Marine Region Update Implementation of Marine Protected Areas Adaptive Management Recommendations

California Fish and Game Commission, August 14-15, 2024

The first comprehensive <u>Decadal Management Review</u> (Review) of <u>California's Marine Protected Area (MPA) Network</u> and <u>Management Program</u>, released in early 2023, concluded with a suite of <u>28 recommendations</u> to guide adaptive management into the next decade. At their June 19-20, 2024 meeting, the California Fish and Game Commission (CFGC) requested that the California Department of Fish and Wildlife (CDFW) provide a progress update on the implementation of the recommendations at their August 14-15 meeting.

The tables below outline each recommendation, their associated actions, and a brief status update. Recommendations are organized into near-term, mid-term, and long-term timeframes, which were prioritized by CDFW and approved by the CFGC at their August 22-23, 2023 meeting. The activities summarized below represent efforts primarily led by CDFW in partnership with the CFGC, the Ocean Protection Council (OPC), and some partners and California Native American Tribes, and do not represent a comprehensive assessment of all activities undertaken by the diverse suite of California Tribal Communities and partners that support the MPA Management Program. CDFW is currently coordinating with the MPA Statewide Leadership Team (MSLT), California Native American Tribes, and other partners that contributed to the Review recommendations to support their timely implementation.

Table 1: Near-term (0-2 years) priorities. Progress status (Not started=orange, in-development=yellow, ongoing=green) and a general status update are provided for each recommendation and their associated action items.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Update
MPA Governance	Tribal Coordination	Inprove state agency's tribal engagement and relationship building efforts.	1a. Engage in early and frequent communication with California Native American Tribes.	Ongoing	Enhanced coordination between CDFW and OPC tribal coordinators for effective communication and best engagement practices with California Native American Tribes and Tribal Communities.
			1b. Have an understanding and respect for tribal decision-making processes.	Ongoing	Enhanced coordination between CDFW and OPC for effective communication and best engagement practices with California Native American Tribes and Tribal Communities.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Update
MPA Governance	Tribal Coordination	Improve state agency's tribal engagement and relationship building efforts.	1c. Ensure a transparent and accountable process that provides clarity on agency decision-making and the potential for tribes to affect the final decision.	Ongoing	Enhanced coordination between CDFW and OPC tribal coordinators for effective communication and best engagement practices with California Native American Tribes and Tribal Communities.
MPA Governance	Regulatory and Review Framework	4. Apply what is learned from the first Decadal Management Review to support proposed changes to the MPA Network and Management Program.	4a. Coordinate with CFGC to evaluate current and future proposed changes to Network design, individual MPAs, and current MPA Management Program priorities and policies in a manner consistent with the findings of this Review.	Ongoing	CDFW working with CFGC and OPC on best approach to evaluate 20 received MPA petitions.
			4b. Identify and utilize best science-based approaches to inform potential changes to the MPA Network in order to enhance Network performance.	In development	CDFW working with CFGC and OPC to identify priority science questions and tools for evaluating Network performance now and into the future.
			4c. Coordinate with CDFW's legislative office to remove obsolete sections of the Fish and Game Code concerning Marine Life and Fish Refuges to better align with updated designations in the Marine Managed Areas Improvement Act (MMAIA).	Not started	CDFW is not currently focusing resources on this action.
MPA Governance	Justice, Equity, Diversity, Inclusion	7. Expand targeted outreach and education materials and events to under-represented user groups.	7a. Translate MPA outreach materials into more languages and work on finding new approaches to effectively engage underserved audiences.	Ongoing	Several CDFW MPA outreach materials are available in Spanish, including regional brochures with summaries of regulations. More languages will be available soon.
			7b. Utilize MPA Program partners to target and engage under-represented user groups in marine conservation.	In development	CDFW supports MPA Collaborative Network activities focused on engaging under-represented communities in MPA management, such as the recent user group focused "Pathways" seminar series.
			7c. Solicit input on customized/targeted outreach materials from members of diverse user groups.	Not started	CDFW is not currently focusing resources on this action.

