea otters and walruses, managed by the U.S. Fish and Wildlife Service), sea turtles, most endangered anadromous fish (i.e., salmon and steelhead) and other marine species listed as Federally threatened or endangered. NOAA Fisheries derives its authority from the Magnuson-Stevens Fisheries Conservation and Management Act of 1976 (Magnuson-Stevens Act), the Marine Mammal Protection Act and the Federal Endangered Species Act. NOAA Fisheries Office of Law Enforcement enforces the gamut of Federal laws and regulations implemented by NOAA. Of direct relevance in the SFSR is NOAA Fisheries' management of marine mammals, endangered anadromous fish, and marine fishes found in the bay that are managed as part of the Coastal Pelagic Species and Pacific Coast Groundfish fishery management plans, as well as fishery resources taken in offshore Federal waters and landed on Bay shores. In addition, the entire Bay has been designated as groundfish Essential Fish Habitat (EFH; Pacific Fishery Management Council 2008), which is defined by the Magnuson-Stevens Act as "...those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity" (16 U.S.C. 1801(10)).

The Pacific Fishery Management Council (PFMC) is one of eight regional fishery management councils established by the Magnuson-Stevens Fishery Conservation and Management Act. PFMC is made up of 14 voting representatives from Oregon, Washington, California, and Idaho, with some council members representing state or tribal fish and wildlife agencies and with some private citizens who are knowledgeable about recreational or commercial fishing or marine conservation. Apart from state and tribal representatives, PFMC members are chosen by the governors of the four states within the PFMC region, in conjunction with the secretary of commerce. PFMC develops fishery management plans for fisheries between 3 and 200 nautical miles offshore California, Oregon and Washington; these plans must be approved by the secretary of commerce and are implemented by NOAA Fisheries. The secretary of commerce, acting through NOAA Fisheries, has management authority for nearly 120 species of finfish, primarily those associated with the ocean bottom (groundfish), but also others such as highly migratory, salmon, and coastal pelagic species for the contiguous Pacific coast states.

The National Estuarine Research Reserve System is a network of terrestrial and aquatic areas established for long-term research, education and stewardship. Within California, there are three national estuarine research reserves: Elkhorn Slough, the San Francisco Bay, and the Tijuana River. NOAA manages them jointly with DFG, California Department of Parks and Recreation, and San Francisco State University, respectively. Long-term research,

stewardship, and public education are the main objectives of the reserves. NOAA provides 70% of the sites' funding, while the state partner is required to provide the remaining 30%. Enforcement activities generally are the responsibility of the state partners (Goldfarb 2005). More information on the San Francisco Bay can be found in Appendix B.1.

B.2.1.2 U.S. Department of the Interior

The U.S. Department of the Interior also has several agencies with responsibility for ocean and coastal resources, and those directly relevant to the Bay are described below.

The National Park Service (NPS) manages a number of units located along the California coast including Redwood National Park, Point Reyes National Seashore, Golden Gate National Recreation Area, Channel Islands National Park and the Cabrillo National Monument. Coastal units in the SFSR are listed in Table B.1. The typical seaward boundary of coastal national park lands extends to 1000 feet offshore. Boundaries and administration of the three units in the SFSR are described at: 16 U.S.C. 410(nn) for San Francisco Maritime, 16 U.S.C. 410(ggg) for Rosie the Riveter and 16 U.S.C. 460(bb) for Golden Gate. National Park Service regulations are at 36 CFR part 2 and address the diverse and extensive range of topics relevant to national park units, including, but not limited to, natural and cultural resource preservation, harvest of certain resources, camping, pets and recreation fees. In addition, special regulations for Golden Gate National Recreation Area are at 36 CFR 7.97 and cover topics such as boat landings on Alcatraz Island, use of powerless flight devices, bicycle use and speed limits, and temporal and spatial dog walking restrictions in certain wildlife management areas.

Table B.1 Coastal National Park Service units in the San Francisco Bay study region

Name	County
Golden Gate National Recreation Area	Marin, San Francisco, San Mateo
San Francisco Maritime National Historical Park	San Francisco
Rosie the Riveter/World War II Home Front National Historical Park	Contra Costa

The U.S Bureau of Land Management (BLM) has a mission to "...sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations" (BLM 2009). BLM has management responsibility for the California Coastal National Monument established in 2000; however, this monument runs along the open California coast and does not extend into the San Francisco Bay. BLM does not manage federal lands adjacent to the Bay shoreline.

The U.S. Fish and Wildlife Service (USFWS) conserves, protects and enhances populations of fish (freshwater species), other wildlife, and plants, and manages the system of National Wildlife Refuges. The USFWS derives its authority from Federal laws including, but not limited to, the Marine Mammal Protection Act (for sea otters and walruses), the Endangered Species Act, the Migratory Bird Treaty Act and the National Wildlife Refuge System Administration Act. For more information on refuges in the SFSR see Appendix B.6.2.1.

The U.S. Geological Survey (USGS) is a scientific agency that provides maps, reports, and information to help others meet their needs to manage, develop, and protect the water, energy, mineral, biological, and land resources of the United States (USGS n.d.). USGS has no regulatory or management mandate. In California, its programs include scientific research, products and computer models on earthquakes, the San Francisco Bay-Delta system, water quality, water supply, geologic resources, biological resources (e.g., wetland restoration in the bay), and topographic mapping (USGS n.d.).

B.2.1.3 U.S. Department of Defense

The U.S. Department of Defense (DOD) has installations along the California coast for which there may be a conflict between military activities and protection of natural resources offshore of the bases. The DOD and DFG have made efforts in the past to allow for military activities within MPAs located offshore of military installations. Governor Schwarzenegger's California's Action Strategy of September 2004 declares that state agencies should coordinate ocean and coastal management activities that impact military facilities or operations with the DOD (California Resources Agency and California Environmental Protection Agency 2004). In some cases, access to military use areas is restricted. There are several federal facilities and military bases in the study region, which are described next. Several decommissioned sites are described in Appendix B.6.2.4.

The U.S. Air Force (USAF) has one base in Solano County. The Travis Air Force Base is located in Fairfield, to the northeast of the SFSR. It supports the 60th Air Mobility Wing, the largest air mobility organization in the Air Force that handles more cargo and passengers than any other military air terminal in the United States (USAF n.d.). This base is also the West Coast terminal for aeromedical evacuation aircraft returning sick or injured patients from the Pacific area (USAF n.d.).

The U.S. Army has no bases in the SFSR. It maintains an enclave at Moffett Field (in Mountain View, Santa Clara County) that will house the new 63rd Regional Readiness and Sustainment Command Headquarters, an Armed Forces Reserve Center, a Military Entry Processing Station, and a family housing area (U.S. Army 2011).

The U.S. Army Corp of Engineers (USACE) plans, designs, constructs, operates, and maintains a wide variety of water infrastructure to support U.S. national economic interests, such as navigation structures, channels, shore protection, and restoration projects (California Marine Life Protection Act Initiative 2005). They implement portions of the Clean Water Act and Rivers and Harbors Act dealing with dredging and disposal of dredged or fill material. For information on the USACE San Francisco District (based in San Francisco) and its activities, visit their website at <http://www.spn.usace.army.mil/index.html>.

The U.S. Marine Corps has no bases in the SFSR.

The U.S. Navy has no bases in the SFSR. It formerly operated a number of shipyards, stations and air stations in this region that it closed or decommissioned in the past twenty years (Naval Facilities Engineering Command n.d.).

B.2.1.4 U.S. Department of Homeland Security

The Department of Homeland Security has one agency with responsibility for ocean and coastal resources, described below.

The U.S. Coast Guard (USCG) is one of the five armed forces of the United States and the only military organization within the Department of Homeland Security (USCG 2010). It serves as the primary maritime law enforcement agency (California Marine Life Protection Act Initiative 2005). The USCG protects the maritime economy and the environment, defends U.S. maritime borders, and provides life-saving services (USCG 2010). USCG stations and centers in SFSR counties are listed in Table B.2 and more information about these facilities is available via the USCG District 11 website: <http://www.uscg.mil/D11/Commands.asp>.

Table B.2: Coast Guard facilities in San Francisco Bay study region counties

Name of Facility	County
District 11 and Pacific Area Headquarters	Alameda
Air Station San Francisco	San Francisco
Aids to Navigation Team (ANT) San Francisco	San Francisco
Station Golden Gate	Marin
Station Rio Vista	Solano
Station San Francisco	San Francisco
Station Vallejo	Solano

B.2.1.5 U.S. Environmental Protection Agency (USEPA)

USEPA's mission is to protect human health and the environment, and it focuses its work on achieving five goals that address 1) climate change and air quality, 2) water protection, 3) clean communities and sustainable development, 4) chemical safety and pollution prevention, and 5) environmental law enforcement (USEPA 2010a). The SFSR is within USEPA Region 9, which is located in San Francisco and covers Arizona, California, Hawaii, Nevada, Pacific Islands and Tribal Nations.

Within USEPA, the Office of Water works on drinking water safety, restoration and maintenance of oceans, watersheds, and aquatic ecosystems in order to protect human health, provide healthy habitats, and support economic and recreational activities (USEPA 2011). Toward these ends, the Office of Water is responsible for implementing a number of federal laws affecting the bay, including the Ocean Dumping Ban Act, the Clean Water Act, portions of the Coastal Zone Act Reauthorization Amendments of 1990, the Safe Drinking Water Act; the Beaches Environmental Assessment and Coastal Health (BEACH) Act; the Shore Protection Act; the Marine Plastic Pollution Research and Control Act; the Marine Debris Research, Prevention and Reduction Act; the Marine Protection, Research and Sanctuaries Act; and other laws focused on pollution prevention and watershed management (USEPA 2011).

USEPA also manages the National Estuary Program (NEP) that is charged with attaining or maintaining water quality in an estuary by protecting public water supplies, indigenous shellfish, fish, and wildlife, and controlling point and nonpoint source water pollution, while allowing recreational activities in and on the water (USEPA 2010b). The San Francisco Estuary Partnership is an NEP site, and is described in Appendix B.3.2.

B.2.2 Native American Jurisdiction/Treaty Rights

The U.S. Constitution recognizes Native American Tribes as separate and independent political communities within the territorial boundaries of the United States. Tribes promulgate and administer their own laws and operate under their own constitutions. There are numerous Native American tribes within the nine bay area counties, including federally-recognized and non federally-recognized tribes; some of the latter are currently petitioning to be federally recognized. A tribe may consist of one tribal group or a number of tribal groups.

The information included in this section has been gathered from numerous resources, including, but not limited to, the United States Bureau of Indian Affairs, the Native American Heritage Commission, review of websites of SFSR-area tribes and tribal communities, and personal communications (see Works Cited for complete list of resources). If MLPA planning is conducted in the SFSR, it is recommended that a regional profile on SCSR tribes and tribal communities be developed, as was conducted for the north coast study region.

B.2.2.1 Federally-recognized Native American Tribes

Federally-recognized Native American Tribes are formally acknowledged by the United States Federal Government as separate and independent sovereign nations within the territorial boundaries of the United States. This recognition allows Tribes to promulgate and administer their own laws and operate under their own Constitutions. Each Federally-recognized Tribe is a distinct political entity and the governing Tribal law determines its membership. Therefore identification as a Tribal member is a political classification that is citizen-based and it is not based on race. Tribal membership composition may include citizens that identify culturally with a single aboriginal (pre-contact) Tribal group, or have members that recognize ancestry from multiple Tribal groups.

Federal government agencies consult with such Tribes on a government-to-government basis per various Federal laws and mandates (e.g., W.J. Clinton Presidential Executive Order 13084; National Historic Preservation Act of 1966, as amended through 2004).

In California, local governments also consult with California Native American Tribes (both Federally-recognized and certain non Federally-recognized Tribes and organizations. “In recognition of California Native American tribal sovereignty and the unique relationship between California local governments and California tribal governments” (sec.1(b) of California Senate Bill 18), State law enacted in 2004 requires local city and county governments to consult with Tribes in order to aid in the protection of traditional tribal cultural places through local land use planning (Senate Bill 18, “Traditional Tribal Cultural Places”; OPR 2005). Solid and detailed Tribal Consultation Guidelines developed by the State pursuant to Senate Bill 18

were developed with the participation of many interested California Indian Tribes, organizations and individuals by the Governor's Office of Planning and Research (OPR 2005).

Currently, there are 102 Federally-recognized Tribes in California (USDOJ BIA 2011), five of which lie within the bay area counties of Marin and Sonoma. These Tribes are listed below by county.

