



# Marine Life Management Act Master Plan Amendment Process Overview: Information Gathering Projects

October 2016

The California Department of Fish and Wildlife (CDFW) is preparing to amend the Marine Life Management Act (MLMA) Master Plan. To help inform this process, CDFW is overseeing a number of Information Gathering Projects to consider new tools for updating California's state-managed fisheries management framework. These projects are being conducted in cooperation with a number of investigators and researchers from outside CDFW. With input from stakeholders, CDFW will review and consider the tools and products from each project before formal consideration for inclusion in the amended Master Plan.

A brief summary of each project is listed below, along with links to available resources. A summary of project descriptions was previously shared with the Marine Resources Committee in November 2015 ([http://www.fgc.ca.gov/meetings/2015/Nov/Exhibits/TS7\\_MarineLifeManagementAct.pdf](http://www.fgc.ca.gov/meetings/2015/Nov/Exhibits/TS7_MarineLifeManagementAct.pdf)). The list below has been updated and streamlined from that summary document. For more information about the MLMA Master Plan Amendment Process, visit <https://www.wildlife.ca.gov/Conservation/Marine/MLMA/Master-Plan> or contact [MLMA@wildlife.ca.gov](mailto:MLMA@wildlife.ca.gov).

## ***Approach to MLMA-based Management***

*CDFW Lead: Paul Reilly*

*Contractor: Fathom Consulting*

A proposed framework will be developed based on the objectives of the MLMA, which may serve to help focus CDFW's management efforts on fisheries with the greatest management need. This framework will organize the results from the Information Gathering Projects' products and recommendations into a comprehensive management system that is designed to fully implement the principles of the MLMA. Development of the framework will also consider lessons learned from existing Fisheries Management Plans (FMPs) and the 2010 document, *Lessons Learned from California's Marine Life Management Act* (<http://www.fgc.ca.gov/public/reports/FinalMLMALessonsLearnedReport051810.pdf>).

## ***Productivity and Susceptibility Analysis (PSA) & Ecological Risk Assessment (ERA)***

*CDFW Lead: Paul Reilly*

*Contractor: California Ocean Science Trust*

Existing scientific tools are being explored as a systematic way to determine the biological risk posed to fishery resources due to key factors. Key factors considered in the analyses include the effects of fishing on target and non-target species and habitat and other ecosystem characteristics. Results from this type of analysis may help prioritize fisheries for FMP development, for prioritizing management actions in individual fisheries, and inform plans for future data collection and monitoring activities. Based on the results of a productivity and susceptibility analysis (PSA) of 45 commercial and recreational fisheries, several frameworks will be tested on five fisheries (to-be-determined) to evaluate which tool(s) show the greatest potential in evaluating and addressing the ecological aspects of each fishery.

## ***MLMA-based Assessment Framework***

*CDFW Lead: Tom Mason*

*Contractor: Center for Ocean Solutions*

A tool is being developed and tested to help assess the management of individual fisheries against the provisions of the MLMA. The results from analyzing California's fisheries are intended to inform the setting of priorities among fisheries for management attention, and can aid in identifying priority research and management actions in individual fisheries.

### **Socioeconomic Value and Opportunity**

*CDFW Leads: Debbie Aseltine-Neilson & Ryan Bartling*

*Contractor: California Sea Grant*

This project will identify needs and opportunities for analyzing and assembling socioeconomic and human dimension information to guide fishery management efforts consistent with the MLMA. This information can help inform management decisions to reduce community and socioeconomic impacts and prioritize data collection efforts.

### **California Fisheries Data Limited Tool-kit**

*CDFW Leads: Pete Kalvass & Chuck Valle*

*Contacting: Natural Resources Defense Council, University of British Columbia*

A new software tool is being customized and tested for California fisheries using Management Strategy Evaluation (MSE) to simultaneously compare the performance of a number of stock-assessment approaches for data-limited fisheries. An MSE is a simulation of a real world fishery that tests alternative management strategies against a set of performance criteria under realistic conditions of variability and uncertainty. Using four test fisheries, the software will test and identify appropriate options for stock assessment and management approaches for these fisheries, and prioritize data collection efforts. Additional information can be found at <http://www.datalimitedtoolkit.org/>.

