

MPA Day:

MANAGEMENT REVIEW FORUM



Elkhorn Slough SMR, CDFW



Salt Point SMCA, Kevin Joe

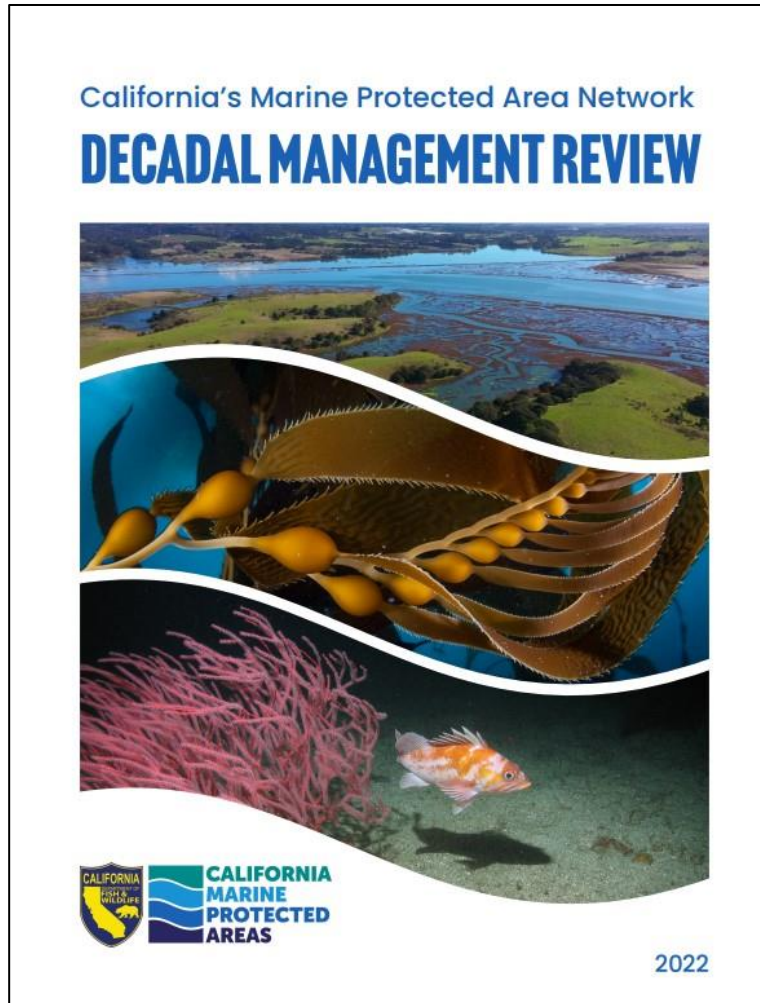


South Point SMR, CDFW

The California Department of Fish and Wildlife (CDFW), the California Ocean Protection Council, and the California Fish and Game Commission, would like to thank you for attending MPA Day: Management Review Forum (Forum).

This Forum is an opportunity for CDFW, tribes, partner organizations, and the public to highlight their collaborative work over the last 10 years that informed the first Decadal Management Review (Review). It also provides an opportunity for two-way conversations about the key findings and recommendations within the context of the Marine Protected Area Management Program's four pillars.

Please use this program to reference the agenda, learn more about our panelists, and visit contributed posters and tables.



Program Contents

Agenda	Page 3
Panelist Biography Guide	Page 4
Table and Poster Guide	Page 17

MPA Day: Management Review Forum Agenda

Wednesday, March 15, 2023 | 9AM-5PM PST

Monterey County Fair and Event Center | 2004 Fairground Road, Monterey, CA 93940

Seaside Room: Plenary Presentations and Discussion from 9AM-5PM

King City Room: Posters and Tables from 9AM-5PM; Reception from 5-6PM

Welcome

Land acknowledgment and welcome from Louise Ramirez, Chairwoman of the Ohlone Costanoan Esselen Nation, and remarks from Charlton H. Bonham, California Department of Fish and Wildlife, Samantha Murray, California Fish and Game Commission, Jenn Eckerle, California Ocean Protection Council, and Nicole Cropper, California Department of Fish and Wildlife.

Introducing the Decadal Management Review

California Department of Fish and Wildlife (CDFW) staff will provide a brief overview of the Review, including connections to the Marine Life Protection Act and how it will inform the MPA Management Program.

MPA Management Pillars, Session 1

CDFW staff will provide an overview of each pillar of the Review, including key findings and recommendations, and connections to climate and fisheries. Panelists representing diverse perspectives will share their experiences with the MPA Network. Opportunities for Q&A on each pillar will follow the presentations and panel discussions. Sessions will focus on the following pillars:

- **Research and Monitoring**
- **Enforcement and Compliance**

Lunch Break

Lunch will be provided to registrants. Poster viewing and tabling in the King City Room will be open during lunch.

MPA Management Pillars, Session 2

Revisit Q&A from Session 1. The afternoon session will focus on the following pillars, using the same format as Session 1:

- **Outreach and Education**
- **Policy and Permitting**

Discussion and Q&A

Opportunity for a broader discussion and Q&A among forum participants across the MPA management pillars.

Closing

Remarks from Craig Shuman, California Department of Fish and Wildlife, and closing from Chairwoman Ramirez.

Reception and Poster Session

Participants are invited to attend a poster presentation session in the King City Room. Light refreshments will be provided courtesy of California Sea Grant.

Persons with disabilities needing reasonable accommodation to participate in this forum are invited to contact the Department's Equal Employment Opportunity (EEO) Office at EEO@wildlife.ca.gov. Accommodation requests for the facility, meeting accessibility, American Sign Language interpreters, and/or real-time captioning should be submitted at least five days before the forum. These time frames are to help ensure that the requested accommodation is met. If a request for accommodation has been submitted but is no longer needed, please contact the EEO Office immediately to cancel the request.