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MPA Governance	MPA Statewide Leadership Team and Partner Coordination	9. Continue to coordinate and collaborate with OPC and other agencies on California's ocean and coastal priorities to enhance coastal biodiversity, climate resiliency, human access and use, and a sustainable blue economy.	9a. Support OPC and partners on the MSLT to prioritize relevant OPC Strategic Plan and MSLT Work Plan objectives. Assess feasibility of current timeframes for taking action and adjust if needed.	In development	A working group composed of members from the MSLT will convene later in 2024 to prioritize workplan objectives that align with Review recommendations.
			9b. Review and synthesize MPA-focused recommendations and actions outlined in existing state action plans and reports that focus on ocean issues such as ocean acidification, water quality, sea level rise, and CDFW's State Wildlife Action Plan.	Not started	CDFW is not currently focusing resources on this action.
MPA Governance	MPA Statewide Leadership Team and Partner Coordination	Improve partnership coordination across the four pillars of the MPA Management Program.	10a. Develop and implement a work-flow for enhanced coordination between CDFW's Scientific Collecting Permit (SCP) Program and other agencies' permitting requirements.	Ongoing	CDFW collaborating with other state and federal agencies to educate and learn about other permitting requirements.
			10b. Develop strategic plan to strengthen communications between MPA Monitoring Program partners, tribes, and agencies that have overlapping jurisdiction at monitoring sites.	Not started	CDFW is not currently focusing resources on this action.
			10c. Strengthen connections and communication between CDFW's Marine Law Enforcement Division (LED) and allied agencies.	Ongoing	Increased joint patrol efforts with agency enforcement partners. MPA Enforcement trainings with Collaborative Network helps network CDFW enforcement officers with other law enforcement local to their area of responsibility.
			10d. Strengthen cross-border MPA management with West Coast states, Mexico, and Canada.	Ongoing	CDFW coordinates with colleagues at Oregon Department of Fish and Wildlife and participates in several federal and international MPA panels. Expansion of partnerships is ongoing.
			10e. Continue to add representatives to the MSLT as partnerships expand.	Ongoing	CDFW coordinates with OPC to recruit new members to the MSLT as needed.
			10f. Provide partners with consistent MPA messaging and branding for outreach and education activities to support compliance with MPAs.	Ongoing	Updates to the MPA Outreach and Education Guide are currently underway.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Update
MPA Management Program	Research and Monitoring	11. Update the MPA Monitoring Action Plan framework to improve and sustain a cost-effective long-term monitoring program, including guidelines to ensure monitoring consistency and sustainable funding.	11a. Revisit the MPA site-tiering system and identify more efficient data collection and analysis methods to maximize use of available funding and efficiency without sacrificing scientific rigor.	In development	CDFW collaborating with OPC and monitoring program Pls to refine data collection methods, prioritize science questions, and streamline monitoring methods when appropriate.
			11b. Explore more localized and bioregion-specific monitoring strategies.	Ongoing	CDFW and OPC are working with academic partners on the north coast to refine some sampling methods and build capacity to expand monitoring in some habitats.
			11c. Explore CDFW capacity to participate in MPA monitoring to increase long-term program stability.	Ongoing	CDFW MPA staff participate in data collection across all habitat groups when possible.
MPA Management Program	Outreach and Education	16. Conduct more targeted outreach to specific audiences to connect stakeholders with coastal resources and to encourage stewardship and compliance with regulations.	16a. Work closely with fishing communities to identify the most effective communication channels and outreach materials for these audiences.	Not started	CDFW is not currently focusing resources on this action.
			16b. Increase opportunities for ongoing MPA researcher engagement with the public in forums, science advisory groups, and public presentations.	Not started	CDFW is not currently focusing resources on this action.
			16c. Tailor outreach to better serve specific audiences, such as increasing the availability of waterproof materials, pocket-sized MPA maps, digital and online tools, and regionally tailored teacher toolkits.	Not started	CDFW is not currently focusing resources on this action.
			16d. Organize an annual public webinar to provide MPA Management Program updates and receive public input.	Not started	CDFW is not currently focusing resources on this action.
