

Marine Life Management Act Master Plan: Implementation Work Plan

January 29, 2021

Background

The Marine Life Management Act Master Plan (2018 Master Plan) was adopted by the Fish and Game Commission (FGC) in June 2018. The 2018 Master Plan, which updates the original 2001 Master Plan, provides guidance and a toolbox for implementing the Marine Life Management Act (MLMA) goals and objectives. To help ensure that the 2018 Master Plan is implemented effectively, it specifies the development of an Implementation Work Plan (Work Plan).

Structure and Content

To aid in the successful implementation of the 2018 Master Plan, the Work Plan incorporates the following two characteristics:

1. The Work Plan must clearly capture the range of activities that are required to implement MLMA-based management over the next several years. These include fishery prioritization and scaling components from the 2018 Master Plan as well as routine ongoing activities and new statutory mandates.
2. The Work Plan must be adaptable to reflect change as specific tasks reach completion and others are initiated. In many cases, the results from completed tasks will inform the development of new tasks.

The Work Plan incorporates these two characteristics through nine key elements. The tasks listed under these elements within the Work Plan table below reflect current or soon-to-be implemented work. Some completed tasks are listed to provide context for current work; other completed tasks are listed in Appendix A. Planned next steps are provided in Appendix B.

Stakeholder engagement and peer review, as described in the 2018 Master Plan, are crucial to the successful implementation of the MLMA across most of the elements listed below. A variety of partners assist the Department with the implementation of these tasks including: members of the fishing industry; commercial and recreational fishing associations; academics; federal, state and local agencies; Tribes; and non-governmental organizations.

Plan Updates

This is an update to the Work Plan provided to the FGC at their June 2019 and February 2020 meetings. Verbal updates of the MLMA Master Plan implementation will be provided to the FGC's Marine Resources Committee (MRC) and, as needed or requested, to the FGC Tribal Committee and FGC at their scheduled 2021 meetings.

Work Plan

Time Frame: Completed, Annual, Ongoing, EC (Estimated Completion, Month and Year), In Progress (no estimated completion date), TBD (To Be Determined), or as specifically described.

I. MLMA Framework - Prioritization

Topic	Tasks	Time Frame
Fisheries Set #2: Remaining key invertebrate fisheries	Conduct Bycatch ERA and Habitat ERA; conduct Target ERA and combine with PSA; combine Bycatch, Habitat, and PSA + Target results	Completed Oct 2020
Fisheries Set #2	Present prioritized list to FGC (see Appendix D)	Completed – FGC Nov 2020

II. MLMA Framework – Scaling*

Topic	Tasks	Time Frame
Prioritized Fisheries (Set #2)	Conduct evaluation (degree of management change needed; fishery complexity) to determine appropriate management scale; as possible, include socioeconomic and climate considerations	Completed Nov 2020

* Information on how these species fit within Scaled Fishery Management is provided in Appendix E

III. Scaled Fishery Management: Document Development

Topic	Tasks	Time Frame
ESRs	Develop ESRs for remaining 5 species (see Section IV and V for more information on CA Halibut, Pacific Herring, and Bay Shrimp)	EC CA Halibut – Jun 2021; Pacific Herring and Pismo Clam – Jun 2021; Red Abalone – Dec 2021; Bay Shrimp – TBD
Completed ESRs	Update completed ESRs with 2019 landings and catch, research and monitoring results, and regulation changes	Feb 2021
Completed ESRs	Update completed ESRs as needed	Ongoing
New ESRs	Develop additional finfish ESRs (Yellowfin Croaker, Yellowtail, and Surf Smelt) and invertebrate ESRs (Gaper Clam)	Yellowtail completed Dec 2020; EC Yellowfin Croaker and Surf Smelt – Jun 2021; Gaper Clam – TBD
Red Abalone Fishery Management Plan (FMP)	Conduct a management strategy integration process for Red Abalone to determine the suite of indicators that provide the best management strategies for reopening a fishery and for managing an open fishery	EC Jun 2021
Red Abalone FMP	Further develop the management strategy and harvest control rules developed during the management strategy integration process for Red Abalone to complete the draft FMP	EC Dec 2021
Red Abalone FMP	Complete Draft FMP	EC 2022