Marin County

- Federated Indians of Graton Rancheria (formerly the Federated Coast Miwok; with a one-acre rancheria located in Sonoma County, many of the Tribe's 1,000 members live on ancestral lands across Sonoma and Marin counties) (Federated Indians of Graton Rancheria 2004)

Sonoma County

- Cloverdale Rancheria (Cloverdale Rancheria of Pomo Indians n.d.)
- Dry Creek Rancheria (Dry Creek Rancheria Band of Pomo Indians 2011)
- Federated Indians of Graton Rancheria (Federated Indians of Graton Rancheria 2004)
- Lytton Rancheria (USDOJ BIA 2010)
- Stewarts Point Rancheria (Kashia Band of Pomo Indians of Stewarts Point Rancheria 2007)

B.2.2.2 Non Federally-Recognized Native American Tribes

Although not officially recognized by the federal government, these Tribes continue to assert traditional rights and uses of natural resources and therefore should be considered within MPA planning. Furthermore, many Tribes have petitioned the Federal government for official acknowledgement that would grant them Federally-recognized status. Non Federally-recognized Tribes and organizations located within the nine Bay area counties include, but are not limited to the following, as listed by county (list compiled using information from USDOJ BIA 2008, unless otherwise noted below). (No non Federally-recognized tribes were identified in Marin County.)

Alameda County

- Muwekma Ohlone Tribe - formerly the Ohlone/Costanoan Muwekma Tribe, *a.k.a. the Muwekma Indian Tribe: Costanoan/Ohlone Indian Families of the San Francisco Bay* (with offices based in Santa Clara County this Tribe's ancestral homeland includes several other Bay area counties, under which it is also listed below; Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)

Contra Costa County

- Muwekma Ohlone Tribe (Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)
- Xolon Salinan Tribe

San Francisco County

- Muwekma Ohlone Tribe (Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)

San Mateo County

- Amah Mutsun Band of Ohlone/Costanoan Indians (formerly Amah Band of Ohlone/Costanoan Indians)
- Muwekma Ohlone Tribe (Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)

Santa Clara County

- Muwekma Ohlone Tribe (Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)
- Salinan Nation (*aka* Salinan-Chumash Nation)

Solano County

- Muwekma Ohlone Tribe (Muwekma Ohlone Tribe of the San Francisco Bay Area 2011)

Sonoma County

- The Displaced Elem Lineage Emancipated Members (*aka* DELEMA)
- Mishewal-Wappo Tribe of Alexander Valley (Mishewal Wappo Tribe of Alexander Valley 2010)

B.2.2.3 State Code and Related Federal Laws and Regulations Pertaining to Tribes

The California Fish and Game Code has several sections related to Tribes, including Section 12300, 16000-16011, and 16500-16540, summarized below. In addition, the CDFG grants permits to Native American citizens for the collection of seaweed for religious or ceremonial purposes.

Fish and Game Code, Section 12300

This section states that Fish and Game Code does not apply to Federally-recognized tribal members while within the boundaries of a Tribe's Reservation or Rancheria. However, the sale of bird, mammal, fish, or amphibian is still prohibited.

Fish and Game Code, Sections 16000-16011

Section 16000 identifies some of the jurisdictional challenges between the State and Federally-recognized Tribes. Specifically, legislative findings include:

“(a) Jurisdiction over the protection and development of natural resources, especially the fish resource, is of great importance to both the State of California and California Indian tribes.

(b) To California Indian tribes, control over their minerals, lands, water, wildlife, and other resources is crucial to their economic self-sufficiency and the preservation of their heritage. On the other hand, the State of California is concerned about protecting and developing its

resources; protecting, restoring, and developing its commercial and recreational salmon fisheries; ensuring public access to its waterways; and protecting the environment within its borders.

(c) More than any other issue confronting the State of California and California Indian tribes, the regulation of natural resources, especially fish, transcends political boundaries.

d) In many cases, the State of California and California Indian tribes have differed in their respective views of the nature and extent of state versus tribal jurisdiction in areas where Indians have historically fished... both the state and the tribes seek, as their mutual goal, the protection and preservation of the fish resource.”

Fish and Game Code, Sections 16500-16540

This division of the Fish and Game Code addresses jurisdictional issues regarding the Klamath River. The California Fish and Game Commission may enter into a yearly agreement with the Yurok Tribe and the Hoopa Valley Tribe regarding the take of fish from the Klamath.

B.2.3 State Agencies and Programs

B.2.3.1 California Ocean Protection Council (OPC)

OPC was created by the California Ocean Protection Act of 2004. Currently chaired by the Secretary for Natural Resources, OPC includes the chair of the California State Lands Commission, the secretary for the California Environmental Protection Agency, two public members, and two non-voting, ex-officio members of the California State Legislature.

The purpose of OPC is to:

- Coordinate activities of ocean-related state agencies to improve the effectiveness of state efforts to protect ocean resources within existing fiscal limitations;
- Establish policies to coordinate the collection and sharing of scientific data related to coastal and ocean resources between agencies;
- Identify and recommend to the California State Legislature changes in law; and
- Identify and recommend changes in federal law and policy to the governor and California State Legislature.

OPC approved funding for seafloor mapping of state waters in California, not including San Francisco Bay. Additionally OPC has provided initial funding for the MPA Monitoring Enterprise and up to \$4 million for baseline studies in the four open coast MLPA study regions.

B.2.3.2 California Natural Resources Agency

The California Natural Resources Agency is a cabinet-level agency responsible for the conservation, enhancement, and management of California’s natural and cultural resources. The Natural Resources Agency oversees the activities of 34 state departments, boards, commissions and conservancies, including the California Department of Fish and Game and

the California Coastal Commission. While the Natural Resources Agency does not implement specific prohibitions or regulations, individual entities under its oversight do, and these are described next.

In 1991, amendments to the California Ocean Resources Management Act transferred all responsibility for marine and coastal resource management programs to the Secretary for Natural Resources. Duties and responsibilities transferred include all executive branch delegations regarding review and coordination of federal outer continental shelf (OCS) oil and gas lease sales and development projects; policy coordination of resources management and uses in the Exclusive Economic Zone; state representation on the Coastal States Organization and the U.S. Department of the Interior's OCS Policy Committee; and any other involvements in marine and coastal resource matters. While the authority for many ocean management issues rests with the California Natural Resources Agency, the California Environmental Protection Agency oversees development of ocean water quality standards and regulation of waste discharges to the marine environment.

California Boating and Waterways Commission is a seven-member body appointed by the Governor and confirmed by the Senate, which advises the California Department of Boating and Waterways (DBW) and must approve all DBW boating facility loans and grants. For more information on this commission, visit its website at <http://www.dbw.ca.gov/Commission/> .

The California Coastal Commission (CCC) is one of California's three coastal management agencies designated for the purpose of administering the federal Coastal Zone Management Act (CZMA) in California (CCC 2009a). The other two agencies are the San Francisco Bay Conservation and Development Commission, and the California State Coastal Conservancy, also described in this section. CCC's jurisdiction is the California coastal zone, which may be generally described as an area of land and water between the Oregon and Mexico borders that extends seaward to the outer limits of the state's jurisdiction and extends inland generally 1,000 yards from the mean high tide line. This zone is expressly defined at California Public Resources Code § 30103a, which states that:

“...The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.”

CCC does not have jurisdiction in the SFSR and consequently its programs are not described further here. For more information on the CCC, see its website at <http://www.coastal.ca.gov/index.html>.

The California Department of Boating and Waterways (DBW) develops convenient public access to waterways and promotes on-the-water safety. DBW programs provide assistance to local and state agencies responsible for boating law enforcement, voluntary boater education, loans for marinas and launch ramps, grants for vessel sewage pump-out stations, financial assistance for local agencies to remove abandoned vessels, Sacramento-San Joaquin Delta

aquatic pest control, and coastal beach erosion control. For more information on this agency visit their website at <http://www.dbw.ca.gov/>. (DBW 2010)

The California Department of Fish and Game (DFG) is a trustee agency for fish and wildlife resources and has management authority over living marine and estuarine resources and their habitats within state waters (generally out to three nautical miles from shore or around offshore islands and including estuarine areas) as well as authority to regulate fisheries that deliver catch to California ports. In addition, DFG regulates marine aquaculture within state waters and has statutory authority to manage state marine conversation areas, state marine recreational management areas (for waterfowl hunting purposes), and state marine reserves.

The California Department of Parks and Recreation (California State Parks) is responsible for managing almost one-third of California’s scenic coastline and manages coastal wetlands, estuaries, beaches, and dune systems within 270 State Park System units (CDPR 2011a). Through state water bottom leases, California State Parks has management authority over fifteen underwater areas, though it does not have authority to restrict the take of living marine resources. There are six underwater units associated with California State Parks and all of those units exist within the park boundaries, which are owned by California State Parks. California State Parks also has statutory authority to manage state marine conversation areas, state marine cultural preservation areas, state marine parks, state marine recreational management areas, and state marine reserves, all different classifications of marine managed areas.

There are a number of California State Park System units in the San Francisco Bay area and those adjacent to the San Francisco Bay shoreline are listed in Table B.3. The California State Parks Office of Historic Preservation administers federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California’s irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission (described below; California State Parks 2011b).

Table B3: California State Park System units located adjacent to the shore in the MLPA San Francisco Bay Study Region

Name of State Park, Beach or Wildlife Area	Underwater Park	County
Eastshore State Park (State Seashore)	Includes Albany State Marine Reserve (proposed) and Emeryville Crescent State Marine Reserve (proposed) and underwater park unit	Alameda
Robert W. Crown Memorial State Beach	Underwater park unit	Alameda
Angel Island State Park	Underwater park unit	Marin
China Camp State Park	Underwater park unit	Marin
Candlestick Point State Recreation Area	Underwater park unit	San Francisco

Source: California Department of Parks and Recreation 2011

The California Department of Water Resources' (DWR) mission is to "...manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments." Toward this end, DWR works to achieve seven strategic goals that deal with, among other things: developing the California Water Plan Update and State Water Project; protecting and improving statewide significant water resources and dependent ecosystems; protecting lives and infrastructure; guiding water and energy policy and legislation; providing public education on water importance, hazards and efficient use; and providing technical and financial assistance for local and regional water management. (DWR 2011)

The California Fish and Game Commission (F&GC) is responsible for formulating policies concerning fisheries and wildlife management, introduction of exotics, use of DFG-administered land, general conduct of DFG, and a variety of other subjects. CFGC has the authority to establish, modify, or delete state marine conservation areas, state marine parks, state marine recreational management areas (for waterfowl hunting purposes), and state marine reserves. CFGC also has regulatory powers under which it decides seasons, bag limits and methods of take for game animals and sport fish. Its five members are individuals involved in private enterprise with expertise in wildlife-related fields, are appointed by the Governor for staggered, six-year terms, and are confirmed by the California State Senate. With a limited staff of seven employees, CFGC relies heavily on DFG's biological data and recommendations. (CFGC n.d.)

The California Historical Resources Commission (CHRC) consists of nine Governor-appointed members responsible for the identification, registration and preservation of California's cultural heritage. Their primary duty is to review applications for listing resources on the National Register of Historic Places, the California Register of Historical Resources, and the California Historical Landmarks and California Points of Historical Interest registration programs. Their responsibilities also include inventorying and maintaining records of historic resources, providing criteria for historic structure rehabilitation, developing historical resources plan policies and guidelines, consulting with citizens and public agencies interested in historic preservation, and developing selection criteria for federal and state grant programs, among other things. (CDPR 2011d)

The California Park and Recreation Commission (CPRC) is a five-member commission responsible for the approval of State Park System unit general plans, classifying system units, establishing general policies to guide the director of California State Parks in system administration, protection and development, and recommending to the director a comprehensive recreation policy for the state (California State Parks 2011c). CPRC has the authority to establish, modify, or delete state marine conservation areas, state marine cultural preservation areas, state marine parks, state marine recreational management areas, and state marine reserves, but must have the concurrence of the California Fish and Game Commission on any proposed restrictions to the extraction of living marine resources (California Public Resources Code sec. 36725).

The California State Lands Commission is responsible for leasing state lands, including submerged lands in state waters (excluding aquaculture which is regulated by DFG). Additionally this commission has jurisdiction over oil and gas development, manages the

removal of hazardous structures such as old piers and submerged oil and gas structures, issues permits for dredging in harbors and waterways, issues leases for marina, harbor or pier development, and has programs established for oil spill prevention. For more information on any additional responsibilities this commission has please see its website at <http://www.slc.ca.gov>.

The California State Coastal Conservancy (SCC) uses entrepreneurial techniques to purchase, protect, restore, and improve coastal resources, and provide access to shore. This non-regulatory agency works in partnership with local governments, other public agencies, nonprofit organizations, and private landowners, and coordinates its efforts with the two other state coastal zone management agencies, CCC and BCDC. (SCC 2010a)

SCC projects in the SFSR include (each involves other partner entities):

- Trio of Habitat Goals Completed for 9 County Bay Area;
- Bay Area Ecosystems Climate Change Consortium;
- San Francisco Bay Area Water Trail;
- Bay Area Ridge Trail;
- Dutch Slough Wetland Restoration Project (Contra Costa County);
- Hamilton Wetlands Restoration Project (Marin County);
- Invasive Spartina Project (bay-wide);
- Napa-Sonoma Marsh Restoration Project (Napa and Sonoma counties);
- San Francisco Bay Trail;
- South Bay Salt Ponds (San Mateo, Santa Clara, Alameda counties)(SCC 2010b).