			16e. Create more regionally focused MPA outreach materials and weave MPA messaging into general ocean content produced by other partners.	Ongoing	CDFW engages with partners on the creation of regional outreach materials such as local signage, teacher toolkits, and informational brochures that focus on MPAs.
MPA Management Program	Policy and Permitting	17. Improve the application and approval process for scientific collecting permits (SCPs).	17a. Improve the online SCP online application portal process.	In development	Contracting for new portal.

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MPA Management Program	Policy and Permitting	17. Improve the application and approval process for scientific collecting permits (SCPs).	17b. Establish a scientific steering committee to guide improvements to CDFW's environmental impact assessment tool for issuing SCPs within MPAs.	Not started	CDFW is not currently focusing resources on this action.
			17c. Increase transparency and communication in the SCP review and issuance process.	In development	Redirecting resources to support permitting improvements.
MPA Management Program	Policy and Permitting	18. Develop a framework to evaluate and approve appropriate restoration and mitigation actions within MPAs and Marine Managed Areas (MMAs).	18a. Work with a broad range of partners including state and federal agencies, tribes, the fishing community, and other ocean users to tailor restoration and mitigation projects to regional needs consistent with a statewide restoration and mitigation framework.	In development	CDFW is working closely with partners on kelp restoration research and priorities, and OPC's draft restoration and mitigation policy.
			18b. Use best available, sound science to inform restoration and mitigation actions and decisions in MPAs and MMAs, such as permitting the removal of invasive species.	In development	CDFW is creating a decision tree to help guide permitting restoration and mitigation projects inside MPAs and MMAs.
MPA Management Program	Enforcement and Compliance	20. Increase enforcement capacity.	20a. Continue MPA-focused training for CDFW Wildlife Officers and allied agency partners.	Ongoing	CDFW Enforcement Officers attend and assist with enforcement trainings provided throughout the state by the MPA Collaborative Network.
			20b. Assess needs for new equipment, such as patrol boats, and LED staff to increase patrols in violation hotspots and across the coast.	Ongoing	CDFW will be taking possession of a brand new, state of the art patrol boat in August 2024. The patrol boat is replacing the Patrol Boat Steelhead out of Half Moon Bay. It will be larger than the current large patrol boat fleet, expanding their capability to patrol in more inclement weather conditions, and for longer durations if needed. Additional future patrol boat replacements are still necessary as the rest of the CDFW fleet is continuing to age well past expected service life. While Marine Enforcement District (MED) will be close to capacity for positions available soon, CDFW LED recognizes the need for continued growth of enforcement staff based on the size of our state and overall population.

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MPA Management Program	Enforcement and Compliance	20. Increase enforcement capacity	20c. Explore utilizing technologies that could assist with enforcement cases and evidence gathering in more remote locations.	Ongoing	LED's Drone Program is underway as of this year. MED has new operators being trained to utilize this technology in an offshore capacity. MED also partners with the Air Services unit at CDFW to help monitor far offshore and remote locations.
MPA Management Program	Enforcement and Compliance	21. Enhance MPA citation record keeping and data management.	21a. Identify enforcement gaps and violation hotspots for inclusion in enforcement plan and finalize manual data entry of any citations not yet entered into the database from before 2016, as well as citations from 2021 through May 2022.	Ongoing	By integrating data from Records Management System (RMS) and Electronic Daily Activity Reports (EDARs), which include the frequency of MPAs patrolled versus citation/contact data, MED has been able to identify potential areas that could benefit from increased patrol efforts. The Marine Monitor (M2) Radar Network has also provided useful information to allow enforcement officers to see patterns of activity and plan patrols accordingly.
			21b. Track MPA patrol hours alongside the number of contacts, warnings, and citations in one database.	Ongoing	CDFW EDARs capture this information; RMS expands on the citation data.
			21c. Identify efficient ways to track repeat offenders when out in the field.	Ongoing	Officers have the ability to utilize electronic boarding cards through the CDFW's RMS. Our large patrol boats are now equipped with satellite internet allowing officers to access department databases at sea. Officers can also utilize offline databases, which compile historical boardings from participating agencies. CDFW LED also pursues administrative actions following all commercial fishing violations. These documented administrative actions help track repeat offenders and provide for enhanced penalties for major offenses or repeat offenders.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Update
MPA Management Program	Enforcement and Compliance	21. Enhance MPA citation record keeping and data management.	21d. Use enforcement data to inform outreach efforts, and better link enforcement data with human dimensions and ecological monitoring data.	In development	In the last citation data review, CDFW MED provided statistics to show the greatest increases and decreases in citations issued by MPA. Those with the highest disparities were outlined. This capability could be expanded as further reports are generated.