Topic	Tasks	Time Frame
Ocean Pink Shrimp FMP	Complete draft basic FMP	EC Fall 2021

IV. Scaled Fishery Management: Key Actions for Priority Species without FMP

Topic	Tasks	Time Frame
CA Halibut	Develop CA Halibut stock assessment	Completed Sep 2020
CA Halibut	Conduct formal peer view of CA Halibut stock assessment	Completed Sep 2020
CA Halibut	Complete CA Halibut stock assessment report	EC Spring 2021
CA Halibut	Complete ESR	EC Jun 2021
CA Halibut	Evaluate bycatch in commercial fishery	In progress, EC Apr 2022
CA Halibut	Conduct scoping effort as part of scaled management development process	EC Jun 2021
CA Halibut	Explore incorporation of Management Strategy Evaluation (MSE) Data Limited Methods toolkit (toolkit) results into management	TBD
Grunion	Develop ESR	Completed Nov 2020
Grunion	Develop regulation package for recreational fishery	TBD
Kelp (Giant and Bull Kelp)	Develop ESR	EC Apr 2021
Kelp	Develop a suite of priority projects (Statewide Kelp Restoration Toolkit and coordinate with Ocean Protection Council (OPC) on the Statewide Kelp Recovery Research Program) for kelp recovery and restoration	EC Apr 2022
Kelp	Continue to work with partners to manage urchin removal with commercial divers on north coast	EC May 2022

Topic	Tasks	Time Frame
Kelp	Coordinate with OPC on development of a statewide Kelp Action Plan	EC Jan 2022
Kelp	Continue to work with partners and recreational divers to evaluate in-water urchin crushing as a kelp restoration tool at Caspar Cove (Mendocino County) and Tanker Reef (Monterey County)	EC Jan 2024
Kelp	Develop a statewide Kelp Restoration and Management Plan	TBD
Kelp	Develop Bull Kelp commercial regulations	EC Dec 2021
Marine Algae	Develop other marine algae commercial regulations	TBD
Barred Sand Bass	Develop stock assessment	TBD
Barred Sand Bass	Evaluate immediate management needs	TBD
Barred Sand Bass	Explore incorporation of MSE toolkit results into management	TBD
Kelp Bass	Develop stock assessment	TBD
Kelp Bass	Explore incorporation of MSE toolkit results into management	TBD
Barred Surfperch	Conduct MSE using toolkit	TBD
Barred Surfperch	Explore incorporation of MSE toolkit results into management	TBD
Barred Surfperch	Identify most accurate ageing techniques using an age validation analysis	EC Jun 2021
Barred Surfperch	Conduct a latitudinal analysis of fecundity and parturition timing	EC Jun 2021
CA Barracuda	Conduct MSE using toolkit	EC Dec 2021
CA Barracuda	Explore incorporation of MSE toolkit results into management	EC Spring 2022
CA Barracuda	Evaluate bycatch in commercial fishery	In progress, EC Apr 2022
Bay Shrimp	Complete ESR	TBD

Topic	Tasks	Time Frame
Bay Shrimp	Evaluate bycatch in commercial fishery	TBD
Pacific Angel Shark	Evaluate bycatch in commercial fishery	In progress EC Apr 2022
Brown Smoothhound Shark	Monitor stock status as outlined in the ESR	Ongoing
Dungeness Crab	Consider potential follow-up rulemaking for Risk Assessment and Mitigation Program (RAMP)	EC Fall 2021
Ridgeback Prawn	Conduct fleet gear survey; work with NOAA observers to collect additional essential fisheries information	In progress
Warty Sea Cucumber	Consider potential expansion of data collection	TBD
Rock Crab	Monitor entanglements (now possible with new buoy marking requirement)	In progress
Spot Prawn	Monitor entanglements (now possible with new buoy marking requirement)	In progress
Gaper Clam	Develop ESR	TBD
Gaper Clam	Develop emergency rulemaking regarding hydraulic pump use for taking clams	EC Feb 2021
Gaper Clam	Develop rulemaking regarding hydraulic pump use for taking clams	EC Aug 2021

V. Scaled Fishery Management: Key Actions for Priority Species with FMP

Topic	Tasks	Time Frame
White Seabass	Complete maturity study	EC Dec 2021
White Seabass	Evaluate bycatch in commercial fishery	In progress EC Apr 2022
Pacific Herring	Implement FMP	Effective Mar 2020
Pacific Herring	Complete ESR	EC Jun 2021