For more information on SCC, see its website at <http://www.scc.ca.gov/>.

The San Francisco Bay Conservation and Development Commission (BCDC) is one of California's three coastal management agencies designated for the purpose of administering the federal Coastal Zone Management Act (CZMA) in California and consists of 27 appointees from federal, state and local agencies; its jurisdiction is defined in detail at California Government Code sec. 66610. In general, BCDC's jurisdiction includes San Francisco Bay from the Golden Gate Bridge to the Sacramento River line, extends inland 100 feet from the shoreline (with certain exceptions), and includes sloughs, marshlands, tidelands, submerged lands, salt ponds, wetland and other areas. Within this area, BCDC is responsible for regulating filling, dredging and new development, administering the federal CZMA, ensuring that shoreline is reserved for high priority water-oriented uses (where appropriate), and participating in oil spill prevention and response planning (BCDC 2007). Establishing MPAs may require a BCDC permit if the use of an area is substantially changed, or if there is any physical development or construction, such as signage (BCDC 2007). For more information on BCDC, see its website at <http://www.bcdc.ca.gov/>.

The Native American Heritage Commission (NAHC) is a nine-member body representing different tribal groups, whose mission is to:

“...provide protection to Native American burials from vandalism and inadvert [sic] destruction, provide a procedure for the notification of most likely descendants regarding the discovery of Native American human remains and associated grave goods, bring legal action to prevent severe and irreparable damage to sacred shrines, ceremonial sites, sanctified cemeteries and place of worship on public property, and maintain an inventory of sacred places.”

Commissioners disseminate and interpret laws, rules and procedures affecting Federally-recognized and non Federally-recognized tribes, California Native American organizations, and individuals protection of Native American cultural resources and human remains. In so doing they help educate and work with Federal, state and local agencies and developers to adhere to the Federal Native American Graves Protection and Repatriation Act of 1990, and relevant sections of the California Public Resources Code and California Health and Safety Code. (NAHC n.d.)

The **Wildlife Conservation Board (WCB)** has a Habitat Enhancement and Restoration Program that includes all projects falling outside the board’s other mandated programs. This program includes restoration of coastal wetlands, coastal scrub, and other coastal and tidal habitats, as well as threatened and endangered species habitats. The main sources of funding available to WCB for these projects are the California Habitat Conservation Fund and various bonds passed by voters. Eligible projects must receive a recommendation from the California Department of Fish and Game; those that are approved and funded must provide for the long-term maintenance of the project once completed. Projects may be located on any public or private lands.

B.2.3.3 The California Environmental Protection Agency (Cal/EPA)

Cal/EPA works to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality. Cal/EPA oversees one board with direct relevance to this project:

The State Water Resources Control Board (SWRCB) has regulatory authority over water allocation and water quality protection (e.g., discharges into marine waters from point and nonpoint sources). Its five members are governor-appointed and California State Senate-confirmed. In addition to SWRCB, there are nine regional water quality control boards that oversee local management issues throughout the state (SWRCB 2011). SWRCB has authority to designate, delete or modify state water quality protection areas and areas of special biological significance (ASBS).

B.2.3.4 California Public Utilities Commission (CPUC)

The CPUC regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises.

B.2.4 Local Government Programs

Counties and cities within the SFSR manage and maintain beaches. A list of beaches along the bay shoreline by county is as follows (and includes some state facilities):

Alameda County: Berkeley Beach, Radio Beach, Sandy Beach, Crown Memorial State Beach, Martin Luther King Jr. Regional Shoreline, Middle Harbor Shoreline Park, Alameda Point Beach.

Contra Costa County: Point Pinole Regional Shoreline, Point Molate Beach, Keller Beach (in Miller/Knox Regional Shoreline).

Marin County: Swede's Beach, Tiffany Beach, McNears Beach, Paradise Beach, Schoonmaker Beach, China Camp Beach (in China Camp State Park), and in Angel Island State Park are Ayala Cove, Quarry Beach and Sand Springs Beach.

Napa County (N/A)

San Francisco County: Aquatic Park, Candlestick Point, and in Golden Gate National Recreation Area are Crissy Field Beach and East Beach

San Mateo County: Coyote Point Recreation Area

Santa Clara County (N/A)

Solano County (N/A)

Sonoma County (N/A)

B.2.4.1 Local Coastal Programs

In other MLPA regions Local Coastal Programs are an important component of the local governance structure, but this is not the case in the bay area. "Local Coastal Programs (LCPs) are basic planning tools used by local governments to guide development in the coastal zone, in partnership with the Coastal Commission" (CCC 2009b). As noted earlier, since the coastal zone does not include the San Francisco Bay, as it is within the BCDC's jurisdiction, LCPs are not relevant to the SFSR.

B.3 Academic Institutions, Research, Public Outreach and Education

The San Francisco Bay area is home to a large number of academic institutions, government agencies and non-governmental organizations that contribute to marine and estuarine research, education and public outreach in the study region. This section will highlight some of the key participants, but is by no means an exhaustive list of all the institutions, agencies and organizations active in the San Francisco Bay area.

B.3.1 Major Marine and Estuarine Institutions in the San Francisco Bay Study Region

Major academic institutions that conduct research in coastal, marine and estuarine ecosystems in the San Francisco Bay area include University of California, Berkeley; San Francisco State University; University of California, Davis; Stanford University; and University of California, Santa Cruz. Marine laboratories in the study region include Romberg Tiburon Center, PRBO Conservation Science and the Marine Mammal Center. Several government agencies contribute to research in the north central coast study region, including California Department of Fish and Game, California Sea Grant, San Francisco Bay National Estuarine Research Reserve, the National Park Service, National Oceanic and Atmospheric Administration, and U.S. Geological Survey. Some non-governmental organizations also contribute to research in the San Francisco Bay study region, including San Francisco Estuary Institute, Oikonos-Ecosystem Knowledge and the Aquarium of the Bay.

These institutions represent some of the research organizations in the study region, but this list is by no means exhaustive. Please see Appendix C.3 for a more complete list of research organizations and some of the monitoring programs occurring the bay.

B.3.1.1 Public Education and Outreach

Local, state and federal agencies and non-governmental organizations around San Francisco Bay offer public outreach and education about the estuarine ecosystems found in the Bay. A wide variety of education opportunities are available, including:

- University and graduate education is available through numerous educational institutions such as Stanford University; University of California, Berkeley; San Francisco State University; and marine laboratories, including Bodega Marine Lab, Romberg Tiburon Center, and The Marine Mammal Center.
- Public education and student and teacher training are available through the aquariums, including the Steinhart Aquarium and the Aquarium of the Bay, and the Lawrence Hall of Science.
- State and federal agencies, including the California Coastal Commission, California Department of Parks and Recreation, U.S. Fish and Wildlife Service, U.S. Geological Survey and the San Francisco Bay National Estuarine Research Reserve among others, provide opportunities for public education, K-12 education and teacher training.
- Many bay focused non-governmental organizations, including The Bay Institute, Save the Bay, PRBO Conservation Science, The Bay Nature Institute, San Francisco Baykeeper and the Marine Science Institute have strong environmental education and public awareness components and offer a wide variety of educational opportunities for all age groups. The Bay Nature Institute also maintains a directory of nature-related organizations (agencies, institutes, NGOs) in the San Francisco Bay Area that can be queried for environmental education organizations, available at <http://baynature.org/organizations>.

- Please see Appendix C.2 for a more complete list of academic, research and education institutions in the study region.

B.3.2 Partnerships and Consortia

B.3.2.1 Association of Bay Area Governments (ABAG)

ABAG is the regional planning agency for Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma counties and the 101 cities and town of the San Francisco Bay region. ABAG is an advisory organization and membership is voluntary. ABAG has a 38-member Executive Board, and a General Assembly made up of elected officials, one from each member city, town or county (ABAG n.d.a). ABAG administers the San Francisco Estuary Partnership (see section B.3.2.9) and the Bay Trail Project (B.5.9). A full list of ABAG's planning projects can be found at <http://www.abag.ca.gov/>. ABAG's planning and service programs work to address regional economic, social, and environmental challenges (ABAG n.d.a).

B.3.2.2 California Delta Stewardship Council

The Delta Reform Act of 2009 created the Delta Stewardship Council (DSC), an independent state agency. Its mission is to help achieve the two co-equal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta's ecosystem. These goals must be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the delta as an evolving place. The DSC is required to develop a comprehensive management plan for the delta (Delta Plan) by January 1, 2012; this long-term plan will be reviewed and possibly revised at least once every five years. State and local agencies proposing actions or projects within the delta will need to certify for the DSC that those efforts are consistent with the Delta Plan. The planning efforts of a reorganized Delta Protection Commission, newly formed Delta Conservancy, and the Bay Delta Conservation Plan, along with other conservation planning efforts, will inform the DSC as it develops and implements a Delta Plan. (See <http://baydeltaconservationplan.com/> and http://www.resources.ca.gov/docs/Highlights_of_the_BDCP_FINAL_12-14-10_2361.pdf). These efforts focus on the Sacramento/San Joaquin Delta, rather than the San Francisco Bay, and so are not described here in any more detail.

B.3.2.3 Dredged Materials Management Office (DMMO)

The DMMO is a joint program of BCDC, San Francisco Bay Regional Water Quality Control Board, State Lands Commission, the San Francisco District U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency to manage dredged material disposal in the bay (DMMO 2011). DFG, NMFS, and USFWS provide advice and expertise to the process. The goal of DMMO is to increase efficiency and coordination between the member agencies and to foster a comprehensive and consolidated approach to handling dredged material management issues (DMMO 2011).

B.3.2.4 Interagency Ecological Program (IEP) for the San Francisco Bay-Delta Estuary

The IEP consists of three state, six federal and one non-governmental organization member who work together to:

“...develop a better understanding of the estuary’s ecology and the effects of the State Water Project (SWP) and Federal Central Valley Project (CVP) operations on the physical, chemical, and biological conditions of the San Francisco Bay-Delta estuary.”

This non-regulatory program focuses on efforts pertaining to research and monitoring in the Bay-Delta estuary. (IEP 2007)

B.3.2.5 Joint Policy Committee

The Joint Policy Committee—originally established to coordinate efforts of ABAG, the Metropolitan Transportation Commission (MTC), and the Bay Area Air Quality Management District (BAAQMD) —now also includes BCDC as a voting member. BCDC was brought in to help address adaptation planning and management for climate change issues such as sea level rise (ABAG n.d.b). The Committee’s purpose is to coordinate regional planning efforts to achieve sustainable communities (ABAG n.d.b). The Joint Policy Committee meets as needed, usually bi-monthly, and all meetings include public comment periods. More information about the Joint Policy Committee, and their meeting agendas, can be found at <http://www.abag.ca.gov/jointpolicy/>.

B.3.2.6 San Francisco Bay Joint Venture (SFBJV)

SFBJV works “...to protect, restore, increase and enhance all types of wetlands, riparian habitat and associated uplands throughout the San Francisco Bay region to benefit birds, fish and other wildlife.” It is one of eighteen such programs established under the federal Migratory Bird Treaty Act and funded under the annual federal Interior Appropriations Act. Working with public and private agencies, conservation groups, development interests, and others, SFBJV restores wetlands and wildlife habitat in San Francisco Bay watersheds and along the Pacific coasts of San Mateo, Marin and Sonoma counties. (SFBJV 2011)

B.3.2.7 The San Francisco Bay Restoration Authority

The recently created San Francisco Bay Restoration Authority is charged with raising and allocating resources for the restoration, enhancement, protection, and enjoyment of wetlands and wildlife habitat in the San Francisco Bay and along its shoreline. The authority held its first meeting in April 2009. Meetings of the governing board include a public comment period. (<http://sfbayrestore.org/index.html>)

B.3.2.8 San Francisco Estuary Institute (SFEI)

SFEI was established in part due to the San Francisco Estuary Partnership’s Comprehensive Conservation and Management Plan, which called for a “comprehensive, coordinated regional monitoring and research strategy to assess the chemical, physical and biological health of the estuary.” An earlier incarnation of this organization (the Aquatic Habitat Institute) focused on compiling and synthesizing existing information, but the SFEI’s expanded mission includes

conducting monitoring and research programs. It works closely with the San Francisco Estuary Partnership. (SFEI 2009a)

B.3.2.9 San Francisco Estuary Partnership

Established as part of U.S. Environmental Protection Agency's National Estuary Program, the San Francisco Estuary Partnership (SFEP)

“...is a coalition of resource agencies, non-profits, citizens, and scientists working to protect, restore, and enhance water quality and fish and wildlife habitat in and around the San Francisco Bay Delta Estuary.”

