

NOAA's Monterey Bay National Marine Sanctuary Contributions and Recommendations to California's MPA Decadal Management Review

Introduction

Monterey Bay National Marine Sanctuary (MBNMS or sanctuary) has been a strong partner with the State of California during the planning, implementation, evaluation, and management of the network of state marine protected areas (MPAs). Currently 25 state MPAs are located within the boundaries of the sanctuary (Figure 1). National marine sanctuary managers share the state's goal of ensuring the long-term conservation of marine resources while sustaining coastal communities. We have a strong mutual interest in ensuring successful implementation of the statewide network. This report details the key programs and activities MBNMS staff have implemented over the past decade in coordination with state staff and partners to support management of the statewide network.

MBNMS covers 276 miles of California coastline, from Marin to Cambria, and encompasses 6,094 square statute miles of ocean, extending an average distance of 30 miles from shore. Our mission is to understand and protect the coastal ecosystem and cultural resources of the sanctuary. Our mandate aligns with the California State MPA network and includes research and monitoring, education and outreach, resource protection (policy, permitting and enforcement coordination) and program operations. Together these programs contribute to our ability to understand and protect sanctuary resources.

With the completion and implementation of the statewide network of MPAs, the state of California has achieved significant protection for marine resources from extractive activities. When state MPAs are nested within a national marine sanctuary, the protection increases as national marine sanctuaries regulate and protect marine resources from harmful discharges, benthic disturbances, and wildlife impacts. Coordinating across our respective programs, we represent a gold standard in marine ecosystem protection, community engagement and stewardship development.

Since 2007, when the state adopted the Central Coast network, MBNMS staff have been actively contributing to the four pillars identified in the state's MPA Management Program: Research and Monitoring; Outreach and Education; Enforcement and Compliance; and Policy and Permitting. The Office of National Marine Sanctuaries (ONMS) is a member of MPA Statewide Leadership Team, and this direct connection with other federal and state partners was key to effectively implementing the state's 5-year work plan that reflects priority activities for the four pillars. This

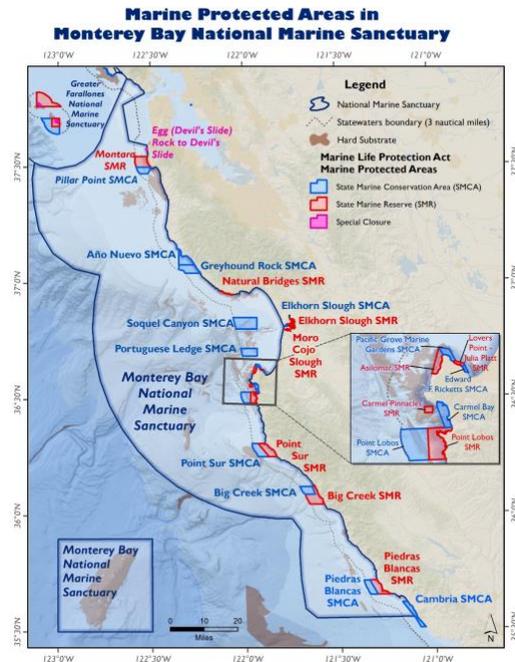


Figure 1: CA State MPAs in Monterey Bay National Marine Sanctuary

report will highlight findings within each of these pillars, and further describe challenges, knowledge gaps, and recommended actions, with an emphasis on maintaining and improving coordination across our respective programs to enhance ecosystem health and resilience and community engagement.

RESEARCH AND MONITORING:

Along with our partners, we continue to support a variety of research and monitoring programs in state-designated MPAs. These range from monitoring key habitats, such as kelp forests and rocky shores, to targeted studies of fishes and invertebrates, including endangered black abalone.