Remote non-interactive streaming available at
https://cal-span.org/meeting/state-sm_20230315-20230315/live
Agenda updated: 3/8/23



MPA DAY: MANAGEMENT REVIEW FORUM PANELIST BIOGRAPHY GUIDE

March 15, 2023

PILLAR: RESEARCH AND MONITORING

Spenser Jaimes	Tomol Paddler/Caretaker, Sacred Places Institute for Indigenous Peoples
Severino Gomes	Cultural Keeper, Kashia Band of Pomo Indians
Mark Carr	Principal Investigator, Partnership for Interdisciplinary Studies of Coastal Oceans
Lisa Gilfillan	California Conservation Manager, WILDCOAST
David Rudie	President, Catalina Offshore Products

PILLAR: ENFORCEMENT AND COMPLIANCE

Tina Calderon	Culture Bearer, Director Ocean Protector Program and IYEJ Associate, Sacred Places Institute for Indigenous Peoples
Ruthie Maloney	Founder and CEO of North Coast Native Protectors Tribal Marine Collaborative
Calla Allison	Founder and Executive Director, MPA Collaborative Network
Jess Morten	Marine Resource Protection Program Director, California Marine Sanctuary Foundation
Dick Ogg	Commercial Fisherman, Bodega Bay
Michael Quill	Marine Programs Director, Los Angeles Waterkeeper

PILLAR: OUTREACH AND EDUCATION

Angela Mooney D'Arcy	Executive Director and Founder, Sacred Places Institute for Indigenous Peoples
Emily Burgueno	Head Seed Keeper, Maat Hetemii
Jules Jackson	Indigenous Engagement Coordinator, WILDCOAST and Founder, Coastal Defenders
Karla Garibay Garcia	Senior Conservation Manager, Azul
Rikki Eriksen	Marine Education and Outreach Director, California Marine Sanctuary Foundation
Wayne Kotow	Executive Director, Coastal Conservation Association California

PILLAR: POLICY AND PERMITTING

Louise Ramirez	Chairwoman, Ohlone Costanoan Esselen Nation
Erika Zavaleta	Vice President, California Fish and Game Commission
Jenn Eckerle	Deputy Secretary for Oceans and Coastal Policy, California Natural Resources Agency and Executive Director, California Ocean Protection Council
Karen Grimmer	Resource Protection Coordinator, Monterey Bay National Marine Sanctuary
Anna Neumann	Harbormaster, Noyo Harbor

Pillar: Research and Monitoring

Spenser Jaimes, Tomol Paddler/Caretaker, Sacred Places Institute for Indigenous Peoples

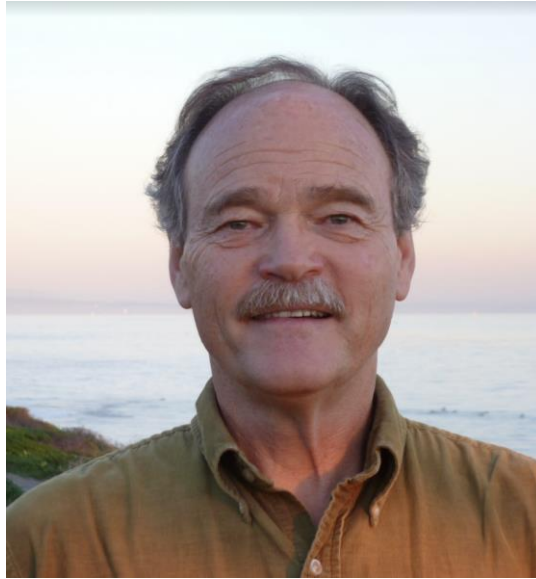


Spenser Jaimes is a Šmuwič and Island Chumash tomol paddler and caretaker of the Xax' 'Aloik'oy and 'Eleye'wun, two traditional tomols. His family comes from the villages of Syxutun (Santa Barbara) and Swaxil on Limuw (Santa Cruz Island.) As a paddler and caretaker, his focus centers on the continued natural relationships with his homelands, the revitalization of cultural practices such as traditional fishing, and advocating for fishing rights for his tribe. His documentary short "Connected by Water" premiered at the Santa Barbara International Film Festival in 2021 and highlighted the traditional connection in paddling between coastal tribes in the Southern California area. He is currently a Production Assistant for Sacred Places Institute for Indigenous Peoples' media team and also works as a Program Associate for Indigenous Youth Environmental Justice (IYEJ).

Severino Gomes, Cultural Keeper, Kashia Band of Pomo Indians

[Information not available]

Mark Carr, Principal Investigator, Partnership for Interdisciplinary Studies of Coastal Oceans



Mark Carr is a coastal marine ecologist and professor of marine ecology in the Department of Ecology and Evolutionary Biology at the University of Santa Cruz. He participated in the MLPA planning process as a member of the science advisory team, and in the monitoring and evaluation of kelp forest ecosystems since the establishment of the network.

Lisa Gilfillan, California Conservation Manager, WILDCOAST



Lisa Gilfillan is WILDCOAST's Ocean Conservation Manager. WILDCOAST is an international non-profit that conserves coastal and marine ecosystems and addresses climate change through natural solutions. Based in San Diego, Lisa is working to conserve Marine Protected Areas (MPAs) in California through monitoring, compliance, and education initiatives. Lisa is a co-chair of the San Diego County MPA Collaborative and coordinates the MPA Watch community science program, which collects human use data in and around protected areas.

David Rudie, President, Catalina Offshore Products



Dave Rudie is the founder and president of Catalina Offshore Products (founded in 1977), one of Southern California's premier seafood purveyors and a recognized industry leader. In addition to overseeing his business, Dave contributes his expertise to numerous organizations, including the California Sea Urchin Commission (Chairman) California Fisheries & Seafood Institute (CEO); the California Pelagic Fisheries Association (President); and the Pacific Fishery Management Council's Highly Migratory Species Advisory Subpanel (Chairman). His commitment to promoting sustainable, science-based ocean industries has influenced policy to benefit fishermen, fisheries research, and conservation. He has also been involved in ongoing collaborative efforts with science, fishing, processing, and culinary partners toward a zero-waste seafood supply chain. In his spare time, Dave enjoys diving, underwater photography, gardening, and introducing his young granddaughter to the ocean and its bounty.

Pillar: Enforcement and Compliance

Tina Calderon, Culture Bearer, Director Ocean Protector Program and IYEJ Associate, Sacred Places Institute for Indigenous Peoples



Tina Orduno Calderon is a Culture Bearer of Gabrielino Tongva, Chumash, and Yoeme descent. She is wife, mother, grandmother, sister, and auntie to many. Tina is a singer who also enjoys creative writing and composing poems and songs. To date, she has composed over a dozen songs in her ancestral languages of Tongvé and Chumash. Additionally, Tina is a traditional dancer and storyteller who strongly believes in honoring her ancestors by sharing their history and educating others about Indigenous truths. Tina works with many youth groups, environmental organizations, and schools, and she serves on several Boards and holds a few Advisory positions, all in the educational and environmental fields, in order to give voice to the lands, waters, and sacred elements and to encourage others to be good relatives.