Topic	Tasks	Time Frame
Pacific Herring	Develop Herring eggs on Kelp rulemaking	Completed Nov 2020, effective Nov 30, 2020
CA Sheephead	Evaluate bycatch in commercial fishery	TBD
Market Squid	Reconvene Fishery Advisory Committee	EC Fall 2021
Market Squid	Evaluate need for short and long-term regulatory changes	EC 2022
CA Spiny Lobster	Scope tailing options and regulatory cleanup regulations	TBD

VI. Managing Fisheries**

Topic	Tasks	Time Frame
Monitoring/Research	Long-term fishery–dependent and –independent data collection	Ongoing
Monitoring/Research	Collaborative study investigating climate change impacts on the sustainability of CA Spiny Lobster, Market Squid, and Pacific Sardine within the CA Current System	EC Sep 2021
Monitoring/Research	Socioeconomics of recreational fishery including target species choices	TBD
Data Analysis and Stock Assessments	Conduct MSE through the Data-Limited Methods (DLM) Toolkit on eight state-managed species/species groups (Barred Sand Bass, CA Halibut, Kelp Bass, Redtail Surfperch, CA Spiny Lobster, Red Sea Urchin, Rock Crab [3 species], and Warty Sea Cucumber)	Completed Jun 2020
Data Analysis and Stock Assessments	Generate reports for the DLM Toolkit MSE results	EC Apr 2021
Data Analysis and Stock Assessments	Incorporate MSE reports as appendices to applicable ESRs	EC Jul 2021

Topic	Tasks	Time Frame
Data Analysis and Stock Assessments	Expand MSE DLM Toolkit to include multiple gears/sectors and test using CA Halibut	EC Jun 2021
Data Analysis and Stock Assessments	Identify process for characterizing bycatch in commercial fishery	EC Apr 2021
Review Analytical Results and Develop Management Options	White Seabass, Pacific Herring, and CA Spiny Lobster status as determined through process outlined in FMPs	Annual
Review Analytical Results and Develop Management Options	CA Sheephead, Kellet's Whelk and Sheep Crab landings against TACs	Annual
Review Analytical Results and Develop Management Options	Northern CA Red Abalone status	Ongoing
Review Analytical Results and Develop Management Options	Dungeness Crab meat quality evaluation	Annual
Review Analytical Results and Develop Management Options	Dungeness Crab, Rock Crab, Razor Clam, and CA Spiny Lobster domoic acid level evaluation	Ongoing
Identification of Management Measures and Development of Regulations	Recreational crab trap bycatch of whales and turtles	Proposed adoption Nov 2020
Identification of Management Measures and Development of Regulations	Kelp recovery and urchins	Ongoing

**In addition to tasks already covered in Sections IV and V

VII. Outreach

Topic	Tasks	Time Frame
ESR Accessibility	Upload 30 final ESRs onto Marine Region website until imported into CA Fisheries Portal	Completed Feb 2020
CA Marine Species Portal Phase 2	Build website for CA Marine Species Portal, add ESRs, and launch Portal	Completed Jul 2020
CA Marine Species Portal - enhancement	Modify Portal to include non-ESR species	Completed Oct 2020
CA Marine Species Portal - enhancement	Addition of other non-ESR species	Ongoing

Topic	Tasks	Time Frame
CA Marine Species Portal Phase 3	Implement mechanism to include data updates in ESRs within Portal	EC Jul 2021
Marine Region Website	Update Marine Home Page	Completed Sep 2020
Marine Region Website	Renovate website	Ongoing
FGC Updates	Provide regular updates at FGC Marine Resource Committee and Tribal Committee meetings	Ongoing
Partnerships and Stakeholder Engagement	Participate on formal and informal fishery task forces and workgroups	Ongoing
Partnerships and Stakeholder Engagement	Outreach to fishermen and stakeholders through formal and informal discussions	Ongoing
Partnerships and Stakeholder Engagement	Outreach to Tribes per guidance provided in the 2014 CDFW Tribal Communication and Consultation Policy	Ongoing
Partnerships and Stakeholder Engagement	Build partnerships to support implementation	Ongoing