The San Francisco Bay-Delta Estuary is the largest estuary on the West Coast and second largest in the nation.

Member organizations share information and resources that result in studies, projects, and programs to improve the estuary and communicate its value and needs to the public. SFEP oversees and tracks implementation of a comprehensive conservation and management plan—the “CCMP”—for preserving, restoring, and enhancing the estuary. Current priorities focus on promoting watershed stewardship, supporting climate change resiliency, serving as a resource for decision makers in making decisions that benefit the estuary, and developing green infrastructure leadership. SFEP is under the umbrella of the Association of Bay Area Governments and is physically located within the San Francisco Bay Regional Water Quality Control Board in Oakland. (San Francisco Estuary Partnership 2009)

B.4 Other Related Bay Activities

This section outlines other programs and examples of activities, primarily commercial, occurring in the study region. In all previous study regions, the socioeconomic impacts of MPA placement have always been an important consideration for members of the regional stakeholder groups. The organizations and commercial activities listed here may be interested in MPA planning in the bay and represent potential contacts.

B.4.1 Bay Area Council

The Bay Area Council is a business-sponsored, public-policy advocacy organization that advocates for a strong economy, a vital business environment, and a better quality of life for bay area residents (Bay Area Council n.d.). The Bay Area Council represents a variety of businesses, including San Francisco estuary dependent businesses such as the Port of San Francisco and the Port of Oakland. The businesses and its activities overlap considerably with the Bay Planning Coalition (see below) in regards to marine related issues.

B.4.2 Bay Planning Coalition

The Bay Planning Coalition (BPC) is a non-profit organization created in response to frustrations with the state and federal permitting processes and expensive regulation concerns. In addition to addressing the permit process, BPC also includes “essential planning,

communication and consensus-building related to navigation and dredging, water and air quality, water supply, transportation, and wetlands and wildlife issues” (BPC 2011). The mission of BPC is to ensure that commerce, recreation and the natural environment thrive in the San Francisco Bay-Delta region (BPC 2011). The coalition represents public and private entities in marine related businesses. The coalition does a lot of work related to dredging, the LTMS and the work windows it outlines. The member list is available at <http://www.bayplanningcoalition.org/members/>.

B.4.3 California Marine Affairs and Navigation Conference (CMANC)

CMANC is a consortium of California harbors, ports and marine interest groups working to ensure California maritime interests are supported by both the federal and state governments. CMANC’s mission is to optimize California maritime benefits by providing advocacy for the maintenance and improvement of California harbors, ports and navigation projects (CMANC n.d.).

B.4.4 Pacific Merchant Shipping Association

The Pacific Merchant Shipping Association is a non-profit organization representing owners/operators of global marine terminals and vessels. They have offices in San Francisco, and engage in community affairs and legislative and regulatory affairs in California and Washington (PMSA 2011).

B.4.5 Ports, Harbors and Marinas

Several active ports are located in the San Francisco Bay study region. Oakland, Redwood City, Richmond and San Francisco all have ports. MTC and BCDC work together through the Seaport Planning Committee on planning efforts for the ports in the study region, including possible development of a site in Selby and redesign of the Hunters Point Shipyard. The San Francisco Bay Area Seaport Plan was most recently amended in January 2007. The Seaport Plan can be found on the BCDC website at <http://www.bcdc.ca.gov/pdf/planning/plans/seaport/seaport.pdf>.

The ports in the bay are not all of the same type and play different roles in ocean-going commerce. The Oakland Port is one of the major container ports on the West Coast, while Richmond and Redwood City are more important for bulk cargo. Richmond is also an important port for the oil industry. There are also a number of marinas around the bay that play a role in the local economy.

Organizations associated with the ports, harbors and marinas of the San Francisco Bay include CMANC mentioned above, San Francisco Bar Pilots Association, California Association of Harbor Masters and Port Captains, and Marina Recreation Association.

B.4.6 Other Projects

One project causing debate in the study region is Cargill Inc.’s plans to fill in some South Bay salt ponds still under their control in Redwood City. The proposed project would develop

roughly 1,400 acres of salt ponds into a new city, with some restoration occurring. Many state and local agencies, non-profits, citizens and elected officials have entered into the debate over the project, which an article in *The Examiner* referred to as “one of the most heated Bay Area land-use battles of the century” (Staff 2010). The salt ponds concerned would likely fall within the jurisdiction of the MPA planning process in the SFSR.

B.5 Existing Projects and Planning Processes in the Bay

Due to the complex social and ecological nature of the San Francisco Bay Area, there are a multitude of projects and planning processes occurring within the study region at any given time. This section will give a brief overview of some of the current or recently completed public projects and processes that represent multi-organization cooperation and/or contain a stakeholder participation component. Industry is also active in the bay, and further information on potential contacts in industry and commerce can be found in Appendix B.4.

B.5.1 Adapting to Rising Tides (ART) Project

The San Francisco Bay Conservation and Development Commission and the National Oceanic and Atmospheric Administration Coastal Services Center partnered for this project to work with Bay Area communities to begin planning for sea level rise. The ART project is intended to bring together community members and local and state officials to consider how sea level rise and climate change impacts will affect the Bay Area’s ecosystems, infrastructure, and economy and to then identify strategies for community-based adaptation planning to address those challenges and develop a process for implementing them (Adapting to Rising Tides, n.d.).

Local stakeholders were invited to submit proposals to be selected for the ART sub-regional pilot project. Alameda County, from Emeryville to Union City, was selected as the ART subregion, and the pilot project’s first meeting was held at the end of January 2011 (Adapting to Rising Tides, n.d.).

B.5.2 Bay Area Integrated Regional Water Management Plan

San Francisco Bay Area water, wastewater, flood protection and stormwater management agencies; cities and counties represented by the Association of Bay Area Governments; and watershed management interests represented by the California Coastal Conservancy and non-governmental environmental organizations all signed onto a Letter of Mutual Understandings (LOMU) to develop an Integrated Regional Water Management Plan (IRWMP) for the San Francisco Bay Area. This project used a two-step process to develop the management plan. They identified four key functional areas to consider and created a group for each of the four functional areas. In step one, each of the four groups first wrote potential strategies and projects. Then in step two, they were integrated into an IRWMP for the Bay Area. The integration of the four products from step one was guided by a Technical Coordinating Committee (TCC) composed of representatives from each of the four functional area groups. The Bay Area TCC worked with various stakeholders to identify and develop multi-purpose regional projects.

During step one, the public had access to the web portals used by each of the four groups. Stakeholder workshops were also held where work to date was presented. Seven local government outreach briefings were also held. General public outreach included an email database, non-technical fact sheets, press releases, and use of existing forums to distribute information (IRWMP, 2006).

The IRWMP has been hailed as a model for collaboration, because of its success in effectively coordinating different Bay Area agencies and organizations despite their different water resource management mandates (Robinson, 2009).

B.5.3 CalFed Bay-Delta Program

The CALFED Bay-Delta Program is a unique collaboration among 25 federal and state agencies that share a mission: “to improve California’s water supply and the ecological health of the San Francisco Bay/Sacramento-San Joaquin River Delta” (CALFED Bay-Delta Program 2007a). See more at <http://calwater.ca.gov>.

The Bay-Delta Public Advisory Committee, a 30-member body established in 2001, is a cornerstone of CALFED’s public involvement (CALFED Bay-Delta Program 2007). The committee provides advice and recommendations on implementation of the CALFED Bay-Delta Program. Members represent environmental, water, tribal and civic interest groups and connect the various agencies involved, stakeholders and the public together (CALFED Bay-Delta Program 2007). Stakeholders representing environmental justice and tribal constituencies and concerns are also involved.

In addition to the Advisory Committee, there are nine subcommittees providing oversight and recommendations on specific program areas such as water quality, environmental justice and water use efficiency (CALFED Bay-Delta Program 2007). A list of CALFED open grants can be found at http://calwater.ca.gov/calfed/contracts_and_grants.html.

B.5.4 Hamilton Wetlands Restoration Project

Hamilton Wetlands Restoration Project encompasses approximately 988 acres of land, the former Hamilton Army Airfield and the adjacent North Antenna Air Field. The project goal is to return this area to its natural wetlands state. The Army Corps of Engineers, State Coastal Conservancy and BCDC are collaborating on the project. The three main project objectives are:

“(1) create a diverse array of wetland and wildlife habitats that benefit a number of threatened, endangered and other species, (2) reduce inwater disposal of dredged material and beneficially reuse dredged materials when feasible, and (3) facilitate the base-closure and reuse process of the former Army Airfield.” (Hamilton Wetlands Restoration Project n.d.)

The project maintains a website where the public can submit comments or request information.

B.5.5 San Francisco Bay Area Water Trail

The San Francisco Bay Conservation and Development Commission (BCDC) (original lead on the project), the California Coastal Conservancy (current lead on the project), the Association of Bay Area Governments Bay Trail Project and other agencies and organizations are planning a San Francisco Bay Area Water Trail that will serve non-motorized small boats such as kayaks (BCDC 2007). The Water Trail Steering Committee, a group representing the diverse stakeholders affected by the trail, advised staff on policies and guidelines for implementation of the Water Trail. All Steering Committee meetings and Water Trail Workshops are open to the public.

B.5.6 San Francisco Bay Area Wetlands Ecosystem Goals Project

Recognizing the importance of bayland habitats, the San Francisco Bay Area Wetlands Ecosystem Goals Project brought together nine state and federal agencies and dozens of concerned scientists to produce a report that recommended long-term goals for a healthy and sustainable baylands ecosystem (Goals Project 1999). The result of that effort was the EcoAtlas, a GIS mapping tool, and the Baylands Ecosystem Habitat Goals Report, after which the recently completed Subtidal Habitat Goals Report (see Appendix B.5.8) was modeled. The Baylands Goals Report was science-based, and involved a final review step by a Science Review Group made up of a “strong panel of scientists with expertise in disciplines such as ecosystem analysis, integrated resource planning, and conservation biology” (Goals Project 1999).

The project organizers also made efforts to include the public in the development of the report from the beginning of the process with a two-day kick-off meeting. Throughout the process workshops were held, presentations were given to target audiences, brochures were distributed, and there was a public review period for the draft report. The project did note that private landowners did not feel like they were adequately informed or unaware of the process and that future efforts should involve more outreach to that stakeholder group (Goals Project 1999).

B.5.7 San Francisco Bay Long-Term Management Strategy (LTMS)

The LTMS is a collaborative partnership with several goals concerning dredging activities in the bay. Its purpose is to establish a dredging permitting process to conduct dredging activities in an economically and environmentally sound manner and maximize the use of dredged materials as a beneficial resource. The LTMS includes scientific research to develop environmental dredging windows, which are times of the year during which dredging is allowed, designed to protect endangered species. San Francisco Estuary Institute is working on a project that will produce a self-standing update to the 2004 LTMS Science Framework. The update will address potential effects of dredging on six threatened and endangered species and state species of special concern that were not included in the original document and reassess management concerns and research questions for the species analyzed in the original document, based on knowledge gained over the past six years (SFEI 2009b).

B.5.8 San Francisco Bay Subtidal Habitat Goals Project

This project represents a collaboration among the San Francisco Bay Conservation and Development Commission, California Ocean Protection Council/California State Coastal Conservancy, NOAA Habitat Conservation, NOAA Restoration Center, and the San Francisco Estuary Partnership. Lead staff from those agencies worked with the broader scientific community, managers, restoration practitioners, and stakeholders over several years to develop the goals set forth in this document (San Francisco Bay Subtidal Habitat Goals Project n.d.). The Subtidal Habitat Goals Project vision is “to achieve, over the next 50 years, a net improvement of the San Francisco Bay’s subtidal ecosystem through science-based protection and restoration of habitats” (San Francisco Bay Subtidal Habitat Goals Project n.d.).

The project structure included an Executive Steering Committee (federal and state agencies members), Administrative core group, science advisor, management consultant, restoration consultants, and four working committees with an advisory role (executive, science, restoration and management) (State Coastal Conservancy 2010). Stakeholders provided input on the project process, made recommendations to the working committees, and provided feedback on draft documents.

The Project utilized a project partner and public outreach list to communicate to a larger audience. The Project Manager made over 20 presentations to targeted audiences and stakeholders and multiple public meetings were held dating back to 2006 (State Coastal Conservancy 2010). These meetings including individual stakeholder group interviews, public meetings to introduce the planning process, to give updates on the planning, and to invite written comments on the draft report. In addition to these public meetings, the Project held several targeted meetings with non-profit and industry groups to gather feedback and written comments on the draft report (State Coastal Conservancy 2010).

