

STAFF SUMMARY FOR NOVEMBER 4, 2015

7. MARINE LIFE MANAGEMENT ACT**Today's Item**Information Action

Receive DFW overview of plans and timeline to review and amend the current FGC-adopted master plan for fisheries pursuant to the Marine Life Management Act (MLMA).

Summary of Previous/Future Actions (N/A)**Background**

The MLMA, enacted in 1998, directs DFW and FGC to manage state fisheries sustainably through an ecosystem-based approach (§ 7050 et seq., Fish and Game Code). To help achieve its goals, the MLMA calls for developing a master plan that specifies the process and the resources needed to prepare, adopt and implement fishery management plans for fisheries managed by the state (Master Plan; § 7073, Fish and Game Code). The Master Plan is intended to help focus management effort on the highest priority species and to describe the specific tools and approaches to be applied in achieving the goals of the MLMA.

The current Master Plan was developed by DFW with input from stakeholders and adopted by FGC in 2001 (see <https://www.wildlife.ca.gov/Conservation/Marine/Master-Plan>). Since then, priorities have evolved and issues arisen that are not addressed in the Master Plan. New tools and approaches have become available that have the potential to significantly improve fisheries management. Given that the MLMA calls for the Master Plan to be periodically reviewed and amended, these new tools and approaches can be incorporated into an amended Master Plan with the potential to broaden the policy scope of the document and facilitate moving more fisheries under active management as envisioned in the MLMA. A Master Plan amendment is significant and substantial enough that DFW's Marine Region has elevated its priority to one of five objectives in its new strategic work plan (Exhibit 1).

Today, DFW will provide an overview of the background, scope, and proposed approach to amend the MLMA Master Plan, including current and proposed analyses to support the information-gathering stage (see exhibits 2-4).

Significant Public Comments (N/A)**Recommendation (N/A)****Exhibits**

1. [DFW Marine Region Strategic Work Plan - Summary](#), dated Oct 21, 2015
2. [MLMA Master Plan frequently asked questions](#), dated Oct 22, 2015
3. [DFW Draft Proposed Approach to Amend the Marine Life Management Act Master Plan](#), dated Oct 22, 2015
4. [DFW MLMA Master Plan proposed analyses](#), dated Oct 22, 2015

Committee Direction (N/A)

Department of Fish and Wildlife Marine Region Strategic Work Plan - Summary
Advancing Marine Resource Management in California
Updated - October 2015

Goal

Align statewide interests in marine resource management and fully utilize current technology, best available science, and best management practices to advance marine resource management in California.

Objectives

- Develop and implement electronic data collection and reporting structure relevant to management
- Amend Marine Life Management Act (MLMA) Master Plan to guide implementation of MLMA and increase scope of active management
- Determine appropriate structural organization and capacity to facilitate proactive management
- Identify and fill existing management gaps
- Evaluate and implement sustainable funding structure

Needs

- Joint work plan to achieve objectives
- Discipline exercised by all parties to focus short-term efforts on the Strategic Work Plan and critical resource management needs
- Leverage external support opportunities

Timeline

- Initial focus on electronic data collection and MLMA Master Plan amendment through mid - 2018

Metrics for success

- Implementation of electronic reporting of updated data streams
- Recognized achievement of management objectives mandated in the MLMA
- Sufficient and appropriate structural organization and capacity for effective management

Master Plan for Fisheries Amendment

Top Ten Frequently Asked Questions

1. What is the Master Plan for Fisheries?

The Marine Life Management Act (MLMA) is a California law, passed in 1999, that directs the Department of Fish and Wildlife (Department) and the Fish and Game Commission (Commission) to manage state fisheries sustainably through an ecosystem-based approach. To help achieve the MLMA's goals, the Act calls for the development of a strategic plan known as the Master Plan for Fisheries. The Master Plan is intended to help focus management effort on the highest priority species and to describe the specific tools and approaches to be applied in achieving the goals of the MLMA. The Master Plan is a document that is developed by the Department with input from stakeholders and adopted by the Commission.

2. Why is the Master Plan for Fisheries being amended now?

The current Master Plan was adopted fifteen years ago. Since then, priorities have evolved and issues arisen that are not addressed in the existing Master Plan. New tools and approaches have become available that can significantly improve fisheries management that can be incorporated into an amended Master Plan.