Highlights and Key Findings

- Since 2002, staff have supported annual training of subtidal researchers at UC Santa Cruz that constitute the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) survey team conducting annual surveys inside and outside of state MPAs.
- Since 2006, MBNMS has provided vessel support (RV *Fulmar* and RV *Tegula*) to research and monitoring programs inside and outside of state MPAs.
- Since 2007, staff have assisted PISCO in the collection of long-term monitoring data inside and outside of state MPAs.
- MBNMS contributes NOAA funds to collaborative surveys of state MPAs with our towed camera sled and video landers, in collaboration with Dr. James Lindholm at CSUMB and Dr. Rick Starr.
- Dr. Andrew DeVogelaere serves on the CeNCOOS Governing Council and helps develop ways of using ocean observing information to study state MPAs and develop ways of sharing the data with managers and the public.
- MBNMS staff members are part of a recovery team to rescue and translocate endangered black abalone that in 2017 were severely impacted by debris flows generated from the combination of wildfire damage and atmospheric river events along the Big Sur coastline. The combination of periodic mud slides, burial of critical habitat, and extirpation of local population, both within and adjacent to state MPAs, poses an ongoing threat to the persistence and recovery of black abalone along the coast of Big Sur.

Challenges

- The coronavirus pandemic significantly impeded recent NOAA ship-based operations and may continue to impact availability of NOAA ships and small boats (e.g., RV *Fulmar*) for all operations including SCUBA and submersible work used to survey state MPAs.

Knowledge Gaps and Recommendations

- Better understanding human use of rocky intertidal areas, including trampling, poaching, and legal harvesting, will improve our ability to manage a dynamic system. MPA Watch attempts to do this, but may not have the resources to effectively achieve its intended goal. Regular summaries of poaching and other illegal activities from CDFW would be informative.
- Historically, both CDFW and MBNMS (and others) have funded kelp canopy surveys along the coast of California. These data are key to understanding the status and trends of

kelp species, but recent budgetary limitations have made such data inconsistent. Satellite-derived data have limitations due to their resolution and spatial coverage, and acquisition is often limited by cloud cover. We encourage resumption of either manned or unmanned flights to collect data of kelp canopy cover to complement satellite imagery.

- MBNMS, CDFW, and the Ocean Protection Council are collaborating to track changes in giant kelp and urchin densities at Tanker Reef in Monterey Bay where there is a 3-year sportfishing regulatory amendment allowing urchin culling, which ends in April 2024. Agency scientists are engaged with Reef Check CA and the recreational dive community, both of which are collecting additional data to fill the knowledge gap. The purpose of the removal effort is to determine if sportfishers can restore kelp, and if successful, this may have implications for urchin sportfishing amendments in other areas, possibly in MPAs.
- Use MPAs to assess the role of ecosystem health and resilience to buffer the impacts of climate change, such as warming oceans, disease events, and ocean acidification.

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OUTREACH AND EDUCATION:

MBNMS projects to educate the public about state MPAs have included the development and installation of shoreline signs, production of a traveling exhibit for interpretive centers, training for docent groups, and guided field trips for families at different MPA locations.

Highlights and Key Findings

- MPA messaging is integrated into LiMPETS (Long-term Monitoring Program and Experiential Training for Students) and Plankton Monitoring Network citizen science programs.
- MBNMS staff have served as members and co-chairs of the local MPA Collaboratives. Currently we co-chair the Santa Cruz MPA Collaborative and participate in the Monterey MPA Collaborative. Both collaboratives have provided a forum for the creation of joint federal and state MPA messaging and for special events targeting communities local to the state MPAs. MBNMS participated in the following education and outreach products and events funded through MPA Collaborative mini-grants:

[Monterey MPA Collaborative Projects](#)

- MPA training manual and field trips used during annual [Team OCEAN](#) and [Bay Net](#) docent program trainings; a Visual information guide for Diving in MPAs, which was developed through a [survey of dive businesses](#) by CSUMB students and distributed to dive and kayak shops; and a [MPA Coloring Book](#).