The **San Francisco Eelgrass and Oyster Restoration projects**, multi-agency collaborative projects, also fed into the Subtidal Habitat Goals Project. These projects were designed to improve scientific understanding of restoration techniques and were supported by numerous partners, including NOAA, the California State Coastal Conservancy, the San Francisco Bay Conservation and Development Commission, the California Department of Fish and Game, San Francisco State University, the Romberg Tiburon Center, the Bodega Marine Laboratory of the University of California at Davis, Save the Bay, Audubon Center, the Marine Science Institute, and the Marin Rod and Gun Club (OPC 2008).

B.5.9 San Francisco Bay Trail Project

When complete, this 500 mile shoreline trail will encircle San Francisco and San Pablo Bays. The Bay Trail Project is staffed by four full-time employees and several part-time ones, and is governed by a 28-member volunteer board of directors representing a broad range of interests that meets twice a year, and by a smaller steering committee that meets every other month to discuss program and planning issues (Bay Trail 1999). The Bay Trail Project is administered by the Association of Bay Area Governments (see Appendix B.3.2.1). Cities, counties, special districts, state government agencies, federal government agencies, land trusts and non-governmental organizations can apply for grant monies from the Bay Trail Project (in

partnership with the State Coastal Conservancy) to develop sections of the bay trail. Information can be found at <http://www.baytrail.org/>.

B.5.10 San Francisco South Bay Salt Pond Restoration Project

The South Bay Salt Pond Restoration Project is the largest tidal wetland restoration project on the West Coast. Federal and state resource agencies and several private foundations provided the funds to purchase the project's 15,100 acres—the largest single acquisition in a larger campaign to restore 40,000 acres of San Francisco Bay tidal wetlands. CDFG, the USFWS and the California State Coastal Conservancy employed a public process to develop the project's 2008 restoration plan, which focuses on habitat restoration, flood protection, and the construction of new trails, viewing platforms and other public access amenities. (South Bay Salt Pond Restoration Project n.d.) Another multi-agency process began to implement the final plan after it was adopted in 2008.

The U. S. Fish and Wildlife Service, the California Department of Fish and Game, the State Coastal Conservancy, the U. S. Geological Survey, the Santa Clara Valley Water District, and the Alameda County Flood Control and Water Conservation District are all partners in the long-term South Bay Salt Pond Restoration Project. The overarching goal of the South Bay Salt Pond Restoration Project, according to the MOU signed by the previously mentioned parties, "is to restore and enhance wetlands in the Project Area in South San Francisco Bay, while providing for flood management and wildlife-oriented public access and recreation." (South Bay Restoration 2009)

The South Bay Salt Pond Restoration Project intends to work with interested organizations and agencies to conduct public outreach efforts as long as funding is available. Public meetings and workshops, the South Bay Salt Pond Restoration Project's interactive website, an email and paper newsletter, press releases, and presentations will be used to inform the public about the status of the restoration efforts. Stakeholders can also be involved through the Stakeholder Forum (made up of approximately 30 invited members representing interested organizations, agencies, and individuals) or through the three Local Geographically-Based Working Groups (made up of members of the Stakeholder Forum, local government, and other members of the public), which will both provide feedback to the Project Management Team. (South Bay Restoration 2009)

B.5.11 San Pablo Bay Marine Spatial Planning Pilot Project

This pilot project was for planning purposes only and included an Advisory Stakeholder Committee made up of "members representing agency, government, and non-profits interests from around San Pablo Bay" (Robinson 2009). Lessons learned from this project identified two critical issues that would need to be addressed should some type of marine spatial planning project move on to the implementation stage: 1) questions of who would have authority over any MPA initiative, and 2) the critical link between water and land-use planning and policy (Robinson 2009).

B.6 Existing MPAs, Other Protected and Managed Areas and Closures

This section provides an overview of existing marine and estuarine protected areas and managed areas in the SFSR, in addition to existing fishery closures.

B.6.1 Overview of Existing State Marine Protected Areas in the Study Region

Marine protected areas, a subset of marine managed areas, are discrete geographic areas that have been designated by law, administrative action, or voter initiative to protect or conserve marine life and habitat, including estuarine habitats (FGC §2852(c)). The MLPA requires an analysis of the regions' existing MPAs to assess if or how they may need to be changed to fulfill the requirements of the MLPA (FGC §2856(a)1(G)).

There are six state marine parks (SMPs) and one state marine conservation area (SMCA) in the SFSR. There is a seventh SMP, Peytonia Slough SMP, east of the study region boundary, but possibly within estuarine waters (to be determined by DFG or a science advisory team). The California Fish and Game Commission, or some other policy decision-making body, will need to determine how this SMP should be addressed during the planning process for this study region. Additionally, the California State Parks and Recreation Commission has adopted Albany and Emeryville Crescent as state marine reserves (SMRs), but has not yet received the required concurrence of the California Fish and Game Commission. Therefore, the two SMRs are not included in California Fish and Game regulations (see Appendix H for current Title 14 §632, California Code of Regulations).

Existing MPAs currently designated as SMPs do not conform to the Marine Managed Areas Improvement Act (MMAIA). The California Fish and Game Commission has the statutory authority to designate SMRs and SMCAs while only the State Park and Recreation Commission may create, modify or delete SMPs (Public Resources Code 36725(b)). The existing SMPs were designated by the California Fish and Game Commission, and, therefore, are not consistent with the MMAIA. The California Fish and Game Commission can modify the existing SMP designations to be SMCAs or SMRs as appropriate, as was done in similar cases in other study regions (<http://www.fgc.ca.gov/regulations/new/2009/632isor2.pdf>). In fact, the California Fish and Game Commission have intended to bring these SMPs into compliance during the regional MLPA implementation, as was done in previous study regions. Those MPAs could then be adopted as SMPs at the discretion of the State Park and Recreation Commission. The State Park and Recreation Commission must have the concurrence of the Fish and Game Commission on any proposed restrictions upon, or change in, the use of living marine resources (Public Resources Code 36725(b)). As such, DFG and California State Parks should coordinate their efforts to bring the existing MPAs and proposed SMRs into compliance with the MLPA and MMAIA.

In general, the SFSR MPAs are small in area and abut terrestrially managed areas such as ecological reserves (see Appendix B.6.2.3). All six SMPs (Fagan Marsh, Corte Madera Marsh, Marin Islands, Albany Mudflats, Redwood Shores and Bair Island) encompass the marine portion of ecological reserves, and their boundaries are defined as the ecological reserve boundaries. During the SFSR planning process, these boundaries would need to be defined in a manner consistent with redefined boundaries as done in other study regions (for example,

Goleta Slough SMP in the south coast study region which has been adopted as an SMCA). All the SMPs allow the recreational take of species other than marine aquatic plants by hook-and-line. They also include restrictions on access and boat types allowed in the park. The Robert W. Crown State Marine Conservation Area allows the recreational take of finfish by hook and line and the commercial take of finfish and kelp. There are no restrictions on access or boat type allowed in the SMCA. More details, including boundaries, allowed take and other restrictions, on the existing state MPAs in the SFSR, and Peytonia Slough SMP, can be found in Appendix H. A formal evaluation of existing state MPAs to determine how well they achieve the goals of the MLPA, based on guidelines in the *California Marine Life Protection Act Master Plan for Marine Protected Areas* (January 2008 revised draft), would need to be conducted by the MLPA Master Plan Science Advisory Team convened for that purpose.

B.6.2 Existing Protected Areas in the Study Region

San Francisco Bay is home to several types of existing protected areas that include the marine environment and where marine resource use is restricted.

B.6.2.1 National Wildlife Refuges

U.S. Fish and Wildlife Service manages a collection of seven National Wildlife Refuges referred to as the San Francisco Bay National Wildlife Refuge Complex. The complex is made up of Antioch Dunes National Wildlife Refuge, Don Edwards San Francisco Bay National Wildlife Refuge, Ellicott Slough National Wildlife Refuge, Farallon National Wildlife Refuge, Marin Islands National Wildlife Refuge, Salinas River National Wildlife Refuge, and San Pablo Bay National Wildlife Refuge. Of the seven refuges, three are located in the SFSR: Don Edwards San Francisco Bay National Wildlife Refuge, Marin Islands National Wildlife Refuge and San Pablo Bay National Wildlife Refuge.

The San Pablo Bay National Wildlife Refuge was created in 1974 to protect migratory birds, wetland habitat, and endangered species such as the salt marsh harvest mouse and California clapper rail. The refuge is located along the north shore of San Pablo Bay in Sonoma, Solano, and Napa counties. The refuge includes open bay/tidal marsh, mud flats, and seasonal and managed wetland habitats. These are critical habitats for migratory and wintering shorebirds and waterfowl. It also provides habitat for 11 fish species as they move toward their fresh water spawning grounds.

The Marin Islands National Wildlife Refuge and State Ecological Reserve was established in 1992. It is located in San Pablo Bay off the coast of San Rafael in Marin County. East Marin and West Marin islands form the core of the refuge, which also includes surrounding submerged tidelands. The islands are both important bird rookeries, especially for several species of heron and egrets. The tidelands are important habitat for resident and migratory water birds. The refuge's main objectives are to protect migratory species, the tidal mud flats and the unique island ecosystem. The area is closed to visitors to reduce disturbances to the wildlife and habitats.

Don Edwards San Francisco Bay National Wildlife Refuge was the first urban National Wildlife Refuge established in the United States. It was founded in 1974, and was renamed in

1995 in recognition of Congressman Don Edwards. It has the dual goals of conservation (protecting species and preserving wildlife habitat) and access (providing opportunities for wildlife-oriented recreation and nature study for the surrounding communities). The Refuge spans 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland and vernal pool habitats located throughout South San Francisco Bay. Millions of shorebirds and waterfowl pass through the Refuge, which is located along the Pacific Flyway, during the spring and fall migration. The Refuge is also home to the endangered California clapper rail and salt marsh harvest mouse.

B.6.2.2 Other Federally Designated Areas

The San Francisco Bay National Estuarine Research Reserve, part of a network of 27 reserves throughout the nation, is composed of two tidal wetlands: China Camp State Park in Marin County and Rush Ranch Open Space Preserve in Solano County (outside the jurisdiction of the SFBSR). The San Francisco Bay National Estuarine Research Reserve is a partnership among NOAA, San Francisco State University, California State Parks, Solano Land Trust and the Bay Conservation and Development Commission. The Reserve projects include long-term monitoring, stewardship activities, a range of on-going research, trainings for coastal decision makers and education programs for science teachers and the public.

B.6.2.3 State Wildlife Areas and Ecological Reserves

The Napa-Sonoma Marshes Wildlife Area, located just north of San Pablo Bay, encompasses over 13,000 acres of saltwater ponds, tidal marshes, and wetlands. This area is home to a large number of waterfowl species and shorebirds including the endangered California clapper rail. Most of the area is accessible by boat only.

The Petaluma Marsh Wildlife Area is composed of several units totaling 4,191 acres of tidal salt marsh, mudflats, coastal oak woodlands, and coastal scrub habitats. The Petaluma River Unit is the largest remaining natural tidal brackish marsh in California. Migratory bird species use these areas and a variety of wetland bird species can be found here.

The San Pablo Bay Wildlife Area encompasses 11,040 acres located in the mudflats and surrounding San Pablo Bay waters in Marin County, between the mouths of the Petaluma River and Gallinas Creek. This Wildlife Area is accessible by boat only via the Petaluma River.

Eastshore State Park/State Seashore includes the tidelands in the **Emeryville Crescent Wildlife Area and Albany Mudflats SMP** (defined by the Albany Mudflats Ecological Reserve boundaries) and the underwater unit between these areas. The California State Parks Commission proposed both the Albany and Emeryville managed areas as SMRs. The park includes tidelands and upland property along 8.5 miles of shoreline of the San Francisco Bay. The tidelands comprise rich tidal marshes, subtidal areas, and mudflats that extend bayward from the shoreline including the Emeryville Crescent, Albany Mudflat, and Hoffman Marsh. The East Bay Regional Park District manages this state park.

The Fagan Marsh Ecological Reserve's marine portion comprises the Fagan Marsh State Marine Park. It is located along the Napa River.

The Marin Islands Ecological Reserve's marine portion comprises the Marin Islands State Marine Park. The area is only accessible by boat. See description above for the Marin Islands National Wildlife Refuge.

The Corte Madera Marsh Ecological Reserve's marine portion comprises the Corte Madera Marsh State Marine Park and located near the mouth of the Corte Madera Creek. Only lightweight hand-carried boats may be launched within the reserve.

The Eden Landing Ecological Reserve's marine portion encompasses approximately 6400 acres along the east San Francisco Bay shoreline within the City of Hayward. The Reserve started as 835 acres in 1996 and was expanded to its current size in 2003 when Cargill Salt Co. sold the land. It is part of the South Bay Salt Pond Restoration Project.

The Redwood Shores Ecological Reserve's marine portion comprises the Redwood Shores State Marine Park. Only lightweight, hand-carried boats may be launched and operated within the reserve. Redwood Shores is located along the Belmont Slough in the southwestern portion of the bay.