### **Streamlined Fishery Management**

*CDFW Lead: Ian Taniguchi*

*Contractor: Fathom Consulting*

This project seeks to provide guidance on how to scale the individual management efforts for each fishery based on the size and complexity of that fishery. The goal is to develop options for a cost-effective, flexible, and streamlined approach to meeting the goals of the MLMA through an MLMA-based management continuum that ranges from enhanced status reports to FMPs.

### **Status of the Fisheries Reports and Web-based Dashboard**

*CDFW Lead: Tom Mason*

*Contractor: Fathom Consulting*

A regularly updated, user-friendly, web-based "California Fishery Dashboard" is being considered as part of the Master Plan Amendment to serve as a library for fisheries information in California. Status of the Fisheries Reports will be transformed from a static paper or digital document to a dynamic website structure. The dashboard would be available to the public, fisheries managers, scientists, and others to learn about the state of knowledge about a fishery, management issues and current research needs.

### **Climate Change and Fisheries**

*CDFW Lead: Debbie Aseltine-Neilson*

*Contractor: California Ocean Science Trust*

This project, which will draw upon the expertise of the Ocean Protection Council's Science Advisory Team, will consider the issue of climate change in the sustainable management of California fisheries, provide an evaluation of the effects of changing climate and ocean chemistry on fisheries (including social, ecological and governance dimensions), and explore ways of building resilience to buffer against potential effects. Opportunities for new or expanded fisheries resulting from climate change may also be explored.

**Bycatch**

*CDFW/FGC Lead: Elizabeth Pope*

*Contractor: N/A*

A working group composed of state agencies, fishermen and non-governmental organizations has been convened by the Fish and Game Commission (Commission) to review bycatch and associated issues in California's fisheries. It is anticipated that the working group will help inform the amendments to the Master Plan through their review of bycatch language and definitions and/or action items within the scope of Commission authority.

**Data Review**

*CDFW Lead: Kirsten Ramey*

*Contractors: MRAG Americas and Kate Wing Consulting*

In the first two phases of this project, CDFW's current data collection activities were inventoried and their use and relevance to management evaluated. The third phase will produce recommendations for adapting CDFW's fishery dependent data collection activities to more closely meet management needs. This last phase will also produce recommendations for improving fishery data collection efforts that leverage existing monitoring programs while also considering trade-offs between costs, coverage, timeframes for implementation, and potential strategies and partners.

**Fisheries Partnerships**

*CDFW Leads: Elizabeth Pope & Ian Taniguchi*

*Contractor: The Nature Conservancy*

A report will outline the opportunities, benefits, and limitations that partnerships between CDFW and fishery stakeholders can play in securing effective and efficient fisheries management. The project will also explore necessary elements of effective partnerships and the requirements for collaboration on different types of fisheries management activities.

**Stakeholder Engagement Toolkit**

*CDFW Leads: Toby Carpenter & Elizabeth Pope*

*Contractors: Center for Ocean Solutions, Kearns & West*

This project will survey best practices regarding engagement of stakeholders in fisheries management in California and beyond. The goal is to develop tools to help managers foster targeted and meaningful stakeholder involvement in fisheries management by assembling information on a range of stakeholder engagement methods, including costs, necessary expertise, benefits, and challenges.

**Peer Review**

*CDFW Lead: Pete Kalvass*

*Contractors: Ocean Science Trust*

Utilizing lessons learned from previous peer reviews under the MLMA (e.g., FMP processes) as well as from best practices of other agencies and scientific organizations, this project will develop recommendations to help inform CDFW's approach to peer review for FMPs. The upcoming red abalone and herring FMPs may be utilized as pilot cases.