Below are some of Tina's current partnerships:

- Special Advisor to AltaSea
- Treasurer, Acjachemen Tongva Land Conservancy
- Chair, LA RiverX
- Board, El Sereno Community Land Trust
- Cultural Advisor LA River Public Art Project
- Member, United Descendants of Puvungna Council
- Parent Advisory Council, ECLD / FTBMI
- Board, Pasadena Native Plant Project
- Tongva Language Committee
- Šmuwič Language, Core Learners Group
- Director, Ocean Protectors Program & IYEJ Associate, Sacred Places Institute for Indigenous Peoples
- Homeboy Art Academy, Healing Circle / Culture Advocate
- Cultural Mentor, International Indigenous Youth Council – LA
- OCMFAC – Racial, Indigenous & Social Justice Committee Co-Chair

Ruthie Maloney, Founder and CEO of North Coast Native Protectors Tribal Marine Collaborative



Ruthie A. Maloney, MA (Yurok ~ Navajo)
Humboldt State University – Arcata, CA

B.A. Communication, Minor Native American Studies, 2007

M.A. Social Sciences Environment and Community, 2014

Master Thesis – Visionary Policy: The Tribal Water Stories Project

I am from the Villages of Tue-rep & Weych-pues on the Yurok reservation. I am proud to be a Yurok tribal citizen as well as Deni' (Navajo from the edge of water and bitter water clan from Moneave, AZ). I was born and raised on the Hoopa Valley Indian Reservation along the Klamath & Trinity Rivers. I am a traditional gatherer, basket weaver, fisher, and holder of sacred knowledge. I have learned from my elders, and it is my duty to pass on this knowledge and protect our traditional way of life for future generations. My life's work has been an honor and a privilege, leading me to future opportunities in which my work experience and tribal voice can be heard at the State and Federal level for water protection, that includes ocean waters and marine resources. I have been active in dealing with the State of California on water and coastal matters for over a decade. I have worked in various employed positions at the Yurok Tribe. I currently serve on the Yurok Tribe Natural Resources Committee. I am the founder and CEO of North Coast Native Protectors Tribal Marine Collaborative.

Calla Allison, Founder and Executive Director, MPA Collaborative Network



Calla Allison has been working and playing along the coast of California her entire life, from a 16-year career as an Ocean Lifeguard to seven years as the Marine Protection Officer for the City of Laguna Beach. Combining this on-the-ground expertise with knowledge acquired from her master's degree in Pacific International Affairs, Calla led a county-based, multi-organization group who collaborated to manage the local marine protected areas (MPAs) of Orange County more effectively. In 2013, she expanded this model statewide, founding the MPA Collaborative Network to assist the state of California in stewarding their network of 124 marine protected areas.

Jess Morten, Marine Resource Protection Program Director, California Marine Sanctuary Foundation and NOAA Resource Protection Specialist Affiliate with NOAA's Channel Islands, Cordell Bank, and Greater Farallones National Marine Sanctuaries



Jessica (Jess) Morten is the Marine Resource Protection Program Director at the California Marine Sanctuary Foundation and a National Oceanic Atmospheric Administration (NOAA) Resource Protection Specialist Affiliate with NOAA's Channel Islands, Cordell Bank, and Greater Farallones National Marine Sanctuaries. For the past seven years, Jess has supported national marine sanctuaries on resource protection projects in California, including on efforts focused on improving enforcement and compliance tracking and allied agency marine domain awareness in Marine Protected Areas through tools like the eFINS data collection app and M2 shore-based radar monitoring systems. In her role with sanctuaries, Jess also coordinates and supports West Coast Region efforts to reduce ship strikes on endangered whales.

Dick Ogg, Commercial Fisherman, Bodega Bay



I have had the good fortune of living in Sonoma County for 62 years. I have fished and dove along our coastline for over 50 of those years. I have had a very diverse background, ranging from electrical contracting to operating and teaching martial arts in a school I owned. I started fishing with my grandfather (who was a Ponca Native American) at around the age of 5. Since then, I've never stopped. Water has always been my lifeblood, and the opportunity to provide a sustainable product from a resource that belongs to the public is now more critical than ever. So as commercial fishermen, we are the stewards of the oceans, and my hope is to continue that stewardship and pass it along for generations to come.

Michael Quill, Marine Programs Director, Los Angeles Waterkeeper



Michael Quill, Ph.D., LA Waterkeeper's Marine Programs Director joined their Kelp Restoration Project in 2007 as a volunteer diver. He was soon lured out of the water into the Marine Life Protection Act hearings, and he was hooked. Quill has run their MPA boat-based survey program since 2012.

Pillar: Outreach and Education

Angela Mooney D'Arcy, Executive Director and Founder, Sacred Places Institute for Indigenous Peoples

[Information not available]

Emily Burgueno, Head Seed Keeper, Maat Hetemii

[Information not available]

Jules Jackson, Indigenous Engagement Coordinator, WILDCOAST and Founder, Coastal Defenders



Coach Jules Jackson is the Outreach + Indigenous Engagement Coordinator at Wildcoast and Founder of Coastal Defenders. She is a member of the Nanticoke Nation/Tidewater People and has coached and mentored youth for the last 20 years. Coach Jackson is passionate about creating equitable pathways to help return land and water stewardship to Indigenous nations and people.

Karla Garibay Garcia, Senior Conservation Manager, Azul

[Information not available]

Rikki Eriksen, Marine Education and Outreach Director, California Marine Sanctuary Foundation



As Director of Marine Programs for the California Marine Sanctuary Foundation, Dr. Rikki Eriksen works with communities, businesses, non-governmental organizations, foundations, academic institutions and government agencies supporting the Ocean Protected Council and California Department of Fish and Wildlife across a variety of marine issues. Her work helps implement the state's Marine Life Protection Act. Rikki holds a Master's degree from Duke University and a Ph.D. at the University of Florida where she applied landscape ecology principles to the design and management of MPAs in coral reef ecosystems. Her field work has taken her throughout the Caribbean, the wider Indo-Pacific region and Latin America conducting field surveys and working with local communities to examine the effectiveness of MPAs. She has more than 50 publications addressing a range of topics, and her research has focused on the use of science in marine resource policy development and implementation through use of spatial ecological analysis, ecosystem-based management, and education and outreach.