The Bair Island Ecological Reserve's marine portion comprises the Bair Island State Marine Park. Bair Island is actually composed of three islands: Inner, Middle and Outer islands, located between Steinberger Slough and Redwood Creek in the southwestern portion of the Bay. A portion of the islands has been restored to tidal wetlands, and seasonal closures are in place.

B.6.2.4 Other Managed and Protected Areas

In addition to Eastshore State Park, California Department of Parks and Recreation has several other managed areas with underwater units in the study region. These are: **Angel Island State Park, China Camp State Beach, Candlestick Point State Recreation Area and Robert W. Crown State Beach.**

The Mount Tamalpais Waterfowl Refuge is a no hunting area managed by the California Department of Fish and Game as the Mount Tamalpais Game Refuge.

The Palo Alto Baylands Nature Reserve is made up of 1,940-acres of undisturbed marshland, the largest tract remaining in the San Francisco Bay. It provides important habitat for both resident and migratory birds and contains fifteen miles of multi-use trails (City of Palo Alto n.d.).

The former Naval Air Station Alameda site is known as the **Proposed Alameda National Wildlife Refuge**. The Alameda National Wildlife Refuge will be established when the U.S. Fish and Wildlife Service accepts the transfer of open water and land from the U.S. Navy. The transfer, which is contingent upon completion of cleanup of contaminated areas within the refuge, has been delayed due to conflicts over cleanup of contaminants (Golden Gate Audubon Society n.d.). The transfer was originally expected to take place in 1999.

The Ravenswood Open Space Preserve is managed by the Midpeninsula Regional Open Space District, which is funded through property tax income. The Ravenswood is composed of

two noncontiguous areas located south of the Dumbarton Bridge and adjacent to San Francisco Bay, including tidal area, and totaling 373-acres. The northern area is part of the South Bay Salt Pond Restoration Project. The southern area includes a bicycle and pedestrian trail, a 12-car wheelchair-accessible parking lot, and two wheelchair-accessible observation decks (Midpeninsula Regional Open Space District n.d.).

The Richardson Bay Center and Sanctuary includes approximately 900 acres of bay waters and is managed by Audubon. The sanctuary waters are closed to boat traffic and in-water activities from October 1st through March 31st by the Richardson Bay Regional Agency issued Ordinance 92-1 (Richardson Bay Audubon n.d.).

The Skaggs Island Naval Reservation also is expected to be transferred from the U.S. Navy to the U. S. Fish and Wildlife Service in early 2011. The area was used primarily for communications support by the U.S. Navy, but was decommissioned in 1993. The area of the island owned by the U.S. Navy, approximately 3,310 acres, is intended to become part of San Pablo Bay National Wildlife Refuge. The remainder of the island, Haire Ranch, is privately owned (SWRCB n.d.).

B.6.1 Fishery Closures within the Study Region

The San Francisco Bay Study Region boundaries align with the California Department of Fish and Game San Francisco Bay District, a management area for recreational fishing. All of San Francisco Bay is classified as essential fish habitat by NOAA, which means defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (NOAA n.d.). Regulations restricting recreational fishing apply in the San Francisco Bay District, and include seasonal (e.g., salmon, rockfish and cabezon) and year-round closures (e.g., Dungeness crab and abalone), limits on gear types (e.g., only one fishing line with no more than three separate hooks or lures allowed per fisher), type of access (shore-based vs. boat-based), time of access (e.g., boat-based fishing is restricted to daylight hours only) and amount of take (e.g., by weight or number). A complete list of recreational fishing regulations can be found in the 2010-2011 Ocean Sport Fishing Regulations Booklet on the California Department of Fish and Game website (<http://www.dfg.ca.gov/marine/pdfs/oceanfish2010.pdf>).

Commercial fishing is also restricted in the waters of the San Francisco Bay estuarine complex. California Department of Fish and Game management districts 11, 12 and 13 cover the San Francisco Bay. Commercial fisheries in the bay target herring and bay shrimp. A complete list of commercial fishing regulations can be found in the 2010 Digest of California Commercial Fishing Law and Licensing Requirements on the California Department of Fish and Game website (<http://www.dfg.ca.gov/licensing/pdf/2010CommercialDigest.pdf>).

Commercial passenger fishing vessels (CPFV) also operate inside San Francisco and San Pablo bays and are subject to the fishing regulations referenced above.

Appendix C Lists of Resources

C.1 Key Resources

Databases, Documents and Online Tools	Location/Website
MLPA and Past Study Region Related Materials	
California Department of Fish and Game MLPA website	http://www.dfg.ca.gov/mlpa/
California Fish and Game Code	http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=fgc&codebody=&hits=20
California Marine Life Protection Act Master Plan for Marine Protected Areas (2008)	http://www.dfg.ca.gov/mlpa/masterplan.asp
Improving California's System of Marine Managed Areas - Final Report of the State Interagency Marine Managed Areas Workgroup (2000)	http://resources.ca.gov/ocean/Final_MMAs/index.html
Lessons Learned Project - MLPA Central Coast Study Region	http://www.dfg.ca.gov/mlpa/lessonslearned_phase1.asp
Marine Life Management Act (as amended to July 2004)	http://www.dfg.ca.gov/mlpa/pdfs/mlma_language.pdf
Marine Life Protection Act (as amended to July 2004)	http://www.dfg.ca.gov/mlpa/pdfs/mlpa_language.pdf
Marine Managed Areas Improvement Act (2000)	http://www.dfg.ca.gov/mlpa/pdfs/mmaia_language.pdf
Memorandum of Understanding Among the California Resources Agency, the Department of Fish and Game and the Resources Legacy Fund Foundation for the California Marine Life Protection Act	http://www.dfg.ca.gov/mlpa/masterplan.asp
Regional Profile of the Central Coast Study Region	http://www.dfg.ca.gov/mlpa/pdfs/rpccsr_091905.pdf (Profile) and http://www.dfg.ca.gov/mlpa/pdfs/rpccsr_091905_apps.pdf (Appendices)
Regional Profile of the North Central Coast Study Region	http://www.dfg.ca.gov/mlpa/nccprofile.asp
Regional Profile of the North Coast Study Region	http://www.dfg.ca.gov/mlpa/ncprofile.asp
Regional Profile of the South Coast Study Region	http://www.dfg.ca.gov/mlpa/regionalprofile_sc.asp
Report on Lessons Learned from the Marine Life Protection Act Initiative: North Central Coast Study Region	http://www.dfg.ca.gov/mlpa/pdfs/agenda_110408a.pdf
Summary of the First (2004 - 2007) and Second (2007- 2008) Phases of the Marine Life Protection Act Initiative	http://www.dfg.ca.gov/mlpa/pdfs/agenda_100608c2.pdf

Databases, Documents and Online Tools	Location/Website
MLPA Initiative for Stakeholder and Interested Public Participation, North Central Coast Study Region	http://www.dfg.ca.gov/mlpa/pdfs/agenda_082807a5.pdf
MLPA San Francisco Bay Study Region Related Materials	
Acclimating to a New Bay Area: Ecosystem-Based Approaches to Management for the San Francisco Bay	http://www.bcdc.ca.gov/publications/EBM_Report.pdf2009
Background Report: Desalination	San Francisco Bay Conservation and Development Commission (BCDC) http://www.bcdc.ca.gov/publications/library.shtml
Background Report: Mitigation	
Background Report: Public Access and Wildlife	
Background Report: Salt Ponds	
Background Report: Siting Thermal Power	
Background Report: Transportation	
BCDC Annual Reports	
BCDC Strategic Plan Report	
Coastal Management Program Assessment and Strategy	
Landscape Guide for the San Francisco Bay - Shoreline Plants	
LTMS Management Plan 2001 (Dredging and Disposal Strategy)	
Public Access Design Guidelines - Shoreline Spaces	
San Francisco Bay Area Seaport Plan	
San Francisco Bay Harbor Safety	
San Francisco Bay Plan	
Seaport Plan Waterborne Bulk Cargo Forecast update	
Special Area Plans	
Suisun Marsh Local Protection Program	
Suisun Marsh Protection Plan	
Water Quality Protection and Nonpoint Source Pollution Control in San Francisco Bay	
Baylands Ecosystem Habitat Goals	http://www.sfei.org/node/2123
Charter document for the San Francisco Bay Water Trail steering committee	http://www.bcdc.ca.gov/planning/water_trail/water_trail.shtml
Draft San Francisco Bay Area Water Trail Plan - July 6, 2007	
Reports on Water trail implementation	
Water Trail Reports on; non-motorized small boating access issues, opportunities and mangement strategies, water trail safety and education, and wildlife, habitat and water quality issues	
Work plan for the San Francisco Bay Water Trail steering committee	
Bay Area Integrated Regional Water Management Plan	http://bairwmp.org/
Hamilton Wetland Restoration Project Document Library	http://www.hamiltonwetlands.org/documents.html
Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery	http://www.pcouncil.org/wp-content/uploads/fmpthru19.pdf

Databases, Documents and Online Tools	Location/Website
Protecting Our Ocean, California's Action Strategy, Final Report to Governor Schwarzenegger	http://resources.ca.gov/ocean/Cal_Ocean_Action_Strategy.pdf
San Francisco Bay Subtidal Habitat Goals Report	http://www.sfbaysubtidal.org/report.html
San Francisco Estuary Institute Documents and Reports Center (includes scientific papers, Pulse of the Estuary, monitoring reports, etc.)	http://www.sfei.org/documents
South Bay Salt Pond Restoration Document Library	http://www.southbayrestoration.org/documents/
South Bay Salt Pond Restoration Monitoring Reports	http://www.southbayrestoration.org/monitoring/
South Bay Salt Pond Restoration Project Description	http://www.southbayrestoration.org/Project_Description_archive.html
South Bay Salt Pond Restoration Technical Documents	http://www.southbayrestoration.org/documents/technical/
MLPA San Francisco Bay Study Region Mapping Tools and Databases	
Association of Bay Area Governments Map & Data Center	http://www.abag.ca.gov/abag/overview/datacenter/maps/
Bay Area Council – Housing & Land Use Committee	http://www.bayareacouncil.org/takeaction_com_housing.php
Historic Aerial Photos of Bay Area – UC Berkeley Collection	http://www.lib.berkeley.edu/EART/aerial2.html
San Francisco Bay Area Vision Project	http://www.bayareavision.org/aboutus/
San Francisco Bay Region Geologic Map	http://geomaps.wr.usgs.gov/sfgeo/
San Francisco Bay Region Geology Website	
San Francisco Bay Region Liquefaction Susceptibility Map	
San Francisco Bay Region Quaternary-Active Fault Map	
San Francisco Bay Area Satellite Imagery	http://www.sfbayquakes.org/
San Francisco Bay Subtidal Habitat Goals Map Tool	http://geo.stillwatersci.com/sfbay/GoalSegments.html
San Francisco Estuary Institute Data Center	http://www.sfei.org/data
TransForm California	http://transformca.org
Urban Land Institute – Bay Area Land Use Data	http://www.ulif.org/Content/10002/UrbanMap.html
USGS San Francisco Bay Area Regional Database (BARD)	http://bard.wr.usgs.gov/

C.2 Research Organizations and Monitoring Programs in the SFSR

Aquarium of the Bay

Research includes captive breeding programs, tagging common shark species found in the Bay to study distribution and population dynamics, and tagging Angel shark and doing DNA analysis. Research is conducted in partnership with Universities, other aquariums and organizations.

<http://www.aquariumofthebay.org/>

California Sea Grant

This statewide program sponsors research at private and public universities throughout the state to inform science-based management, conservation and enhancement of marine resources. The Extension and Communications components of the California Sea Grant program ensure the information and technology derived from the research are transferred to industry, government and the public.