3. Who is leading the amendment effort?

The Department of Fish and Wildlife Marine Region will be directing the effort. The Department may oversee contractors assigned to specific tasks such as meeting facilitation, editing, conducting analyses, process management, and logistics.

4. What are the benefits of amending the Master Plan?

When the Master Plan was originally adopted, it included a list of species that were priorities for Fishery Management Plan (FMP) development. However, in the last 14 years, those priorities have changed considerably. An amendment will help the Department and stakeholders develop shared expectations of what successful implementation of the MLMA looks like. It will also serve to focus attention on fisheries that would most benefit from additional focus to achieve or maintain sustainability. In addition, a range of new fisheries management tools and approaches have been developed over the last decade that can better assess the status of stocks and ensure that management measures are tuned to the needs of fish populations and the fishing communities that depend on them. Successful implementation of these tools through an amended Master Plan can reduce risk and potentially result in greater fishing opportunity, improved access to the growing number of sustainability conscious markets, increased revenue, and greater adaptability to changing climate and oceanic conditions.

5. What is the timeframe for updating the Master Plan?

2015 - The Department and the Commission will define the Master Plan development process, identify information and resources needed, work to secure funding, and compile background information.

2016 - The Department will conduct or oversee supporting analyses, and engage in initial outreach to stakeholders.

2017 - Issue-based workshops will be held. The Master Plan is drafted, revised in response to tribal, peer review and stakeholder comments.

2018 - The Master Plan is anticipated to be adopted in early 2018.

6. How will stakeholders be affected?

The Master Plan revision will not change fishing regulations directly. Rather, it will establish priorities, policies, and approaches that will guide management in the future, making management more consistent and predictable. These policies include identifying fisheries that will most benefit from FMPs, identifying tools for assessing fish stocks and managing harvest, understanding when and how to consider socioeconomic impacts, how to integrate the new MPA network into management, and how best to engage stakeholders and build partnerships.

7. What opportunities are there for public input?

The MLMA places significant emphasis on the role that stakeholders and outside experts should play in Master Plan development. Accordingly, the Department anticipates a range of opportunities for public engagement during 2016 and 2017, including town hall meetings, issue-based workshops, web surveys, meetings of the Commission and its Marine Resources Committee, and designated document review periods.

8. How are outside groups and funding involved?

Partnerships are highlighted by the MLMA as an important means of leveraging outside resources to expand the Department's capacity and improve management. For example, the Department may choose to engage in partnerships with outside groups such as fishing associations or environmental groups to develop background materials, or use funds from the Ocean Protection Council or the philanthropic community to help pay for facilitation or supporting analyses. The Department and the Commission are committed to maintaining the integrity and transparency of the process and all partnerships will be structured to achieve that goal.

9. Does the review have any relationship to the MLPA Initiative?

No. This is a separate effort under a different law. The Marine Life Protection Act (MLPA) Initiative was focused on creating an improved network of areas where fishing is prohibited or restricted for the purpose of ecosystem protection. By contrast, the MLMA and its implementation plan, the Master Plan for Fisheries, are focused on the compatible goals of improving fisheries management and on how to achieve sustainable and economically viable fisheries in the State. Nevertheless, the Master Plan review will be an opportunity to help identify how the new MPA network should be considered when managing fisheries.

10. How does this affect other Department priorities?

Several major strategic initiatives are moving forward at the same time as the Master Plan review, including the development of FMPs for the recreational red abalone and commercial herring fisheries, the transition to electronic reporting, addressing whale entanglement, and ongoing management of state and federally managed fisheries, among others. The Master Plan amendment is a major undertaking that will shape how the Department manages fisheries over the next five to ten years. As a result, some other activities will likely be deferred until it is completed. An amended Master Plan for Fisheries will make state management of fisheries more efficient, transparent, and predictable.

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Proposed Approach to Amend the Marine Life Management Act Master Plan

Vision:

In 1998, California adopted one of the nation's most progressive marine management laws, the Marine Life Management Act (MLMA). In 2012, the state completed a science-based statewide network of marine protected areas (MPAs) under the Marine Life Protection Act (MLPA). Effective implementation of these two laws can distinguish California as one of the best managed marine environments in the world.