Wayne Kotow, Executive Director, Coastal Conservation Association California



Wayne Kotow is the Executive Director for Coastal Conservation Association of California, an organization that represents the saltwater angler. Wayne is a passionate life-long angler that believes in conserving our resources while maintaining our access to them.

Pillar: Policy and Permitting

Louise Ramirez, Chairwoman, Ohlone Costanoan Esselen Nation

[Information not available]

Erika Zavaleta, Vice President, California Fish and Game Commission

Erika Zavaleta, of Santa Cruz, California, was appointed to the California Fish and Game Commission in March 2021 and reappointed in January 2022; her term expires in January 2028. Erika is a Professor of Ecology and Evolutionary Biology at the University of California, Santa Cruz (UCSC), where she helped found the Coastal Science and Policy graduate program and runs the Doris Duke Conservation Scholars Program and the Center to Advance Mentored, Inquiry-based Opportunities (CAMINO). Erika joined the faculty in 2003 and has since partnered on projects with scientists, farmers, hunters, ranchers, indigenous communities, conservation organizations, state and federal agencies and private foundations. Erika earned a Doctor of Philosophy degree in biological sciences and a Master of Arts degree in anthropology from Stanford University. She won the 2007 Ecological Society of America (ESA) Sustainability Science Award for work on community responses to climate change and wildfire in Alaska's boreal forests. She co-edited the book *Ecosystems of California*, which in 2016-17 won a California Book Award and its partner *Guide for Policymakers* volume, which brought together hundreds of experts across the state in every aspect of ecology and stewardship. Erika has served on boards for the Wildlife Conservation Society and the Society for Conservation Biology and is a Fellow of the California Academy of Sciences and the Ecological Society of America. Her favorite pastime is exploring the outdoors with family, friends, and her students.

Jenn Eckerle, Deputy Secretary for Oceans and Coastal Policy, California Natural Resources Agency and Executive Director, California Ocean Protection Council



Jenn Eckerle is the Deputy Secretary for Oceans and Coastal Policy at the California Natural Resources Agency and Executive Director of the Ocean Protection Council (OPC). Jenn serves as a key advisor to the Governor and the Secretary for Natural Resources and directs policy, scientific research, and critical partnerships to increase protection of California's coast and ocean. Jenn served as OPC's Deputy Director from December 2016 to October 2022. Before joining OPC, Jenn spent eight years as an Ocean Policy Analyst for the Natural Resources Defense Council, where she conducted technical analysis and developed policy recommendations to advance ocean conservation. Prior to that, she was a Coastal Program Analyst for the California Coastal Commission and the San Francisco Bay Conservation and Development Commission. Jenn earned an M.S. in Marine Biology from the Florida Institute of Technology and a B.S. in Biology from the University of Vermont.

Karen Grimmer, Resource Protection Coordinator, Monterey Bay National Marine Sanctuary



Karen has led the Monterey Bay National Marine Sanctuary (MBNMS) Resource Protection team for the past ten years, which includes marine policy, emergency response, permitting, regulatory changes, and enforcement coordination. Prior, she served as Deputy Superintendent from 2007 to 2012. She has over twenty-five years of experience in marine resource management and oversees the site's marine policy activities including whale conservation (entanglement and vessel speed reduction), fisheries-related actions (essential fish habitat), and offshore wind energy, as well as environmental review for construction activities. Karen led a team to establish Sanctuary Ecologically Significant Areas within the Sanctuary, and served on the California State-led Marine Protected Area Leadership Team for five years. Karen received her Bachelor of Science in Biology from San Francisco State University and her Master of Science in Education from California State University, Hayward.

Anna Neumann, Harbormaster, Noyo Harbor

Harbormaster for the Noyo Harbor District, Fort Bragg. Anna has recently taken the position of Harbormaster for Noyo Harbor, she completed her Master of Science in 2021 in Fisheries Policy and Management from Oregon State University and has worked as a commercial fishermen, fishmonger and research scuba instructor on the North Coast. She is the co-chair for the Mendocino MPA Collaborative Network and the Chair of Mendocino Fish and Game Commission.