			21e. Develop a standardized MPA compliance report card to share with the public and decision makers.	In development	In the last citation data review, CDFW MED provided statistics to show the greatest increases and decreases in citations issued by MPA. Those with the highest disparities were outlined. This capability could be expanded as further reports are generated.
MPA Network Performance	Climate Resilience and Adaptation	25. Develop and implement climate change research and monitoring priorities and metrics for California's MPA Network.	25a. Develop models for climate change risk on shorter timescales and for both nearshore and deep-water marine species and habitats.	Not started	CDFW is not currently focusing resources on this action.
			25b. Investigate resilience conferred by MPAs by adding new climate resilience monitoring metrics to the MPA Monitoring Action Plan.	Not started	CDFW is not currently focusing resources on this action.
			25c. Work with CDFW Science Institute Climate Change Focus Team to better incorporate climate-focused MPA monitoring into broader state climate change targets.	Not started	CDFW is not currently focusing resources on this action.
MPA Network Performance	Fisheries Integration and Other Influencing Factors	27. Improve understanding of MPA Network effects on fisheries and fish stock sustainability and further integrate MPA monitoring data into fisheries management.	27a. Improve data sharing and integration between MPA and fisheries-focused management programs.	Ongoing	Created dedicated CDFW specialist position to focus on fisheries integration and MPAs.
			27b. Explore tools to capture spatially explicit metrics of fishing catch and effort that are more appropriate for MPAs in California.	Not started	CDFW is not currently focusing resources on this action.

Table 2: Mid-term (2-5 years) priorities. Progress status (Not started=orange, in-development=yellow, ongoing=green) and a general status update are provided for each recommendation and their associated action items.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Updates
MPA Governance	Tribal Coordination	Create a clear pathway to tribal MPA management.	2a. Recognize tribal people as scientific and cultural practitioners and rightful, equal partners in the development, implementation, and management of MPAs.	Ongoing	Enhanced internal CDFW coordination to improve effective communications and best partner engagement practices with California Native American Tribes and Tribal Communities.
			2b. Work with tribes to develop and support co-management programs that can enrich tribal cultural practices and renew traditional values.	In development	Enhanced coordination between CDFW and OPC tribal coordinators for effective communications and best engagement practices with California Native American Tribes and Tribal Communities.
			2c. Work with tribes to include and integrate traditional knowledge in MPA management, specifically coastal and marine science.	In development	Improving understanding and coordination to enhance communications and best partner engagement practices with California Native American Tribes and Tribal Communities.
MPA Governance	Tribal Coordination	Build tribal capacity to participate in MPA management activities.	3a. Provide tribes with adequate resources to participate in changes to the MPA Network and management.	In development	Enhanced coordination between CDFW and OPC to strategize capacity building opportunities and practices for California Native American Tribes and Tribal Communities.
			3b. Better incorporate tribal-led ecological monitoring into the broader MPA Monitoring Program and adaptation of the MPA Monitoring Action Plan.	In development	Enhanced coordination between CDFW and OPC to strategize capacity building opportunities and practices for California Native American Tribes and Tribal Communities
MPA Governance	Justice, Equity, Diversity, Inclusion	6. Include and fund more diverse researchers and stakeholders in research and monitoring projects that directly contribute to the MPA Monitoring Program.	6a. Develop and implement a strategic plan to increase the diversity of community science participants.	In development	CDFW coordinating with OPC on community science strategic plan.
			6b. Expand coordination between core monitoring programs and other partners to build trust and merge different types of knowledge with science-based information.	Not started	CDFW is not currently focusing resources on this action.