In the 15 years since its adoption, the MLMA has been an effective guide for certain fisheries. However, the law has not been fully implemented due to competing demands and insufficient funding. At the same time, the past 15 years have yielded valuable lessons regarding implementation and significant advancements have been made in the field of fisheries management and science, offering more efficient ways to implement the MLMA. The MLMA itself remains an effective framework. However, the current Master Plan for Fisheries, which the MLMA requires as a guide to implementation, does not reflect recent innovations in fisheries management and science. By revising the Master Plan to incorporate these innovations and best practices, implementation of the MLMA can be revitalized to achieve its vision of thriving fisheries, healthy ecosystems, and transparent and strategic management.

Goals:

Revise the Master Plan for Fisheries so that it enhances sustainability of the state's ocean fisheries, increases management effectiveness and efficiency, sets clear expectations, and fosters transparency and flexibility.

Objectives:

These goals will be pursued through the following objectives:

1. Establish priorities for management efforts (what should be done?) (Fish & Game Code 7073(b) (2))

The MLMA requires the Master Plan to prioritize fisheries for management. The existing Master Plan's priority fisheries list should be revised to reflect new approaches and information. Updating the list would address the California Department of Fish and Wildlife's (DFW) and the Fish and Game Commission's (FGC) strong desire to develop a broadly accepted set of priorities to guide strategic investment of time and resources. Updating the priority list would also serve the interests of fishermen, scientists, conservation and other organizations, and the interested philanthropic community.

2. Develop strategies for implementing MLMA-based active management (what form should those efforts take?) (Fish & Game Code 7072, 7074, 7080)

The current Master Plan's guidance on the contents of Fishery Management Plans (FMPs), as well as information requirements and processes for developing them, presents a single, data-intensive model for management under the MLMA. This model reflects the state of practice in the late 1990s and should be updated to incorporate newer, less onerous, and less data-

intensive approaches. Reinterpreting the MLMA provisions for active management under a revised Master Plan should demonstrate opportunities to more efficiently implement the MLMA by scaling the planning approach for each fishery to the available data and the size of the fishery.

3. Develop strategies for enhanced management: (what new tools/approaches can be used?) (Fish & Game Code 7073(b) (3))

Stock Assessments — Active management of fisheries under MLMA has been constrained by an expectation that sound management should strive to reduce uncertainty through the application of integrated stock assessments, where all available information is simultaneously analyzed with models that find the best fit, including biological reference points related to sustainability. It is now possible to develop less costly assessments of such fisheries that are of sufficient quality to inform management and guide data collection, or to form the basis of harvest control rules. Additional capacity could be accessed by taking advantage of California's rich set of research institutions, universities, agencies, funding sources, and broad interest in advancing fisheries science and management. The Master Plan could help encourage these partnerships and endorse creative approaches to generating and funding stock assessments.

Harvest Control Rules — A core element of effective fisheries management is a harvest control rule that can adjust fishing mortality to reflect the changing status of a given population. Most California fisheries operate without such formal rules. National and international innovations have produced tools for structuring harvest control rules in a more straightforward fashion than was previously done. However, in order for such elements to become common features of harvest control rules, appropriate guidance needs to be incorporated into the Master Plan.

Ecosystem Considerations — A distinctive feature of the MLMA is the explicit inclusion of ecosystems in the definition of sustainability. However, it has proven difficult to explicitly incorporate ecosystem considerations into management of state fisheries, partly because the existing Master Plan provides only very broad guidance in this challenging area. In the last decade, significant advances have been made in considering the ecosystem impacts of fisheries in important, if still incomplete ways. Adaptation and application of these approaches would provide a systematic practical way to meet the standards of MLMA regarding ecosystem conservation.

Using MPAs to help advance MLMA goals — The recent completion of the statewide marine protected area (MPA) network creates an opportunity to better understand, integrate, and account for MPAs in achieving the fisheries and ecosystem protection goals of the MLMA. Specifically, MPAs can influence harvest control rule approaches since a known percentage of biomass may be protected inside MPAs. They may also influence effort capacity targets, provide opportunities for collecting essential fishery information or estimating stock status, and can impact decisions regarding appropriate levels of risk. MPAs can also create unique management opportunities, protect habitat, and can have bearing on the economic considerations that go into fisheries management. These issues intersect with many areas of MLMA concern, and clearly articulating in the Master Plan what MPA integration can mean would be a valuable step.