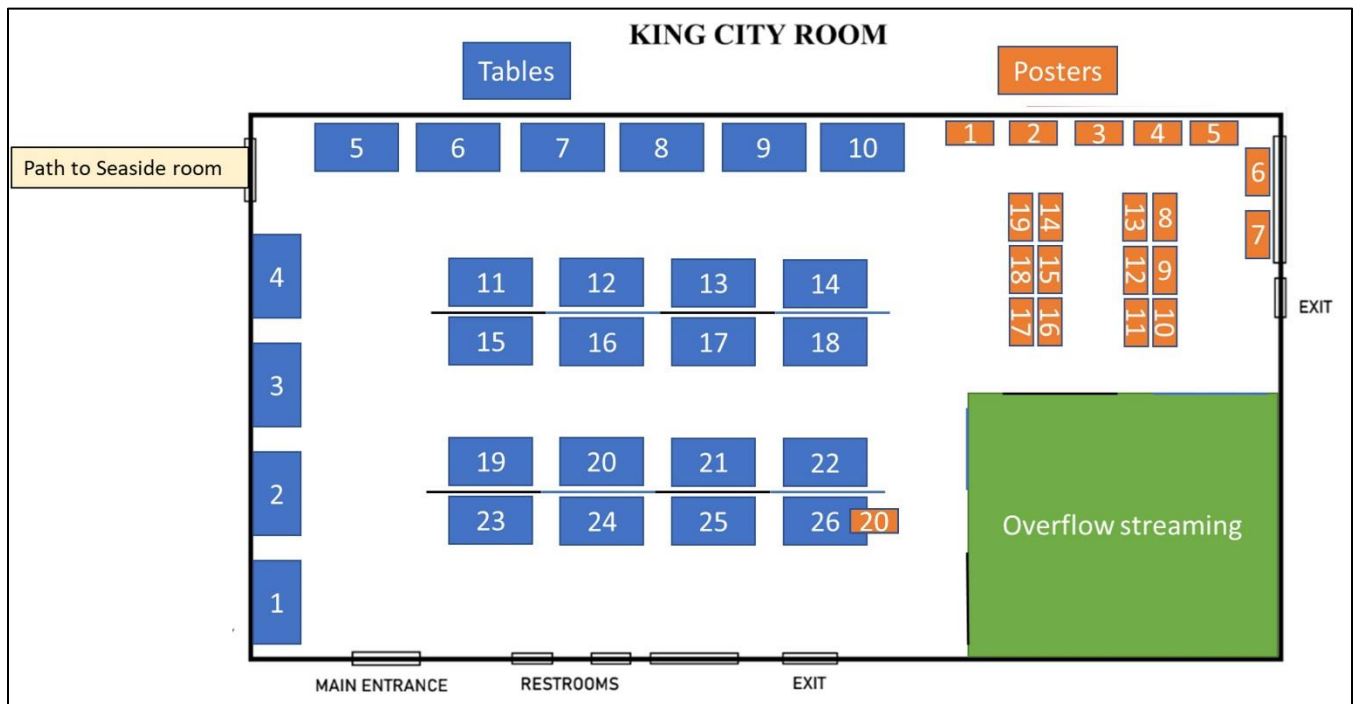
MPA DAY: MANAGEMENT REVIEW FORUM

TABLE AND POSTER GUIDE

March 15, 2023

Thank you to all who registered to attend the MPA Day: Management Review Forum (Forum) to share the findings and recommendations of the Decadal Management Review. This guide provides an overview of partners, agencies, and organizations who will be at the Forum sharing information at tables and/or posters of the work they are doing, or have done, to support California's Marine Protected Areas Network over the past 10 years.

Please reference this map of the King City room to identify where to find specific tables and posters.



CONTRIBUTED TABLES

TABLE	TABLE TITLE	AFFILIATION
1	MPA Watch Boat-Based Surveys Connecting Community	Los Angeles Waterkeeper
2	MPA Watch Network's Boat-Based Surveys	MPA Watch Boat Based Surveys
3	Volunteer Diving Community – The Giant Kelp Restoration Project	Giant Kelp Restoration Project
4	Marine Monitor (M2) Shore-Based Radar Data in California Marine Protected Areas	ProtectedSeas
5	California Collaborative Fisheries Research Program	Moss Landing Marine Laboratories, SJSU
6	Deep-water MPA Monitoring using a Remotely Operated Vehicle	Marine Applied Research and Exploration
7	Multi-Agency Rocky Intertidal Network	UC Santa Cruz; Multi-Agency Rocky Intertidal Network
8	California Ocean Observing Systems	Southern & Central California Coastal Ocean Observing Systems
9	MPA Collaborative Network	MPA Collaborative Network
10	MPA Outreach and Education with California State Parks	Department of Parks and Recreation
11	California Department of Fish and Wildlife Resources Table	Department of Fish and Wildlife
12	California Native American Tribal Resources Table	California Native American Tribes
13	California Native American Tribal Resources Table	California Native American Tribes
14	Tribal Marine Collaborative	Tribal Marine Collaborative
15	Reef Check Kelp Forest Monitoring Program: How citizen science can inform marine resource management and policy	Reef Check Foundation
16	NOAA's West Coast National Marine Sanctuaries	Monterey Bay National Marine Sanctuary
17	California Sea Grant	California Sea Grant
18	Environmental Action Committee's Work in Support of California's MPAs in Marin County	Environmental Action Committee of West Marin
19	Orange County Coastkeeper Marine Protected Area projects	Orange County Coastkeeper
20	Monterey Waterkeeper	Monterey Waterkeeper
21	Monterey Audubon Society – Seabird and shorebird monitoring	Monterey Audubon Society
22	High Ambition Coalition for Ocean Protection	Natural Resources Defense Council
23	MPA Watch: Community Science for Stewardship of Ocean Resources	MPA Watch/WILD Coast
24	Santa Barbara Channelkeeper – Outreach and Community Support for Santa Barbara MPAs	Santa Barbara Channelkeeper
25	Maritime Heritage: California's New, and Existing, Marine Conservation Opportunity	Sea of Clouds
26	10 years of California MPA Network Support by the California Marine Sanctuary Foundation	California Marine Sanctuary Foundation

CONTRIBUTED POSTERS and ABSTRACTS

The following posters are numbered in reference to their room location. Note – poster abstracts have not been edited by Forum staff and appear in their original submitted form.

1. Enforcement and Compliance through the MPA Collaborative Network

Affiliation: MPA Collaborative Network

The MPA Collaborative Network (CN), a network of diverse coastal communities, supports CDFW's MPA management team and Law Enforcement Division to enhance compliance in MPAs statewide through leveraging existing allied agency resources and utilizing local community member observations and expertise. Through multiple rounds of Compliance Initiatives, the CN has: 1) hosted community compliance forums to inform targeted and community-driven compliance projects, 2) engaged with enforcement partners through trainings for officers and collecting data on contacts, warnings, citations, 3) developed and distributed Officer Reference Guides with MPA boundary images from a licensed land surveyor, and 4) worked to increase MPA awareness among District Attorneys and California Judges. Additionally, the MPA Collaborative Network leverages existing strategic and grassroots education and outreach efforts to improve compliance locally. Overall, these efforts are filling enforcement and compliance project and data gaps crucial to assessing the effectiveness of the MPA network to meet the goals of the Marine Life Protection Act.

2. MPA Collaborative Network: Outreach and Education

Affiliation: MPA Collaborative Network

The MPA Collaborative Network, a network of diverse coastal communities, supports CDFW's MPA management team and to enhance education and outreach on MPAs statewide. Through multiple rounds of Education and Outreach and Compliance Initiatives, the CN has completed outreach and education materials and projects including: 1) incorporated justice, equity, diversity, inclusion, (JEDI) and access into outreach efforts throughout state (including "Community-vetted translations", "Best Practices for Tribal Engagement in MPA stewardship and management, and hosting the "Pathways to JEDI for California's Coast and Ocean Workshop Series), 2) created interpretive signs throughout the state, 3) created online learning modules for docents and volunteers, 4) created informational brochures statewide, 5) created standing photo display "exhibits" statewide, 6) created and distributed MPA Coloring books and Coastal Explorer Guides, 7) creating a docent scheduling platform for volunteer coordination at intertidal hotspot locations statewide, 8) created MPA videos for various audiences, and 9) many other initiatives and unique pilot projects. Overall, these efforts are filling education and outreach gaps crucial to ensuring equitable MPA stewardship and management.