[SC MPA Collaborative Projects](#)

- In support of Natural Bridges State Park, the Collaborative developed a mobile cart that park docents use to facilitate MPA education; a Mobile Ranger App that tours five beaches in Santa Cruz County that are part of the MPA network; a MPA exhibit at the Santa Cruz Children's Museum and Discovery; and participated in Santa Cruz Earth Day events.
- The Santa Cruz MPA Collaborative working with the Monterey Collaborative are piloting an outreach campaign targeting Monterey Bay and Big Sur tourists to increase their compliance in sustainable recreation and responsible wildlife viewing. The campaign includes the distribution of interpretive products and building out the MPA Collaborative's website to link the public to regulations and how they can participate in responsible wildlife viewing and tide pool and beach etiquette.

- Currently staff are coordinating and updating the coastal signs located in Pacific Grove, nine of which are focused on state MPAs (Lovers Point-Julia Platt SMR, Pacific Grove Marine Gardens SMCA, and Asilomar SMR). We will be coordinating with CDFW on the sign content.
- The MPA Collaborative Network held Compliance Workshops with the purpose of identifying the main compliance issues impacting resource quality for state MPAs in each region. ONMS staff contributed input and shared sanctuary regulations that improve resource quality for our shared resources. The workshop members identified these major sources of impact, wildlife disturbance, trash/pollution, MPA poaching/FGC violations, habitat threats, harmful tidepooling, drones and illegal dog activities.

Challenges

- Reaching diverse audiences continues to be a challenge. Added resources are needed to translate MPA outreach materials into different languages in order to reach diverse communities.

Knowledge Gaps and Recommendations

- Increase outreach to diverse audiences for more effective MPA messaging, through local and state-wide clubs or associations, newsletters, and events.
- Future education and outreach products and programs need to go beyond just talking about what are MPAs, and be more closely tied to actionable stewardship and compliance.
- Increase funding and coordination on signage, kiosks, exhibits and other interactive outreach tools, so that we can more effectively deliver MPA messaging.
- Collaboratively fund the creation of a jointly approved map of California that portrays the California national marine sanctuaries (federal MPAs) and state MPAs, to tell the whole story of California protected areas.

ENFORCEMENT AND COMPLIANCE:

MBNMS relies on the United States Coast Guard (USCG) and state law enforcement partners to patrol sanctuary waters and protect users, visitors, wildlife, and ecosystems. Regular sea patrols are conducted by USCG personnel, CDFW and harbor patrols, and shoreline support is provided by CA State Park rangers. NOAA's Office of Law Enforcement provides patrol and investigative support, and NOAA sanctuary staff provide technical and data analysis support. The LE agencies benefit greatly from leveraging assets and alliances, and working cooperatively.

Highlights and Key Findings

- Electronic Fisheries Information Network (eFINS) was piloted in Channel Islands National Marine Sanctuary (CINMS) in 2017 and then expanded to include MBNMS and Greater Farallones National Marine Sanctuary in 2019. CDFW wardens electronically record, store, and reference geospatial data taken during patrols. Access to eFINS has been provided to a total of 115 marine patrol officers statewide.
- The MBNMS Law Enforcement Technical Advisory Committee (LETAC) has been meeting for the past decade and includes law enforcement partners from federal, state and local partners such as harbors and county district attorneys. The group meets quarterly and exchanges information on enforcement issues and incidents, some of which occur in

state MPAs. Examples of illegal activities in MPAs include black abalone poaching, illegal fishing, disturbing wildlife with drones, and collection/trampling of intertidal areas.

- MBNMS and CDFW have collaborated on annual enforcement cross Training (except for 2020/21 due to the coronavirus pandemic) and the training provides an opportunity for MBNMS to share regulatory information with CDFW wardens patrolling this region. With close to 300 miles of shoreline, there are a diversity of issues that wardens are trained to look for and can pursue under the National Marine Sanctuaries Act.