Bycatch — MLMA explicitly requires that fisheries bycatch be evaluated and reduced as appropriate. However, a lack of policy guidance and relevant information regarding bycatch in specific fisheries has created a degree of uncertainty with respect to the preparation of new FMPs. As with other aspects of managing data-poor fisheries, it may be possible to develop a protocol that can guide a systematic effort to develop and evaluate information on bycatch in a fishery while setting management measures that properly reflect risk and uncertainty.

Improving data collection and use —The transition to an electronic-based data collection program will help establish a foundation of information upon which a wide range of management strategies and responses can be based. Improving the timeliness of data availability and ensuring that what is collected is used to guide and enhance management is a critical strategy.

Economic Considerations — Economic analysis has the potential to provide valuable information for assessing the viability of management options. However, determining the economic status and trends in a fishery, and the potential impacts of management measures, remains a great challenge for a variety of reasons, including a lack of critical data (e.g., the costs of fishing), limited DFW staff capacity, and diverse analytical approaches, as well as limited understanding on the part of decision makers and stakeholders of the methods and limitations of economic analysis. Articulating the methods and roles of economic analysis in management decisions so that stakeholders and decision makers share a common understanding could provide a stronger basis for evaluating options, incentives and disincentives, and other economic factors than now exists.

Community Considerations — MLMA calls for consideration of community impacts of fishery management measures, and such impacts can be a focus of great stakeholder interest. However, DFW and FGC lack a settled approach to considering community impacts. Nonetheless, a range of tools are available for evaluating the community impacts of management decisions. Describing options for conducting community impact analysis of fishery management measures can help ensure that these impacts are considered in a consistent fashion reflecting best practices and that expectations are realistic.

4. Identify strategies for enhanced stakeholder engagement in fisheries management (who should be engaged and how?) (Fish & Game Code 7073(b) (4))

Stakeholder Involvement — The MLMA establishes a prominent role for stakeholder participation in the development of FMPs and other management measures. While the existing Master Plan includes guidance on stakeholder involvement, agency staff, decision makers, and stakeholders express dissatisfaction with current approaches. The increasing use of social media and other innovations, including by Federal fishery management councils, provide the opportunity to create a toolbox of methods for involving stakeholders in more efficient, flexible, and informative ways. Guidance on the circumstances under which different tools work best would enable planning for regulatory and other processes large and small.

Collaborative Management — The MLMA explicitly encourages DFW and FGC to manage fisheries in collaboration with fishermen and other stakeholders. However, neither the Act nor the Master Plan provide guidance that operationalizes this direction. This lack of a framework has frustrated some efforts to develop collaborative management arrangements even when partner organizations express an interest in doing so. Extensive experience with collaborative management, primarily outside California, can be drawn upon to create a framework that DFW, FGC, and stakeholders can use for identifying, evaluating, and structuring collaborative

management activities in a way that increases capacity for effective fisheries management, respects the prerogatives of DFW and FGC, complies with state law, and inspires fishermen and other stakeholders to assume greater accountability for effective management.

5. Identify strategies for making the Master Plan an adaptive and living document, improving efficiencies, and engaging the scientific community (how to ensure usability and adaptability over time?) (Fish & Game Code 7073(b) (4))

Updates to the Master Plan are process-intensive and the next revision should address the need to make the Master Plan more relevant to the regular work of DFW and the FGC. For example, the Master Plan could set out a suite of higher level goals, or it could describe the development of objectives aimed at achieving those goals. DFW's development of these annual objectives could be comparatively agile and process-free, and would help ensure the Master Plan's relevance over time, both to the Department and to stakeholders looking to collaborate with DFW efforts. A web-based portal may help serve to engage the scientific and stakeholder community and be a means for keeping the plan and implementing products relevant and useful over time.

6. Identification of resource needs (what's needed to accomplish?) (Fish & Game Code 7073(b)(3))

It is essential that the plan realistically identify the resources needed for its implementation, otherwise the new tools and approaches described will be unable to be brought to bear.