VIII. Implementing New Programs

Topic	Tasks	Time Frame
California Fisheries Innovation Act of 2018 (AB 1573)	Phase II: Implement Experimental Fishing Permit Program	EC Jun 2021
SB 1309	Implement Risk Assessment and Mitigation Program (RAMP)	Effective Nov 2020
SB 1309	Implement Standardized Gear Marking Program	Effective May 2020
Experimental Fisheries	Initiate Experimental Box Crab fishery	Started Apr 2019
Experimental Fisheries	Collect Box Crab catch information	Ongoing
Fisheries Disaster Relief Programs	Implement as required	Ongoing

IX. Improving MLMA Fisheries (Ecological, Social, and Management Systems)

Topic	Tasks	Time Frame
Data Modernization and Review	Review and evaluate logbooks and potential use of E-logs	In progress
Data Modernization and Review	Develop and implement a public marine fisheries data explorer tool linked to the Marine Data Warehouse	EC Jul 2021
New Data Collection Methods	Evaluate use of electronic monitoring for vessels participating in Box Crab experimental fishing program	Ongoing
Ocean Resources Enhancement	Administer Ocean Resources Enhancement and Hatchery Program (OREHP)	Ongoing
FMP Planning	Lessons learned evaluation for FMP planning	Completed Aug 2020
Restricted Access Evaluation	Evaluate the performance of restricted access programs for several CA commercial fisheries	EC Dec 2021
Fisheries Adaptive Capacity	Support the climate change scenario planning efforts being conducted by the Pacific Fishery Management Council as part of their Fishery Ecosystem Plan Climate and Communities Initiative	EC 2021
Fisheries Adaptive Capacity	Support the investigation of other ways for improving fisheries management responsiveness and fishing communities' resilience to changing ocean conditions	Ongoing
Fisheries Adaptive Capacity	Support development of 13 port profile descriptions	EC May 2021
Fisheries Adaptive Capacity	Develop guidance for analyzing Department commercial fisheries data to address key socioeconomic questions	EC Dec 2021

Topic	Tasks	Time Frame
Fisheries Adaptive Capacity	Build upon port profile descriptions to include other ports and/or more fisheries/fisheries characteristics	TBD
Fisheries Adaptive Capacity	Support development of socioeconomic tools	Ongoing

Appendix A: Completed Tasks

A-I. MLMA Framework – Prioritization

Topic	Tasks
Fisheries Set #1: Key finfish plus Bay Shrimp, CA Spiny Lobster, and Market Squid	Bycatch Ecological Risk Assessment (ERA) and Habitat ERA, Target ERA conducted and combined with Productivity & Susceptibility Analysis (PSA); Bycatch, Habitat, and PSA + Target results combined
Fisheries Set #1	Update on production of prioritized list presented to MRC
Fisheries Set #1	ERA + PSA prioritization results presented to stakeholders
Fisheries Set #1	Present prioritized list to FGC (see Appendix C)

A-II. MLMA Framework - Scaling

Topic	Tasks
Prioritized Fisheries (Set #1)	Conduct evaluation (degree of management change needed; fishery complexity) to determine appropriate management scale; as possible, include socioeconomic and climate considerations

A-III. Scaled Fishery Management: Document Development

Topic	Tasks
Enhanced Status Reports (ESRs)	Develop 30 ESRs for 33 species

A-IV. Scaled Fishery Management: Key Actions for Priority Species without FMP

See IV. Scaled Fishery Management: Key Actions for Priority Species without FMP for current status of tasks.

A-V. Scaled Fishery Management: Key Actions for Priority Species with FMP

Topic	Tasks
Pacific Herring	FMP completed

A-VI. Managing Fisheries

Topic	Tasks
Monitoring/Research	Collaborative research on habitat use and population monitoring of the Warty Sea Cucumber completed
Identification of Management Measures and Development of Regulations	Regulations for Pacific Hagfish traps permitted on single vessel adopted

A-VII. Outreach

Topic	Tasks
CA Fisheries Portal Phase 1	Design for CA Fisheries Portal developed; includes layout for ESR text