			6c. Explore innovative approaches to engage the fishing industry in MPA research and management.	Not started	CDFW is not currently focusing resources on this action.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Updates
MPA Governance	Justice, Equity, Diversity, Inclusion	Evaluate the accessibility of MPAs to various community groups.	8a. Promote novel projects and utilize existing human use datasets to evaluate accessibility of MPAs to different user groups.	Not started	CDFW is not currently focusing resources on this action.
MPA Management Program	Research and Monitoring	12. Invest in improving understanding of the human dimensions of MPAs and develop a human dimensions working group and research agenda.	12a. Improve collection of demographic data of ocean users and visitors to the California coast.	In Development	CDFW coordinating with OPC to develop a community science strategy.
			12b. Collect participant demographics in volunteer community science and outreach programs and assess participant benefits, motivations, and engagement patterns.	In Development	CDFW coordinating with OPC on community science strategic plan.
			12c. Conduct more robust studies about compliance with MPA regulations and the impact of outreach and enforcement efforts.	Not started	CDFW is not currently focusing resources on this action.
			12d. Conduct a broad economic assessment of the MPA Network on California's coastal communities.	Not started	CDFW is not currently focusing resources on this action.
			12e. Continue to conduct and refine CDFW ocean businesses and public awareness surveys.	Not started	CDFW is not currently focusing resources on this action.
MPA Management Program	Research and Monitoring	13. Explore the use of innovative technologies such as remote sensing, drones, and eDNA, to enhance and streamline traditional monitoring projects.	13a. Develop and fund pilot projects to explore novel data collection methods to scale up to regional and statewide monitoring.	Not started	CDFW is not currently focusing resources on this action.
			13b. Augment existing monitoring programs to explore new and improved survey methods.	Not started	CDFW is not currently focusing resources on this action.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Updates
MPA Management Program	Research and Monitoring	14. Develop a comprehensive community science strategy for MPAs and better utilize community science to supplement core monitoring programs.	14a. Evaluate the effectiveness and applicability of current community science programs involved in MPA monitoring.	In development	CDFW coordinating with OPC to develop a community science strategy.
			14b. Create clear frameworks on regional and statewide scales for the intended use of community science from project onset.	In development	CDFW coordinating with OPC on community science strategic plan.
			14c. Invest in more centralized data management for community science programs.	In development	CDFW coordinating with OPC on community science strategic plan.
			14d. Improve coordination between existing community science programs and identify opportunities for new programs.	In development	CDFW coordinating with OPC on community science strategic plan.
MPA Management Program	Outreach and Education	15. Evaluate outreach needs, assess effectiveness of resources, identify, and pursue the most impactful and cost-efficient outreach tools for increasing MPA awareness and compliance.	15a. Conduct gap analysis on CDFW and core partner MPA outreach materials, including multi-lingual products, to identify whether initial objectives are being met and how to improve outreach projects and materials.	Not started	CDFW is not currently focusing resources on this action.
			15b. Leverage partnerships to develop projects targeted at closing knowledge gaps in outreach needs.	Ongoing	CDFW working with partners to identify gaps and needs for statewide MPA signage.
			15c. Expand the use of mobile apps, digital technologies, and social media to reach wider audiences.	Ongoing	CDFW implemented an <u>ocean sport</u> <u>fish interactive web map</u> and continues to work on improving <u>MPA website</u> <u>interface</u> .
			15d. Improve CDFW website interface to increase accessibility to public information regarding MPAs.	Ongoing	CDFW continues to work to toward improving accessibility of all public information regarding MPAs.
MPA Management Program	Enforcement and Compliance	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes.	22a. Track prosecution outcomes to better understand how fines may vary by county for similar offenses.	In development	On high profile cases, or commercial cases, enforcement officers do conduct follow-ups on outcomes so they can be included in administrative actions or press releases.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Updates
MPA Management Program	Enforcement and Compliance	22. Increase information gathering regarding MPA violation prosecutions and judicial outcomes	22b. Encourage MPA and marine resource outreach to district attorneys and judges to highlight importance of resource prosecution.	Ongoing	CDFW coordinating with MPA Collaborative Network to conduct MPA- focused outreach to regional district attorneys and judges. CDFW enforcement also participates in a statewide DA taskforce to address emerging issues in resource prosecution.