Challenges

- Uptake and data entry for eFINS is inconsistent across CDFW patrol vessels outside of the CINMS region, hampering our ability to better understand enforcement activity and violation trends on a larger spatial scale.

Knowledge Gaps and Recommendations

- MBNMS encourages full adoption of eFINS and the use of low cost radar to better understand enforcement activity and trends in California's MPAs. eFINS provides data in real time, thereby supporting the state more immediately with enforcement trends and needs.
- Continue to participate in quarterly LETAC meetings when possible, in order to share enforcement information between NOAA OLE officers, CDFW wardens, State Park rangers and other local law enforcement.
- Continue to collaborate with sanctuaries on cross trainings in order to enhance enforcement compliance of both federal and state regulations.

POLICY AND PERMITTING:

Highlights and Key Findings

- The ONMS West Coast Region (WCR) is a member of the MPA Statewide Leadership Team (LT). ONMS staff from MBNMS, GFNMS and the WCR have coordinated information and activities across all pillars between state and federal staff. Some of the outcomes from the LT include a signed memorandum of agreement, a coordinated work plan that is updated annually, and information sharing about proposed projects in state MPAs. This team is a dynamic and collaborative group that includes state, federal and tribal members as well as non-profits, and has done a good job of providing advice to the Secretary of Natural Resources and helping to manage the plethora of activities that occur in the state MPA network. MBNMS staff look forward to continuing to coordinate with the LT on actions in the work plan, especially related to climate change, sea level rise, coastal erosion, ocean acidification and many other climate related challenges that the MPA LT will be addressing over the next decade.
- MBNMS released an updated [Management Plan](#) in November of 2021, which includes an activity (RP-14) to coordinate regionally, nationally, and internationally on MPAs, such as the statewide MPA network.
- MBNMS supports MPA research and monitoring while mitigating natural resource impacts through terms and conditions of sanctuary permits (CFR Title 15 § 922.133). MBNMS has issued dozens of research permits over the last 10 years for MPA research. The permits support long-term subtidal and intertidal monitoring studies of coastal

oceanographic processes, and rocky intertidal and kelp forest communities; studies of juvenile and mature fish, and invertebrate recruitment and movement; and habitat mapping and characterization.

- Sanctuary permits focused on research within MPAs were developed in cooperation with the state agency permit staff, taking the permittee's CDFW Scientific Collecting Permits (SCP) into account. Sanctuary and CDFW permit staff communicate regularly about an array of topics regarding permitting of prohibited activities within MPAs. SCPs and sanctuary permits include contact information for the state and federal permit contacts so the permittee knows how to contact our respective agency staff. MBNMS permit staff will continue to coordinate closely with CDFW, California State Lands Commission and California Coastal Commission permit staff for proposed and authorized activities in state MPAs.

Knowledge Gaps

- The state needs to clarify how or if research or private buoys/moorings, within MPAs or drone flights over MPAs, are permitted by CDFW.
- Sanctuary permit staff also welcome a discussion on implementation of the ecological impact assessment tool and how it may have informed permitting decisions by state staff.

Recommendations

- Coordinate across our respective permit programs to ensure changes or updates to permit policies (e.g. terms and conditions) are shared with each other with adequate notice.
- Identify how permit staff could best inform applicants about each other's regulations, enabling the applicant to contact the appropriate agency in a timely fashion.
- Continue to involve MBNMS staff in discussions regarding policy and/or regulatory changes in MPAs within the sanctuary, for example, the consideration of special closures for seabird protection along the Big Sur coastline, or changes to allowed activities in state MPAs.

Conclusion

MBNMS appreciates the opportunity to provide this information to state MPA leadership. We offer examples of challenges, information gaps and recommendations in the spirit of continued coordination and search for collaborative solutions to better manage and protect our shared coastal and marine resources. Learning from the MPA Decadal Review, MBNMS looks forward to additional collaboration and coordination on the management of the Central Coast MPA Network.