A-VIII. Implementing New Programs

Topic	Tasks
Fisheries Disaster Relief Programs	Program for Dungeness Crab fisheries disaster payout developed
California Fisheries Innovation Act of 2018 (AB 1573)	Phase I: Implement Box Crab EFP
SB 1309	Implement Gear Retrieval Program for Dungeness Crab Traps

A-IX. Improving MLMA Fisheries (Ecological, Social, and Management Systems)

Topic	Tasks
Data Modernization and Review	Transition from paper commercial landing receipts to electronic receipts
New Data Collection Methods	Evaluation of use of remote operating vehicles for collecting sea cucumber data inside and outside of MPAs
New Fishery Management Protocols and Tools	Characterize use of restricted access in several CA fisheries and provide recommendations for reviewing CA restricted access programs

Appendix B: Longer-term Tasks

B-I. MLMA Framework – Prioritization

Topic	Tasks
Future Prioritization Process	Develop socioeconomic assessment tool for use in prioritization process as noted in MLMA-based Management Framework
Future Prioritization Process	Develop oceanographic and climate assessment tool to include in the prioritization process

B-II. MLMA Framework – Scaling

No new tasks identified at this time.

B-III. Scaled Fishery Management: Document Development

Topic	Tasks
Update ESRs	Enhance sections of management documents for priority fisheries including socioeconomics and climate

B-IV. Scaled Fishery Management: Key Actions for Priority Species without FMP

No new tasks identified at this time.

B-V. Scaled Fishery Management: Key Actions for Priority Species with FMP

No new tasks identified at this time.

B-VI. Managing Fisheries

Topic	Tasks
Monitoring/Research	Conduct research to address the use of marine protected areas in MLMA-based management
Monitoring/Research	Conduct research to address socioeconomic information gaps
Monitoring/Research	Conduct research to address climate-related information gaps
Review Analytical Results and Develop Management Options	Identify management options to address fisheries concerns (e.g., ecological and socioeconomic) highlighted through monitoring/research and assessments
Review Analytical Results and Develop Management Options	Identify management options for addressing risks to fish stocks and fishing communities from climate change

B-VII. Outreach

No new tasks identified at this time.

B-VIII. Implementing New Programs

Topic	Tasks
New Mandated Programs	Implement any new marine fisheries programs as mandated through new legislation
Experimental Fisheries	Identify emerging fisheries that might benefit from inclusion in an experimental gear program

B-IX. Improving MLMA Fisheries (Ecological, Social, and Management Systems)

Topic	Tasks
Data Modernization and Review	Centralize fisheries independent data sets
New Fishery Management Protocols and Tools	Test methods for reducing bycatch
Fisheries Adaptive Capacity	Identify management approaches that increase adaptive capacity for responding to climate change

Appendix C: Fisheries Prioritization Set #1

Commercial Fisheries

Species	Gear	Total	PSA Rank	Bycatch Rank	Habitat Rank
Pacific Angel Shark	Gill Net	4	1	1	2
CA Halibut	Trawl	5	2	2	1
CA Halibut	Gill Net	5	2	1	2
White Seabass	Gill Net	6	3	1	2
CA Bay Shrimp	Trawl	7	3	3	1
Pacific Herring	Gill Net	8	3	3	2
CA Sheephead	Trap	8	2	4	2
CA Barracuda	Gill Net	10	3	2	5
Pacific Hagfish	Trap	11	4	4	3
Shiner Perch	Trap	11	4	4	3
Market Squid	Purse Seine	11	4	3	4
CA Halibut	Hook-and-Line	12	3	4	5
Pacific Bonito	Purse Seine	13	4	4	5
Redtail Surfperch	Hook-and-Line	13	4	4	5
Night Smelt	A Frame	13	4	4	5
Jacksmelt	Hook-and-Line	13	4	4	5

Recreational Fisheries

Species	Gear	Total	PSA Rank	Bycatch Rank	Habitat Rank
Brown Smoothhound	Hook-and-Line	9	1	4	4
CA Sheephead	Hook-and-Line	9	2	4	3
Kelp Bass	Hook-and-Line	9	2	4	3
Ocean Whitefish	Hook-and-Line	9	2	4	3
Spotted Sand Bass	Hook-and-Line	10	2	4	4
Barred Sand Bass	Hook-and-Line	10	2	4	4
CA Halibut	Hook-and-Line	11	3	4	4
Barred Surfperch	Hook-and-Line	11	3	4	4
White Seabass	Hook-and-Line	12	4	4	4
CA Barracuda	Hook-and-Line	12	3	4	5
CA Corbina	Hook-and-Line	12	4	4	4
White Croaker	Hook-and-Line	12	4	4	4
Pacific Bonito	Hook-and-Line	13	4	4	5