MPA Network Performance	MPA Network Design	23. Expand and target monitoring and research efforts to examine the design attributes of the MPA Network more effectively.	23a. Tailor data collection and analyses to address the effects of specific MPA attributes such as size, spacing, and levels of protection on monitored species, habitats, and human communities.	In development	CDFW is coordinating with OPC and other partners to identify tools, such a SeaSketch, and analytical pathways to better understand the effects of MPA design attributes on network performance.
			23b. Continue to utilize and refine network connectivity models to assess MPA contributions to ecosystems, populations, and fisheries.	In development	CDFW coordinating with OPC and research partners to refine the California Connectivity Model to inform the petition evaluations process and future adaptive management of the Network.
			23c. Prioritize studies and data analyses that continue to address the benefits of implementing a connected Network of MPAs on ecological and human communities in California.	In development	CDFW coordinating with OPC and monitoring PIs on how to tailor the MPA Monitoring Program to further address priority MPA performance questions.
MPA Network Performance	Climate Resilience and Adaptation	26. Consider climate change impacts from the outset of planning for monitoring MPA human dimensions.	26a. Leverage planned OPC Science Advisory Team human dimensions working group to identify social and economic service provision of MPAs and intersections with climate change.	Not started	CDFW is not currently focusing resources on this action.
			26b. Assess equity issues around MPAs in a changing climate.	In Development	OPC is funding this work, but CDFW is not currently focusing resources on this action.
MPA Network Performance	Fisheries Integration and Other Influencing Factors	28. Further integrate influencing factors into ecological and human study designs and interpretations of MPA performance.	28a. Improve estimates of other anthropogenic metrics such as visitation, enforcement presence, other regulatory management actions, and water quality.	Not started	CDFW is not currently focusing resources on this action.

Table 3: Long-term priorities (5-10 years) priorities. Progress status (Not started=orange, in-development=yellow, ongoing=green) and a general status update are provided for each recommendation and their associated action items.

Management Cornerstone	Category	Recommendation	Actions	Status	General Status Updates
MPA Governance	Regulatory and Review Framework	5. Establish targets for meeting the goals of the MLPA and how the Management Program and Network will evolve as targets are met.	5a. Use results and resources from this first Review, ongoing monitoring, and continued coordination with management partners to develop interim MPA status reports to guide future evaluations.	Not started	CDFW is not currently focusing resources on this action.
MPA Management Program	Enforcement and Compliance	19. Create and implement a cohesive and actionable MPA Enforcement Plan.	19a. Create a standard operating procedure and citing blueprint/authority for use by LED and allied agencies.	Ongoing	Citing blueprints authority is granted by agency policy and California Penal Code.
			19b. Provide guidance on confirming validity of a scientific collecting permit (SCP) for collections occurring in the field and improve communications between patrolling officers and field researchers.	Ongoing	The SCP program continually coordinates with LED and researchers on field activities and provides training to LED and allied agencies through other enforcement trainings.
			19c. Identify ways to determine if an MPA requires heightened enforcement efforts using existing RMS data.	Ongoing	Enforcement has generated a predictive patrol model based on RMS data, to help identify areas that may need a greater enforcement presence.
			19d. Specify outreach materials enforcement officers most need when contacting individuals in the field.	Ongoing	CDFW continues work with LED to identify outreach needs for enforcement and compliance.
			19e. Identify potential alternative deterrents to MPA poaching for misdemeanor offenses and/or repeat offenders (example: possible MPA school prior to license renewal).	In development	CDFW coordinating with MPA Collaborative Network on a MPA regulations module aimed at educating first time
MPA Network Performance	MPA Network Design	24. Work with CFGC and partners to better incorporate marine cultural heritage into the design of the MPA Network.	24a. Develop a process to incorporate state marine cultural preservation areas (MMAIA section 36700(6)d)) into existing MPAs and new locations across the Network.	In development	CDFW in communication with State Parks and other partners regarding potential marine cultural heritage sites.
			24b. Define metrics for identifying culturally important objects and sites to recommend for potential protection.	Not started	CDFW is not currently focusing resources on this action.