Proposed Approach and Timeline:

The amendment to the Master Plan is proposed to be separated into two distinct phases. The first phase will be focused on information gathering and is expected to take place through the end of 2016. The projects and analyses that will be undertaken as part of the information gathering stage are described in the document entitled "Ongoing and Proposed Analyses Supporting the Development and Implementation of an Amended Master Plan for Fisheries."

The second phase will be focused on the amendment to the Master Plan for Fisheries. This phase will include tribal consultations, scoping sessions, informational and content specific workshops, public input and peer review. It is anticipated this phase will be initiated in late 2016 and conclude in early 2018 with the possible adoption of the amended Master Plan by the Fish and Game Commission.

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Ongoing and Proposed Analyses Supporting the Development and Implementation of an Amended Master Plan for Fisheries

MLMA CONSISTENCY ASSESSMENT

MLMA-based Assessment Framework (Center for Ocean Solutions)

A Marine Life Management Act (MLMA)-based assessment framework is under development that is expected to evaluate the degree to which the management of an individual fishery is consistent with the directives of the MLMA. The effort draws from a number of sustainability assessment frameworks from around the world and distills, refines, and translates the most appropriate performance metrics into a non-technical approach for CDFW to use in tracking and enhancing performance under the MLMA. The expected end product will be a web-based tool to help assess consistency with the Act, identify gaps, and inform management priorities

STOCK ASSESSMENT, RISK MANAGEMENT and SUSTAINABILITY

California Fisheries Tool-kit (Natural Resources Defense Council/University of British Columbia)

This tool-kit now under development can help provide stock assessments, research protocols, and potential management strategies for individual fisheries. Led by the Natural Resources Defense Council (NRDC)/University of British Columbia and California Department of Fish and Wildlife (CDFW), this project will develop a structured framework for improving stock assessment and harvest control rules for California state fisheries. At the heart of the project is the design and implementation of a customized California Fisheries Toolkit that will include the life histories of state-managed species, the characteristics of the state's fishing fleets, and assessment outputs and harvest control rules that are compatible with the requirements of the MLMA. Once developed, it is anticipated that the Toolkit will enable CDFW to identify and apply optimal stock assessment methods and harvest control rules and to design data collection plans for fisheries under state management.

ECOSYSTEM CONSIDERATIONS

Readying California's Fisheries for Climate Change (California Ocean Science Trust)

The purpose of this project is to develop recommendations and considerations to inform a chapter in the Master Plan that will provide a framework and approach to guide sustainable fisheries management in the face of a changing climate. CDFW has sought the scientific and integration support of the Ocean Protection Council-Science Advisory Team (OPC-SAT) to co-produce recommendations for a chapter of the amended Master Plan. Facilitated by the OST, the OPC-SAT (including relevant external experts) proposes to work collaboratively with DFW

and FGC staff to develop an approach by which climate change can be considered in sustainable management of California fisheries. The approach will bring the best scientific thinking to bear on this topic and develop a set of recommendations of science guidance that can inform fisheries policy. The intended outcome of this work is a scientifically robust peer reviewed framework and approach to guide sustainable fisheries management in the face of a changing climate that can be integrated into the amended Master Plan.

FISHERY PRIORITIZATION

Risk Assessment and Ecosystem Considerations (Ocean Science Trust)

The project will consist of three components: 1) a Productivity and Susceptibility Analysis (PSA) to 30 of California's primary commercial and recreational species, 2) the development of a decision making framework that comprehensively evaluates the ecological, social, and economic threats associated with each fishery and prioritizes the management actions that will provide the most value to the state, and 3) testing that framework on a suite of five fisheries to understand its applicability statewide. The outcome will be a risk-based prioritization framework that is specific to California's management objectives as outlined in the MLMA. This framework is anticipated to assist the state in the prioritization of fisheries for Fishery Management Plan (FMP) development. It will also provide guidance on how the state should invest in future data collection and monitoring activities, and provide a critical link between the management of individual fishing activities and the comprehensive planning needed to meet ecosystem-based fishery management mandates.