3. MPA Collaborative Network: Supporting Research and Monitoring

Affiliation: MPA Collaborative Network

The 14 collaboratives in the MPA Collaborative Network (CN) primarily support MPA research and monitoring through participation in Community and Citizen Science (CCS) programs and by serving as a forum for sharing, integration, and collaboration among researchers, CCS participants, agencies, Tribes, and interested community members. Collaborative

members are heavily involved in a diverse array of CCS programs (e.g., Snapshot Cal Coast, MPA Watch, California Collaborative Fisheries Research Program, Reefcheck, etc). The CN also has a mini-remotely operated vehicle (ROV) program where each collaborative has access to Trident mini-ROVs for monitoring or educational purposes. The mini-ROVs are part of a CN-led community science project with AGU's Thriving Earth Exchange program to contribute subtidal biodiversity data from underwater videos to biodiversity databases, expanding the reach of Snapshot Cal Coast bioblitzes into the subtidal zone. Traditional researchers participate in the collaboratives by informing MPA education and outreach efforts and by participating in Collaborative hosted research symposia to share research conducted by members and provide networking opportunities for students. Furthermore, the CN provides a statewide forum for elevating concerns around research and monitoring to state managing agencies.

4. Community and Citizen Science Impacts and Opportunities in California's MPA Network

Affiliation: Center for Community and Citizen Science, UC Davis

Community and citizen science (CCS), programs and opportunities through which members of the public collaborate on research and monitoring, has become a common feature of ocean conservation and management efforts. Especially in the case of marine protected areas (MPAs), CCS often involves more than just gathering data relevant for MPA performance indicators. Natural resource managers recognize possibilities for CCS to contribute to implementation goals such as outreach, education, enforcement, and compliance. In other words, CCS has the potential to strengthen the roles of communities in ongoing MPA implementation.

But we have little systematic information about how CCS has met that potential. CCS projects are extremely varied in terms of study focus, as well as the overall structure of activities. This raises further questions about how different kinds of CCS lead to different kinds of opportunities for, and barriers to conservation. We completed an analysis of CCS related to MPAs in California based on interviews, surveys, and reports that illuminates the power and potential of CCS to actively impact natural and human systems that relate to MPAs and directly contribute to conservation and management goals.

Over the past decade in California more than 84,000 members of the public participated in monitoring within 76 MPAs across 10 state-funded projects. A survey of 29 additional CCS projects revealed 70,000 CCS participants monitored within 21 MPAs. While there is much more that can be done to coordinate, leverage, assess, and sustain the role of CCS in MPA implementation, our analysis highlights the desire, utility, and potential for broad public engagement in MPA monitoring that contributes to ocean conservation and management.

5. Collaborative processes and partnerships for statewide synthesis of MPA Watch data

Affiliation: Center for Community and Citizen Science, UC Davis

MPA Watch has been collecting data for more than a decade that contributes both to understanding how people are using MPAs (and coastal areas in general) and to enforcement and compliance with the Marine Life Protection Act. This poster focuses on the partnerships and processes that support taking that data and translating it into something directly useful for decision makers. MPA Watch surveyors collect information on human

activities up and down California's coast, accumulating more than 40,000 observations, from 4,000 volunteers, over 10 years. This data is important for MPA management, but the dataset is highly complex and challenging to interpret. Sophisticated statistical models can accommodate varying measurement effort over space and time, controlling for known sources of variability and helping to address key questions about the process of interest (human coastal use). However, in practice, this analysis involves iteration to find an appropriate modeling approach that addresses technical concerns and can address priority questions of various partners. Even then, interpretation of model results requires iteration and collaboration. We describe our iterative process over the last four years and share ideas about how to make the modeling results and process more accessible to all people with an interest in the dataset. In addition, we discuss how the analysis could help MPA Watch managers to improve their programs' data collection processes. We describe the partnerships that supported this process, between academic entities, funders, the MPA Watch program itself, and others.

6. Highlights of MPA Education and Outreach in California over 10 years

Affiliation: California Marine Sanctuary Foundation

In 2007, CMSF began to focus on MPA education and outreach efforts, becoming the first NGO to work statewide, developing standardized educational products, facilitating monitoring and technological advances, and increasing stewardship through a variety of novel approaches. This poster will provide an overview of MPA Education and Outreach in California over the past 15 years.

7. Reaching angling and ocean users to increase stewardship of California's MPA Network

Affiliation: California Marine Sanctuary Foundation

In response to requests from anglers, boaters, ocean recreation businesses, harbor masters and bait and tackle shops, CMSF created a suite of resources for different communication outlets. CMSF fabricated postcards, tidebooks with MPA content, magazine articles, waterproof posters, and hosted advertisements in fishing magazines. In addition, CMSF collaborated with Fishing Clubs and ocean recreation businesses to discuss MPA information.

8. electronic Fisheries Information Network System (eFINS)

Affiliation: California Marine Sanctuary Foundation and NOAA's Channel Islands National Marine Sanctuary

Local, state, and federal marine natural resource management agencies in California are adopting and embracing geospatial data-driven tools and technologies that can greatly contribute to their ability to protect coastal marine resources. For the past six years, the California Marine Sanctuary Foundation (CMSF), NOAA Channel Islands National Marine Sanctuary (CINMS), California Department of Fish and Wildlife (CDFW), and Channel Islands National Park (NPS) have worked together with the support of Resources Legacy Fund (RLF) to pilot and maintain a mobile data collection and reference app called eFINS that complements the way that enforcement data is collected and accessed by marine patrol officers within CDFW and NPS. Over 5,000 enforcement contact records have been inputted across the state into the eFINS app by CDFW and NPS officers since 2017, contributing to a

greater understanding of violations occurring within Marine Protected Areas as well as improved coordination between allied enforcement partners.