<http://www-csgc.ucsd.edu/>

Council on Ocean Affairs, Science and Technology (COAST)

A California State University program established in 2008 to provide support for education, policy and research related to California's marine estuarine and coast regions. COAST goals include increasing public awareness and stewardship.
<http://www.calstate.edu/coast/about/>

The Marine Mammal Center

Research is focused on diseases carried by marine mammals, diagnostic tests and clinical procedures to improve care of marine mammals, and tagging studies to monitor rehabilitated marine mammals following their release.
<http://www.marinemammalcenter.org/>

National Oceanic and Atmospheric Administration (NOAA)

Through the National Marine Fisheries Service Habitat Conservation Division and Restoration Center, NOAA supports research, monitoring and restoration projects in the study region. They partner with other federal, state and local agencies on many projects including the recently complete San Francisco Bay Subtidal Habitat Goals Report.
<http://www.nmfs.noaa.gov/>

National Park Service Inventory and Monitoring Program

Long-term monitoring of several indicators of ecosystem health in the San Francisco Bay Area. Wetlands delineation, Western Snowy Plovers, and pinnipeds are examples.
<http://www.nature.nps.gov/protectingrestoring/IM/inventoryandmonitoring.htm>

Oikonos-Ecosystem Knowledge

The organization supports scientists to collect and assemble data, develop maps, and assess spatial and temporal distributions of marine mammals and seabirds off the California coast and within the San Francisco Bay estuary.
<http://www.Oikonos.org>

Pacific Estuarine Ecosystem Indicator Research Center

A collaborative effort at Bodega Marine Laboratory by 28 principal scientists, including ecotoxicologists, ecologists, biochemists, microbiologists, and remote sensing experts, at University of California Davis and University of California Santa Barbara with the goal of developing new indicators of estuarine wetland health in marsh plants and animals.
www.bml.ucdavis.edu

PRBO Conservation Science (PRBO)

PRBO has multiple projects occurring in the study region including: the San Francisco Bay Habitat Conversion Model to determine how birds will respond to restoration projects; the San Francisco Bay Salt Ponds Studies which monitors shorebirds using the salt ponds; San Francisco Bay Tidal Marsh project which focuses on marsh birds; and the Shorebird Migration Monitoring and the Pacific Flyway projects among others.
<http://www.prbo.org/>

Resource Assessment Program

A California Department of Fish and Game program to inventory, monitor, and assess the distribution and abundance of priority species, habitats, and natural communities in California, bringing together many efforts to collect, compile, and disseminate information. The California Department of Fish and Game Bay-Delta Region also has a Bay Study that assesses bay fish species.
<http://www.dfg.ca.gov/rap/>

Romberg Tiburon Center for Environmental Studies

The Center serves as the marine and estuarine research facility for San Francisco State University. Much of the research conducted through the Center focuses on understanding the natural forces at work in the San Francisco Bay and its surrounding wetland environments.
<http://rtc.sfsu.edu/>

San Francisco Bay National Estuarine Research Reserve

The reserve supports a variety of research projects on nutrient loading, seagrass restoration, habitat mapping and change, channel geomorphology, and the impacts of invasive species and participates in a NERR System-wide Monitoring Program.
<http://sfbayner.org/>

San Francisco Estuary Institute (SFEI)

Their mission is to help define environmental problems, advance public debate about them through sound science, and support consensus-based solutions that improve environmental planning, management, and policy development, by providing impartial scientific interpretations. Included in their programs are a regional monitoring program and wetland science program.

<http://www.sfei.org/>

South Bay Salt Pond Science Program

Through monitoring and applied studies, the program informs the adaptive management of the South Bay Salt Ponds Restoration Project.

<http://www.southbayrestoration.org/science/>

U.S. Army Corps of Engineers – San Francisco District

The Army Corps performs a number of surveys, including hydrographic surveys, in the San Francisco Bay. They participate in a number of studies, collecting baseline data and information for bay project regulatory processes. They maintain a website of the hydrographic surveys (http://www.spn.usace.army.mil/hydrosurvey_2/), and a library of their publications (<http://www.spn.usace.army.mil/publications/index.html#studies>).

<http://www.spn.usace.army.mil/>

U.S. Fish and Wildlife Service

Manages the National Wildlife Refuge System, three of which are located in the study region. Conducts biological monitoring projects throughout the refuge system, manages habitats and species and has developed conservation strategies for its refuges.

<http://www.fws.gov/refuges/>

U. S. Geological Survey (USGS)

USGS maintains a broad program of multi-disciplinary research studies, such as the South Bay Salt Pond Restoration Project, in the San Francisco Bay study region in cooperation with other federal, state and local agencies. They maintain the Bay Area Regional Database (BARD) of mapping data that can be accessed on their website (<http://bard.wr.usgs.gov/>), in addition to the Access USGS—San Francisco Bay & Delta website which houses publications, posters, maps and other information on the region (<http://sfbay.wr.usgs.gov/>).

C.3 Academic, Research and Education Institutions with a Focus on the SFSR

Institution	Contact Information	Website
Aquarium of the Bay	PIER 39 Embarcadero at Beach St San Francisco, CA 94133 888-732-3483	www.aquariumofthebay.org
The Bay Institute	500 Palm Drive Novato, CA 94949 415-506-0150	www.bay.org
Bay Nature Institute	1328 6 th Street, #2, Berkeley, CA 94710 510-528-8550	www.baynature.org
Bodega Marine Lab University of California, Davis	P.O. Box 247 Bodega Bay, CA 94923 707-875-2211	www.bml.ucdavis.edu

Institution	Contact Information	Website
California Academy of Science and The Steinhart Aquarium	55 Music Concourse Dr. Golden Gate Park San Francisco, CA 94118 415-379-8000	www.calacademy.org/aquarium
California Coastal Commission	Public Education Program 45 Fremont St, Ste 2000 San Francisco, CA 94105 415-904-5400	www.coastal.ca.gov/publiced/pendx.html
California Sea Grant, University of California, Cooperative Extension	1682 Novato Boulevard Suite 150-B Novato, CA 94947 415-499-4204	www.csgc.ucsd.edu
Communities for a Better Environment	1904 Franklin Street, Suite 600 Oakland, CA 94612 510-302-0430	http://www.cbecal.org/
Environmental Justice Coalition for Water	1201 Martin Luther King Jr. Way Oakland CA, 94612 510-286-8400	http://www.ejcw.org/
Lawrence Hall of Science University of California, Berkeley	Centennial Drive Berkeley, CA 94720 510-642-5132	www.lawrencehallofscience.org
The Marine Mammal Center	Marin Headlands 1065 Fort Cronkhite Sausalito, CA 94965-2609 415-289-7330	www.marinemammalcenter.org
The Marine Science Institute	500 Discovery Parkway Redwood City, CA 94063-4715 650-364-2760	www.sfbaymsi.org/
Oikonos Ecosystem Knowledge	PO Box 1932 Benicia, CA 94510 415-868-1399	www.oikonos.org
PRBO Conservation Science	3820 Cypress Drive #11 Petaluma, CA 94954 707-781-2555	www.prbo.org
Romberg Tiburon Center	San Francisco State University 3152 Paradise Drive Tiburon, CA 94920 15-338-6063	http://rtc.sfsu.edu
San Francisco Baykeeper	785 Market Street, Suite 850 San Francisco CA 94103 415-856-0444	http://baykeeper.org/

Institution	Contact Information	Website
San Francisco Bay National Estuarine Research Reserve	San Francisco State University 1600 Holloway Ave San Francisco, CA 94132 415-338-3707	http://sfbaynerr.org
Save the Bay	350 Frank H. Ogawa Plaza, Suite 900, Oakland, CA 94612-2016 510-452-9261	www.savesfbay.org
U.S. Army Corps of Engineers The Bay Model Visitor Center	2100 Bridgeway Sausalito, CA 94965 415-332-3871	http://www.spn.usace.army.mil/bmvc/
U.S. Geological Survey	345 Middlefield Rd Menlo Park, CA 94025 650-853-8300	www.usgs.gov

Appendix D Explanation of Key Roles, San Francisco Bay

Master Plan Science Advisory Team (science team)

- Composed of primarily regional scientists knowledgeable in marine ecology, fisheries science, MPAs, economics and social sciences
- Appointed by the director of the California Department of Fish and Game
- Evaluates existing MPAs
- Evaluates draft MPA proposals (based on master plan guidance), and addresses scientific issues and questions raised by task force and stakeholders
- Advises regional stakeholder group and task force in developing scientifically sound MPA proposals

San Francisco Bay Advisory Group (SFB advisory group)

- Composed of high-level administrators from Bay Area local, state and federal resource and regulatory agencies involved in wetlands and watershed management, regulation, planning or research
- Provides local knowledge to the science team and helps task force identify important information and challenges unique to the study region
- Provides input on how MPA planning could fit into existing bay processes to both science team and task force
- Managed by project staff and/or a local Bay Area organization (i.e., San Francisco Bay Joint Venture)

Policy-level Blue Ribbon Task Force (task force)

- Composed of distinguished and knowledgeable public leaders
- Oversees regional projects to develop alternative MPA proposals and makes recommendations for regional MPA proposals to the California Fish and Game Commission
- Resolves policy disputes and helps ensure MLPA goals and regional objectives are met
- Provides direction for expenditure of project funds
- Appointed by the secretary of the California Natural Resources Agency

Self-organized Community Groups

- Composed of individuals that provide local expertise and stakeholder legitimacy, including commercial and recreational fishing interests, industry, non-consumptive recreational users, conservationists, government agencies including tribes and tribal communities, and others
- Self-appointed groups that follow composition guidelines (i.e. cross-interest) as provided by project staff

- Develops MPA proposals and helps conduct outreach to constituent groups and members of the public

Regional Stakeholder Group (RSG)

- Composed of individuals that provide local expertise and stakeholder legitimacy, including commercial and recreational fishing interests, industry, non-consumptive recreational users, conservationists, government agencies including tribes and tribal communities, and others
- Nominated by peers or self-nominated, and appointed by chair of task force and director of the California Department of Fish and Game
- Develops MPA proposals and helps conduct outreach to constituent groups and members of the public

Bay Area Partners

- Composed of Bay Area local, state and federal resource and regulatory agencies, non-profits, and other organizations involved in wetlands and watershed management, regulation, planning or research
- Provide input on how MPA planning could fit into existing bay processes to both science team and task force
- As needed, provide services in place of specialized contractors including facilitation and logistics, planners, outreach and communications, technical research, GIS support, socioeconomic data gathering, document editing and preparation, etc.
- Participate in self-organized community groups and RSG where appropriate

California Department of Fish and Game

- Lead agency implementing master plan for MPAs
- Provides biological and management expertise and input to the process
- Provides staff support as part of project team
- Implements California Marine Life Protection Program

Contractors

- Provide unique services including facilitation and logistics, planners, outreach and communications, technical research, GIS support, socioeconomic data gathering, document editing and preparation, etc.

California Fish and Game Commission

- Decision-making body under MLPA
- Initiates California Environmental Quality Act (CEQA) review of proposed marine protected areas (MPAs) and enforcement of existing MPAs

Appendix E San Francisco Bay Stakeholders

Table E.1: List of local San Francisco Bay stakeholders contacted

Name	Organization	Spoke With	Contacted
Rob Lawrence	Army Corps of Engineers	Y	
Anna Weinstein	Audubon California	Y	
Ellen Johnck	Bay Planning Coalition	Y	
John Coleman	Bay Planning Coalition	Y	
Marc Holmes	The Bay Institute		Y
Brenda Goeden	BCDC	Y	
Linda Sheehan	California Coastkeeper	Y	
Kevin Fleming	California Department of Parks and Recreation	Y	
Jim Haussener	California Marine Affairs and Navigation Conference (CMANC)	Y	
Jodi Cassell	California Sea Grant Extension Program		Y
Mary Selkirk	Center for Collaborative Policy	Y	
Debbie Davis	Environmental Justice Coalition for Water		Y
Brain Ross	EPA	Y	
Lance Morgan	Marine Conservation Biology Institute		Y
Valentin Lopez	Muhwekma Ohlone Tribe	Y	
Larry Myers	Native American Heritage Commission	Y	
Korie Schaeffer	NOAA Fisheries	Y	
Natalie Cosentino-Manning	NOAA Fisheries Restoration Center	Y	
Zeke Grader	Pacific Coast Federation of Fishermen's Associations	Y	
Josh Collins	San Francisco Estuarine Institute (SFEI)	Y	
Alan Leventhal	Office of the Dean, San Jose State University	Y	
David Lewis	Save the Bay	Y	
Marilyn Latta	State Coastal Conservancy	Y	
Beth Christian	San Francisco Bay Regional Water Quality Control Board		Y
Naomi Feger	San Francisco Bay Regional Water Quality Control Board	Y	
Nicole Athearn	United States Fish & Wildlife Service		Y
Justin Semion	Wetland Research Associates	Y	

Appendix F Key Questions for Conversations with San Francisco Bay Study Region Stakeholders

Revised February 25, 2011

Purpose: To engage in a series of informal conversations with local experts associated with key groups and agencies in the San Francisco Bay to gather background information for the MLPA San Francisco Bay Options Report.

The following list of questions is intended to help develop particular sections of the report, as well as inform the thinking behind the various options. Project coordinators will use these questions to guide our conversations with local experts. We will aim to cover all of these questions with each respondent. We will maintain flexibility in the sequence of questions and extent of follow-up “probes” we pose, depending on the tone and flow of the conversation. We will also maintain flexibility in the phrasings of each of the questions. We expect that these questions will be refined over the course of the conversations.