BROADER APPLICATION of the MLMA

Status of Fisheries Dashboard (TBD)

Application of the MLMA has historically been focused on a relatively few fisheries for which FMPs have been developed. However, a new approach to another requirement under the MLMA, status of fisheries reports, could help broaden its application to other species. Development and regular updates of web-based status reports could form a "California Fishery Dashboard" that provides a comprehensive picture of fisheries management in California, increases transparency, and focuses management and research. A consistent structure to the reports that's focused on the goals of the MLMA would help identify where management is consistent with the Act and where gaps remain. The status report would also serve to focus FMP development efforts in a cost-effective way on the specific gaps and issues needing attention.

Scaled Fishery Management Plans (TBD)

If a FMP is needed, its scale should reflect the size of the fishery and complexity of the issues it presents. For example, fisheries with both commercial and recreational sectors, multiple gear types, broad geographic distribution, significant resource concerns, and allocation issues, may require more intensive public processes, more complex documents, and more funding to

develop. Comparatively simpler fisheries may need considerably less process and resources. The development of a framework to help scale FMP development efforts will further help ensure that any fisheries that move from a status report to a FMP, do so in a cost-effective and tailored way.

ESSENTIAL FISHERY INFORMATION and DATA NEEDS

Data Review (MRAG Americas)

CDFW is undertaking a review of its marine fisheries information collection and management programs. The review will comprise five analytical components:

- Describe existing CDFW programs for gathering and managing state marine fisheries-dependent management information,
- Inventory the CDFW marine fisheries-independent information assets,
- Identify current and anticipated fisheries management information needs,
- Describe current constraints and potential solutions for improving information gathering programs, and
- Identify potential strategies, partners, and estimated costs for improvement projects.

This work is expected to result in explicit recommendations for data collection improvement over the short, medium, and long term, along with estimates of associated costs. The resulting work should identify data collection needs to meet legal requirements, policy considerations, and goals. It should also develop recommendations to address data needs that leverage aspects of the existing monitoring programs, and consider trade-offs between costs and coverage levels, timeframes for implementation, and possible providers of potential solutions.

SOCIOECONOMICS and FISHING COMMUNITIES

Socioeconomic Profile (TBD)

A California socio-economic profile will be undertaken to provide information on the economics of each primary fishery, port, and region to help understand the history and dynamics of a fishery and how management may affect community and socioeconomic goals. In addition to providing a current view, the profile will also identify strategies and recommendations for tracking key metrics over time.

Understanding the potential economic and community impacts of regulation as well as trends in effort and landings can help prioritize and guide management so that it minimizes unintended socioeconomic impacts. The proposed project will analyze patterns of participation by fishermen in state-managed fisheries, using appropriately masked agency data on permit holders, landings, ex-vessel revenues, and other dimensions. The resulting analyses may inform reports on the status of state-managed fisheries, required under the MLMA, as well as a possible review of the Fish and Game Commission's restricted access policy.

COLLABORATIVE MANAGEMENT and STAKEHOLDER ENGAGEMENT

Partnerships (The Nature Conservancy)

The Nature Conservancy is developing a draft Partnerships Report that outlines a role for fishery stakeholders to assist CDFW in achieving progressive and adaptive fishery management strategies. The document will seek to provide a general definition of fishery partnerships, what makes them successful, and how different models of fishery partnerships could apply to California fisheries management. It will also describe the policy setting and the opportunities for partnerships identified within the MLMA.

The document will be organized around the primary tasks related to fisheries management including: prioritization of management efforts, fishery specific planning, research and monitoring, assessment, decision rules, and compliance and enforcement. For each management task, the report will provide an overview, a description of the current status and limitations, potential opportunities for partnership-based solutions and an evaluation of the organizational capacity and durability that partner organizations must possess in order to effectively partner with CDFW. The report will also provide case study examples and lessons learned from existing partnerships in California. TNC will be working with CDFW to help ensure the report reflects the goals, interests, and limitations of the Department and will be a useful source of information for the Master Plan review.

Stakeholder Engagement Toolkit (Center for Ocean Solutions; Kearns & West)

This project will provide guidance for fisheries managers on how to efficiently and effectively engage with stakeholders. The Center for Ocean Solutions (COS) and Kearns & West are developing a stakeholder engagement toolbox that will help match management goals to specific outreach and engagement strategies that ensure targeted and meaningful stakeholder involvement in the decision making process. Stakeholders and experts will have an opportunity to shape the how the considerations and recommendations identified are incorporated into the Master Plan itself.