9. Marine Monitor (M2) Shore-Based Radar Data in California Marine Protected Areas

Affiliation: ProtectedSeas

The ProtectedSeas Marine Monitor (M2) utilizes commercial-off-the-shelf marine radar to continuously and autonomously track vessels on the water out to five nautical miles from shore. As resource managers and marine law enforcement seek ways to monitor and understand vessel traffic around MPAs, reduce monitoring and patrolling costs, and utilize technologies to track vessels and build historic data over time, the M2 system is an efficient and effective shore-based asset for informing nearshore marine management. Since 2015, a collaboration of scientists, agency partners, and nonprofits have deployed M2 systems in California to monitor vessel activity in areas of interest along the coast including 12 state marine protected areas. M2 was highlighted in the Decadal Management Review as a tool for enforcement and value in supporting cases against MPA offenders, including an illegal fishing conviction in 2021. The poster will note M2 sites in California and the associated MPAs monitored by the system as well as examples of the data collected.

10. 10 Years of MPA Watch in Los Angeles County

Affiliation: Heal the Bay

Since the adoption of the Marine Life Protection Act (MLPA) in 1999, Heal the Bay, an environmental nonprofit operating in the Los Angeles region, has been an active stakeholder in education, outreach, and monitoring efforts for California's network of Marine Protected Areas (MPAs). In 2011, Heal the Bay launched one of the very first MPA Watch programs in the state. MPA Watch is a statewide community science program that trains volunteers to observe and collect data on human activities inside and outside MPAs. Heal the Bay volunteers collected thousands of human use surveys over the past 10 years that provide invaluable insight into the human dimension of MPA management in the most populated county in the state. A 10-year analysis of shore-based MPA Watch data in Los Angeles County, including activity incidence and observed violation trends, found shore-based hook and line fishing to be the highest observed violation activity in LA County MPAs and found downward observed violations in two of the four mainland LA MPAs, but stagnant observed violation trends over time in the other two MPAs. This data suggests changes in enforcement and public engagement are needed in certain LA County MPAs.

11. Multi-Agency Rocky Intertidal Network (MARINE) Monitoring Finds MPA Network Connectivity Provides Community Stability

Affiliation: University of California at Santa Cruz; Multi-Agency Rocky Intertidal Network

The Multi-Agency Rocky Intertidal Network (MARINE) monitoring program, a partnership of over 35 agencies and universities, is the largest and longest-running intertidal project of its kind. The program has more than 200 monitoring sites stretching from Alaska to Mexico, and some have been sampled for 30+ years (pacificrockyintertidal.org). MARINE conducts two survey types at different frequencies that, together, provide valuable information on large-scale spatial and temporal trends for rocky intertidal communities. These surveys have been an integral part of the assessment of rocky intertidal habitats for the California Marine

Protected Area (MPA) Monitoring Program. While our data have provided many insights into this decadal MPA review, here we focus on the connections between MPA sites and increased resiliency to disturbance as compared to reference sites. Statewide, intertidal communities inside MPAs were more stable over time than reference sites, both during and after the unprecedented 2014–2016 marine heatwave. MPAs did not appear to help mitigate against the initial effects of the marine heatwave. However, some ecological communities within MPAs showed more resiliency and signs of recovery after the heatwave than reference sites. These findings indicate MPAs may stabilize communities because they have greater propagule connectivity than reference sites, and that this effect is primarily manifested under periods of stress (such as the marine heat wave). Our results suggest California’s network of MPAs are functioning as designed: providing community stability via connectivity and thereby protecting this important coastal habitat and associated species.

12. Reef Check California: Citizen Science MPA Monitoring

Affiliation: Reef Check Foundation

The Reef Check California (RCCA) program was developed at the same time that the Marine Life Protection Act Initiative (MLPA Initiative) began designing the MPA network and implementing the first MPAs in the MLPA Central Coast Region. From the beginning, it was designed to meet the need for a long-term monitoring program and public participation in the implementation and management of California’s MPA network. Reef Check thus designed its subtidal monitoring program to maximize the usefulness of citizen scientist collected data for MPA management. Key steps during program design strove to ensure the usefulness and longevity of data.

Since its inception, RCCA has conducted over 1,400 surveys at over 100 sites from San Diego to Del Norte County. In recent years, RCCA has conducted about 115 surveys per year and its baseline as well as long-term monitoring data have been used in many contexts beyond the MLPA process. The program has engaged over 1,200 volunteer scuba divers that have contributed more than 10,000 volunteer days to monitoring California’s MPAs and kelp forest ecosystems.

Recently, the program has grown geographically by expanding monitoring into Oregon and Washington. Initially developed to provide data for MPA management, Reef Check now works on many aspects of marine management, conservation and engagement of diverse communities along the entire West Coast.

13. Improving Water Quality for Marine Protected Areas

Affiliation: California Coastkeeper Alliance; Monterey Waterkeeper; and The Otter Project

To protect our coast from the threat of land-based pollution, the State Water Board created State Water Quality Protection Areas (SWQPAs). These areas, like MPAs, serve as a tool to protect and preserve marine ecosystems from human interference. While MPAs manage what activities can take place within the protected area (such as fishing or recreational diving), SWQPAs regulate the water quality that washes off our coast and into these areas.

Currently only 45 of the 124 MPAs have at least some overlap with SWQPAs, but all MPAs would benefit from the additional water quality protection. In 2020, the state adopted its Ocean Strategic Plan through the Ocean Protection Council. Within the Strategic Plan, the state

commits to “Strengthen water quality protection in MPAs equivalent to at least that of Areas of Special Biological Significance or State Water Quality Protection Areas by 2023.”

Our poster will provide a map of where MPAs have overlap with SWQPAs, educate attendees on existing efforts to nominate new SWQPAs to protect MPAs, and recommendations on how to improve water quality for existing SWQPAs.

14. MPA Watch: Community Science for Stewardship of Ocean Resources

Affiliation: MPA Watch/WILDCOAST

MPA Watch is a statewide network of programs that support healthy oceans through community science by collecting human use data in and around marine protected areas and contributing that data to the adaptive management of California’s MPAs. As MPAs were implemented statewide, MPA Watch’s guiding question was: “How is the public using MPAs, and do they seem to be aware of and following MPA regulations?” Organizations from throughout the state expressed interest in conducting MPA Watch surveys, so MPA Watch was expanded and modeled as a network. Currently 13 partner organizations are responsible for recruiting, training, and managing hundreds of surveyors in their own regions. Community science programs are valuable educational tools that inform volunteers about the topic on which they are collecting data and reinforce and deepen understanding of the subject through hands-on interaction. In addition to making science accessible to the public, community science programs increase the quantity of data collected, allowing for a greater scope of work. Effectively monitoring human use of California’s 545,290-acre MPA network requires the scope of work made possible by community science. MPA Watch, as a well-established community science program, is uniquely poised to collect valuable monitoring data, while also educating target audiences and the public about MPAs.