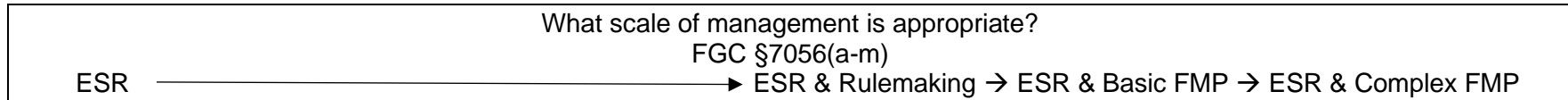
Appendix D: Fisheries Prioritization Set #2

Species	Sector	Gear	PSA Rank
Warty Sea Cucumber	Comm	Dive (Hand)	1
Red Abalone	Rec	Dive (Hand/Iron)	1
Giant Red Sea Cucumber	Comm	Trawl	2
Spiny Lobster	Comm	Trap	2
Ocean Pink Shrimp	Comm	Trawl	3
Spiny Lobster	Rec	Hoop net	3
Pacific Geoduck Clam	Rec	Shovel	3
Kellet's Whelk	Comm	Trap	4
Spot Prawn	Comm	Trap	4
Red Sea Urchin	Comm	Dive (Hand/Rake)	4
Ridgeback Prawn	Comm	Trawl	4
Rock Crab	Comm	Trap	5
Dungeness Crab	Comm	Trap	5
Pismo Clam	Rec	Clam Fork	5
Dungeness Crab	Rec	Trap	5

Species	Sector	Gear	Ecological Rank	ERA Rank Bycatch	ERA Rank Habitat
Ridgeback Prawn	Comm	Trawl	3	2	1
Giant Red Sea Cucumber	Comm	Trawl	3	2	1
Ocean Pink Shrimp	Comm	Trawl	4	3	1
Dungeness Crab	Comm	Trap	5	2	3
Spot Prawn	Comm	Trap	5	3	2
Rock Crab	Comm	Trap	5	3	2
Spiny Lobster	Comm	Trap	5	3	2
Kellet's Whelk	Comm	Trap	5	3	2
Dungeness Crab	Rec	Trap	6	3	3
Spiny Lobster	Rec	Hoop net	7	4	3
Pacific Geoduck Clam	Rec	Shovel	8	4	4
Warty Sea Cucumber	Comm	Dive (Hand)	9	4	5
Red Sea Urchin	Comm	Dive (Hand/Rake)	9	4	5
Red Abalone	Rec	Dive (Hand/Iron)	9	4	5
Pismo Clam	Rec	Clam Fork	9	4	5

Appendix E: Scaled Fishery Management

Scaled Fishery Management along a continuum from Enhanced Status report (ESR) to a complex Fishery Management Plan (FMP)
[Adapted from the 2018 MLMA Master Plan, Figure 2]



ESR	ESR & Data/Scoping	ESR & Rulemaking	ESR & Basic/Complex FMP
Spotfin Croaker*	Barred Sand Bass	Grunion**	California Halibut***
Yellowfin Croaker*	Kelp Bass	Kelp**	Red Abalone****
Yellowtail*	Barred Surfperch	Dungeness Crab	Ocean Pink Shrimp****
Surf smelt*	California Barracuda	Gaper Clam**	
	Bay Shrimp		
	Pacific Angel Shark		
	Brown Smoothhound Shark		
	Ridgeback Prawn		
	Giant Red Sea Cucumber		
	Warty Sea Cucumber		
	Red Sea Urchin		
	Spot Prawn		
	Rock Crab		

* Species not included in prioritization process, but identified as needing ESR.

** Species not included in prioritization process, but identified as needing ESR and rulemaking in accordance with criteria listed in the MLMA Master Plan, Chapter 2, regarding emerging issues.

*** The scale of management for this species is still under evaluation.

**** FMP currently being developed.