Introduction

- The Marine Life Protection Act (MLPA), which was signed into law in 1999, directs the state to redesign California’s system of marine protected areas (MPAs) to increase its coherence and effectiveness in protecting the state’s marine life and habitats, marine ecosystems and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems.
- In 2004, the MLPA Initiative was established as a public-private partnership between the California Natural Resources Agency, the California Department of Fish and Game, and Resources Legacy Fund Foundation (RLFF) in an effort to help the State of California implement the MLPA by using a science-based, public process to develop recommendations for potential MPA designs.
- The *California Marine Life Protection Act Mast Plan for Marine Protected Areas* calls for redesigning the statewide system of MPAs in stages defined by five geographic study regions. However, the Memorandum of Understanding (MOU) between the state and RLFF does not specifically commit to a planning process for the MLPA San Francisco Bay Study Region; instead, it commits to assessing progress of meeting the objectives of the MOU and determining a mutually agreeable process.
- In an effort to help inform those discussions, the MLPA Initiative is developing an options report for considering the MLPA in the San Francisco Bay Study Region (*waters within San Francisco Bay, from Golden Gate Bridge northeast to Carquinez Bridge*).
- The report will be written over the next six weeks (deadline March 4) and submitted to the secretary for Natural Resources and director of Fish and Game, as well as the RLFF.
- The report will be shared with other policy makers and potential funders who may be considering the MLPA in the SFSR.

- We are conducting a series of informational conversations with local experts to gain input on key contacts, planning processes, data sets, and other activities that occur in the bay area. This information will help inform the development of a series of options.
- We anticipate that this interview will take approximately 45 minutes.
- All of the conversations are confidential; comments will not be attributed to specific individuals.
- Do you have any questions for us before we begin?

Background

- Can you tell me a little about the sector/interest group/agency that you represent and your involvement in bay-related activities?
- Including both your current position as well as past, how long have you been involved with bay-related activities?

Key Groups and Associated Projects and Planning Processes

- What are some of the key agencies that have jurisdiction in the bay that you are familiar with?
 - Publications or reports?
- What are some of the key groups conducting research in the bay?
 - Publications or reports?
- What are some of the key groups conducting outreach or providing educational opportunities regarding the bay?
- Outside of recreational, research or educational activities, what are some of the key activities and/or resources that take place in the bay?
- Who are the key agencies and groups you typically work with? Specific contacts?
 - Do any of these agencies or groups have relevant projects or planning processes going on now? Or in the recent past? (10 years)
 - Would it be appropriate for us to also reach out to those agencies or groups for our project?

Projects and Processes

- Need some sort of introduction here about what a suitable process would be... environmental decision making processes
- Aside from your key contacts, are there other agencies or groups involved with bay-related projects or planning processes?
 - Did any of these involve the public or stakeholder groups? Was their involvement informal or did they have an appointed or formal role?
 - Did any of these produce a plan or recommendation for how to manage the bay?

- Did any of these result in some kind of zoning or establishment of “protected” areas or closures?
- What are some of the key projects that take place or have taken place in the bay that are important for:
 - Socioeconomic reasons?
 - Ecological reasons?
 - Political or jurisdictional reasons?
- From your perspective, can you tell me about a key process that has taken place in the bay? The process may be current or occurred in the last ten years?
 - What do you see as the strengths of the process?
 - Did the process need improvement? If so, how?
 - What agencies or groups were involved in the process? Which was the lead?
 - How was the public, if at all, engaged with the process?

Options

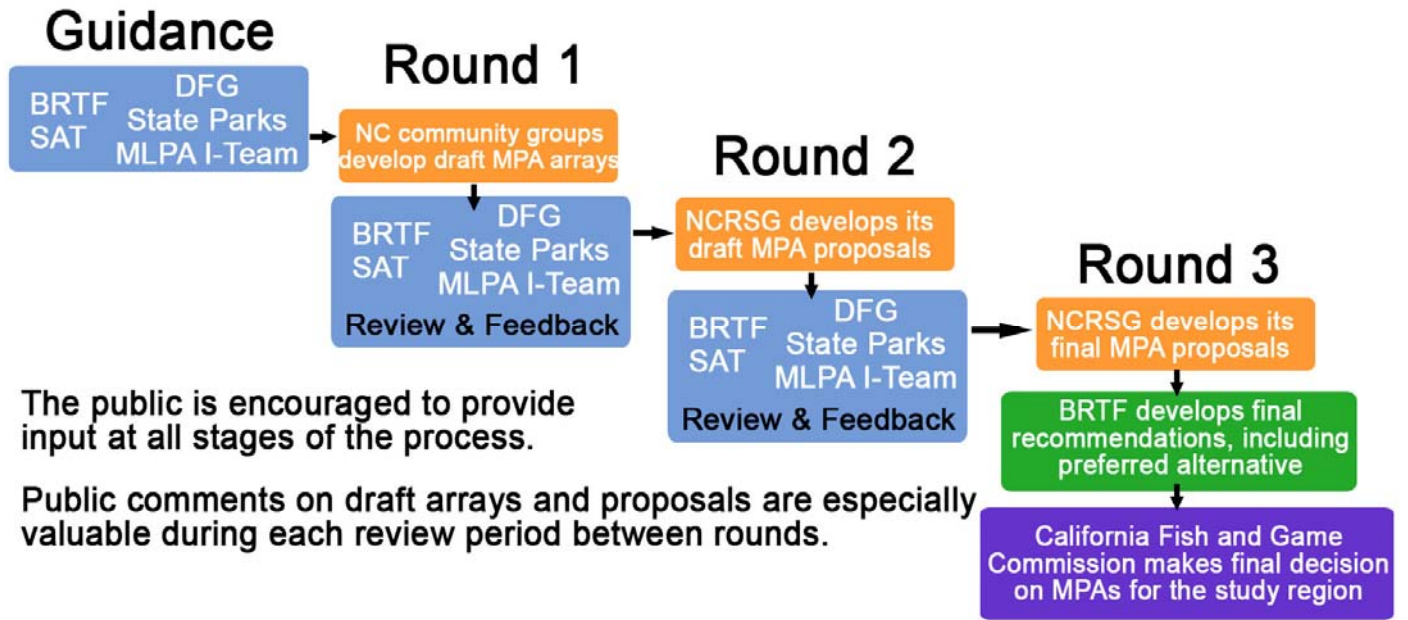
- If the State of California considers options for whether, if at all, to implement an MPA planning process in San Francisco Bay, what are the important issues or considerations that need to be addressed?
- What groups would be critical to engage? And how?
- What kind of information is necessary for considering options?

Wrap up

- Are there other key groups or contacts you would suggest we speak with? If so, are you comfortable sharing their contact information?
- Are there any key resources, data or available information that would be helpful for this project?
- Is there anything else you would like to add to what we’ve discussed today?

Appendix G MLPA Initiative Process Design for North Coast Study Region

Figure G.1: MLPA Initiative process design for north coast study region



Appendix H State Regulations Related to Existing MPAs in the MLPA San Francisco Bay Study Region

California Code of Regulations, Title 14, Section 632. Marine Protected Areas (MPAs), Marine Managed Areas (MMAs), and Special Closures. [2010]

The areas specified in this section have been declared by the commission to be marine protected areas, marine managed areas, or special closures. Public use of marine protected areas, marine managed areas, or special closures shall be compatible with the primary purposes of such areas. MPAs, MMAs, and special closures are subject to the following general rules and regulations in addition to existing Fish and Game Code statutes and regulations of the commission, except as otherwise provided for in subsection 632(b), areas and special regulations for use. Nothing in this section expressly or implicitly precludes, restricts or requires modification of current or future uses of the waters identified as marine protected areas, special closures, or the lands or waters adjacent to these designated areas by the Department of Defense, its allies or agents.

(a) General Rules and Regulations:

(1) Protection of Resources.

(A) State Marine Reserves: In a state marine reserve, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a scientific collecting permit issued pursuant to Section 650 or specific authorization from the commission for research, restoration, or monitoring purposes.

(B) State Marine Parks: In a state marine park, it is unlawful to injure, damage, take, or possess any living or nonliving marine resource for commercial purposes. Any human use that would compromise protection of the species of interest, natural community or habitat, or geological, cultural, or recreational features, may be restricted by the commission as specified in subsection 632(b), areas and special regulations for use. The commission may issue scientific collecting permits pursuant to Section 650 or specifically authorize research, monitoring, and educational activities and certain recreational harvest in a manner consistent with protecting resource values.

(C) State Marine Conservation Areas: In a state marine conservation area, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes except as specified in subsection 632(b), areas and special regulations for use. The commission may issue scientific collecting permits pursuant to Section 650 or specifically authorize research, education, and recreational activities, and certain commercial and recreational harvest of marine resources, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

(D) State Marine Recreational Management Areas: In a state marine recreational management area, it is unlawful to perform any activity that would compromise the recreational values for which the area may be designated. Recreational opportunities may be protected, enhanced, or

restricted, while preserving basic resource values of the area. No other use is restricted unless specified in subsection 632(b), areas and special regulations for use.

(2) Finfish. Finfish, for the purpose of this section, are defined as any species of bony fish or cartilaginous fish (sharks, skates and rays). Finfish do not include amphibians, invertebrates, plants or algae. The definition of finfish provided in Section 159 does not apply to this Section.

(3) Pelagic Finfish. Pelagic finfish, for the purpose of this section, are a subset of finfish defined as: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena spp.*), billfishes* (family *Istiophoridae*), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasii*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp.*), swordfish (*Xiphias gladius*), tunas (family Scombridae), and yellowtail (*Seriola lalandi*). *Marlin is not allowed for commercial take.

(4) Access. Access into marine protected areas or marine managed areas for non-consumptive uses including but not limited to swimming, surfing, diving, boating, hiking and walking is allowed unless otherwise specified in subsection 632(b), areas and special regulations for use.

(5) Introduction of Species. Unless authorized by the commission or as a result of authorized fishing activities, the release of any fish or wildlife species, including domestic or domesticated species, or the introduction of any plant species, is prohibited. The department may reintroduce endemic species to marine protected areas or marine managed areas for management purposes.

(6) Feeding of Fish and Wildlife. The feeding of fish and wildlife is prohibited except permitted scientific collection pursuant to Section 650 or as a result of authorized fishing within state marine conservation areas, state marine parks, and state marine recreational management areas.

(7) Anchoring. Vessels shall be allowed to anchor in any marine protected area or marine managed area with catch onboard unless otherwise specified in subsection 632(b), areas and special regulations for use. Fishing gear shall not be deployed in the water while anchored in a state marine reserve. Fishing gear, except legal fishing gear used to take species identified as allowed for take in subsection 632(b), shall not be deployed in the water while anchored in a state marine recreational management area, state marine park or state marine conservation area. Anchoring regulations shall be consistent with federal law and allowances made for anchoring required by emergency or severe weather.

(8) Transit or Drifting. Vessels shall be allowed to transit through marine protected areas and marine managed areas with catch onboard. Fishing gear shall not be deployed in the water while transiting through a state marine reserve. Fishing gear, except legal fishing gear used to take species identified as allowed for take in subsection 632(b), shall not be deployed in the water while transiting through a state marine recreational management area, state marine park or state marine conservation area.

(b) Areas and Special Regulations for Use. Pursuant to the commission's authority in Fish and Game Code Section 2860 to regulate commercial and recreational fishing and any other taking of marine species in MPAs, Fish and Game Code Sections 10500(f), 10500(g), 10502.5, 10502.6, 10502.7, 10502.8, 10655, 10655.5, 10656, 10657, 10657.5, 10658, 10660, 10661, 10664, 10666, 10667, 10711, 10801, 10900, 10901, 10902, 10903, 10904, 10905, 10906, 10907, 10908, 10909, 10910, 10911, 10912, 10913, and 10932 are made inoperative as they apply to Subsection 632(b). All geographic coordinates listed use the North American Datum 1983 (NAD83) reference datum:

(34) Fagan Marsh State Marine Park.

(A) This area consists of waters below the mean high tide line within the Fagan Marsh Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(35) Peytonia Slough State Marine Park.

(A) This area consists of waters below the mean high tide line within the Peytonia Slough Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(36) Corte Madera Marsh State Marine Park.

(A) This area consists of waters below the mean high tide line within the Corte Madera Marsh Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(D) Swimming, wading, and diving are prohibited within the park.

(37) Marin Islands State Marine Park.

(A) This area consists of waters below the mean high tide line within the Marin Islands Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.

(38) Albany Mudflats State Marine Park.

(A) This area consists of waters below the mean high tide line within the Albany Mudflats Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.

(39) Robert W. Crown State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and a distance of 150 feet seaward of mean lower low water, between the following points:

37° 45.97' N. lat. 122° 16.84' W. long.; and

37° 45.95' N. lat. 122° 16.52' W. long.

(B) Take of all living marine resources is prohibited except:

1. Finfish may be taken recreationally by hook and line only.
2. Finfish and kelp may be taken commercially.

(40) Redwood Shores State Marine Park.

(A) This area consists of waters below the mean high tide line within the Redwood Shores Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated in within the park.

(41) Bair Island State Marine Park.

(A) This area consists of waters below the mean high tide line within the Bair Island Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than kelp from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.

(D) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing

written permission from the department, shall enter this park during the period February 15 through May 20.

(E) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

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