15. Temporal Trends and MPA Effects in Mid-depth Reefs Across California’s MPA Network Using a Remotely Operated Vehicle

Affiliation: Marine Applied Research and Exploration

Marine Applied Research and Exploration (MARE) have been using remotely operated vehicle (ROVs) to collect data across mid-depths (30-150 m) in California’s marine protected area (MPA) network since network establishment. These depths encompass the vast majority of rocky reef habitat in state waters; therefore, reporting on MPA trends across these depths is critical to the effective monitoring of the MPA network. The ROV data set, collected by MARE and California Department of Fish and Wildlife, spans the entire state and up to 17 years of MPA protection for some MPAs, providing a unique opportunity to examine the influence of MPAs on the density of key targeted fish species as well as overall trajectories of density through time. However, analysis of such an extensive data set provides a number of unique challenges, including accounting for differences in habitats and depths surveyed, length of MPA protection, differences in MPA qualities such as size and distance-to-port, and spatial autocorrelation in the data. Here we report on the results of a model-based analysis of California’s ROV MPA monitoring data with the primary aim of quantifying the MPA effect on the density of ten focal species that are key fished species across the state, and one species grouping. We quantify the MPA effect at a network-wide scale for four species with a wide geographical distribution, and within bioregions (North, Central, and South) for all species in the regions which they occur. We report a large number of positive responses in the density

of our focal species to MPA establishment with increases in abundance through time compared to unprotected areas. We also highlight that confidence in the size of MPA effects increases at larger scales; that is, we have increased confidence in statewide effects compared to regional effects, and regional effects compared to individual MPA effects. This reinforces the importance of collecting data over a larger number of MPAs with a sufficient number of revisits (at least three for trend detection) when the aim is to detect regional and statewide effects. Finally, we also show that almost all our focal species have strong trajectories of increasing abundance outside of MPAs across bioregions over the survey period. Our results have important MPA management implications: (i) they provide robust estimates of MPA effectiveness to inform adaptive management and show encouraging signs of positive MPA effects; (ii) they point to the importance of a well-designed monitoring program that collects data over a larger number of MPAs when the aim is to report on network-wide and regional MPA effectiveness; and (iii) they provide a trajectory of changing abundance of our focal species through time to help inform fisheries management outside MPAs.

16. Monitoring and Evaluation of Kelp Forest Ecosystems in the MLPA Marine Protected Area Network

Affiliation: UCSC

Kelp forest and nearshore rocky reef ecosystems are among the most productive in the world and provide numerous important services to humans. Because of their great productivity, biodiversity, and associated ecosystem services, they were targeted for protection by the MLPA planning process. A consortium of academic monitoring programs and a citizen science program was formed to conduct kelp forest monitoring across the network. The kelp forest monitoring datasets are among the longest time series in California for MPA evaluation and many were established at the time of MPA implementation. These surveys enumerate nearly all of the components of the ecosystem including fishes and invertebrates that are targeted by fishing and those that are not fished. These aspects allowed us to create a framework to test for MPA effects that takes into account the trajectories of species that are expected to be affected by cessation of fishing (Targeted species) and those that are not expected to be directly influenced (Non-targeted species). Using this framework, we can test the effects of cessation of fishing, while controlling for changing environmental conditions independent of MPA effects. The kelp forest monitoring is the only program that can utilize this accurate, albeit strict, test of MPA performance. In addition to the in situ ecological monitoring, this program also conducted a) in situ environmental monitoring (OAH and water temperature) at select sites throughout California and b) analysis of a long-term, large scale database of remotely-sensed kelp canopy cover.

17. Don't Forget the Scientific Collecting Permit

Affiliation: California Department of Fish and Wildlife

Every year, hundreds of fascinating scientific projects occur in California's marine and coastal environments. Projects range from studying alternative energy sources, species behavior, climate change impacts on large communities, and more. As the trustee agency for California's natural resources, the California Department of Fish and Wildlife (CDFW) aims to balance such projects with conservation of marine resources. This is accomplished with a

scientific collecting permit (SCP) issued by CDFW to allow take and/or possession of live and dead wildlife for education, research, or propagation purposes. Applying for, and issuance of these permits, helps both researchers and CDFW responsibly monitor coastal California. Researchers can be advised how to minimize cumulative impacts to the environment, and for CDFW, data from these permits can be used to assist in oil spill responses, inform management decisions, and coordinate emergency responses for endangered species. An average of 183 applications are submitted each year. Statewide 98% of permits are approved but the process towards getting that permit approval can still be confusing. This poster will provide a cursory explanation of the review process which will help new and former applicants develop a better understanding of the need and purpose of SCPs. Knowing what CDFW looks for during the review process will help applicants submit complete applications that will be processed and approved faster. Researchers and students will walk away from the poster with the information needed to submit a successful SCP application.

18. Landings and Value of Select Commercial Fisheries Before and After Implementation of California's Network of Marine Protected Areas

Affiliation: California Department of Fish and Wildlife

When California's network of marine protected areas (MPAs) was completed in 2012, it was unclear how the resulting closures of certain areas to fishing might affect fisheries ecologically and economically. The California Department of Fish and Wildlife (CDFW) collects a wide range of metrics for commercial and recreational fisheries in the state. These data can be used to examine changes and trends over time, including before and after MPA implementation. Data on catch and landings value of several important species (i.e., Dungeness crab and California spiny lobster) and species groups (i.e., the nineteen finfish species included in CDFW's Nearshore Fisheries Management Plan) were downloaded from CDFW's Marine Landings Database System. Values were adjusted for inflation to the year 2000. Data were summarized by year or season and region (attributed to port of landing) to visualize trends in these fisheries over time.

19. Tribal Marine Collaborative

Affiliation: Tribal Marine Collaborative

Grassroots Tribal Network to support Beneficial and Cultural Uses through Co-management.

20. Evaluating the Effectiveness of MPA Education and Outreach Tools*

Affiliation: California Marine Sanctuary Foundation

**Poster located at Table 26*

This poster will highlight results and recommendations from the evaluation of MPA education and outreach resources (brochures, signs, social media communications, and signs) that has occurred over the past several years.