Kelp Restoration Management Plan Community Working Group Meeting #2 Summary

Wednesday, March 13, 2024

Attendees
Claire Arre, MPA Collaborative Network
Capt. David Bacon, WaveWalker Charters, Coastal Conservation Association
Kathryn Beheshti, University of California, Santa Barbara
Alyssa Bellamy, Bamboo Reef Dive Centers
Doug Bush, The Cultured Abalone Farm LLC
Grant Downie (member and Anna Neumann's alternate), Commercial Sea Urchin Diver
Gary Fleener, Hog Island Oyster Company
Jan Freiwald, Reef Check California
Tom Ford, The Bay Foundation
Jess Gravella, Trinidad Rancheria
Jacob Harris, Ocean and Coastal Stewardship Program Manager at Amah Mutsun Land Trust
Rietta Hohman, Greater Farallones National Marine Sanctuary (NOAA Affiliate)
James Jungwirth, Naturespirit Herbs LLC
Tristin Anoush McHugh, The Nature Conservancy
Andrea Paz-Lacavex, University of California Santa Cruz
Sage Ono (Patrick Webster's alternate), Underwater Photographer and Writer
Dave Rudie, California Sea urchin Commission
Joshua Russo, Watermen's Alliance
Marc Shargel, Living Sea Images
Abreana Gomes (Severino Gomes Alternate)[1], Kashia Band of Pomo Indians
Patrick Webster [2], Underwater Photographer
Tribal Participant - Name Redacted Upon Request

Absent[3]
Javier Silva, Sherwood Valley-Noyo Pomo

Overview
The second virtual meeting of the Kelp Restoration Management Plan (KRMP) Community Working Group (CWG) was held on March 13, 2024, with twenty-one KRMP CWG members, two alternates in attendance, and the KRMP Project Team (i.e., California Department of Fish and Wildlife (CDFW), Ocean Protection Council (OPC), and Strategic Earth Consulting). Background materials and an agenda were shared in advance to help support a productive meeting (see Appendix). CDFW, in partnership with OPC, provided a presentation and context that informed and supported plenary and break-out group discussions focused on Ecosystem-Based Management (EBM), harvest, and restoration.

[1] Abreanna Gomes was Severino Gomes' alternate.
[2] Patrick Webster was at sea with unreliable internet. Sage Ono was present to bridge any gaps and provide insight from Patrick's community if he dropped due to spotty service.
[3] Only those who were absent and did not send in Alternate in their place are listed here.

CWG Work Schedule for 2024-25

CDFW gave an overview of the timing and focus of CWG meetings anticipated through 2025. The KRMP Project Team will identify the future meeting schedule and topics, including further considering restoration, harvest, and EBM. An overview of the role of the KRMP Science Advisory Committee (SAC), their intended meeting timeline through 2025, and how it connected to the CWG meeting schedule was also provided.

Ecosystem-Based Management

CDFW introduced the concept of EBM (see slides 9-10), including objectives identified in the Marine Life Management Act (MLMA) and considerations outlined in the MLMA Master Plan for Fisheries, and highlighted the following considerations that will need to be addressed within the KRMP

- limiting bycatch to acceptable types and amounts
- managing habitat health
- conserving ecosystem health and diversity
- accounting for ecosystem dynamics
- identifying species that play a key role in the ecosystem
- considering management strategies with multiple control measures
- conducting ecological risk assessments to understand the most critical ecological links.

CWG members asked clarifying questions and further explored the topic as a group.

When CWG members were asked how their communities envision a healthy kelp forest, various words and phrases were shared. The responses were compiled in a series of word clouds (Figure 1).

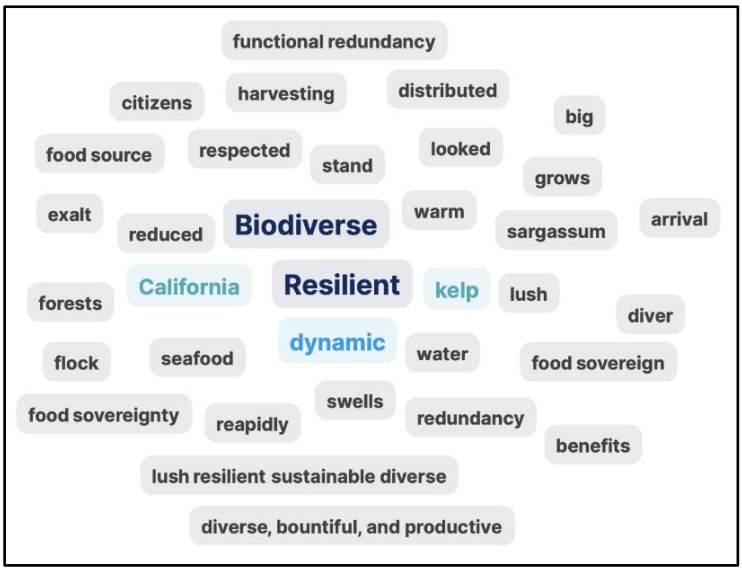

Figure 1: CWG's reflections on words that their communities use to describe a healthy kelp forest. Words in dark blue had the most responses, those in light blue had the next highest response rate, followed by green and gray.

The word cloud exercise was also used to understand how CWG members' communities would describe what is present in their vision of a healthy kelp forest (Figure 2) and what was absent in a healthy kelp forest (Figure 3). In some cases, what some envisioned as present in a healthy kelp forest were the same attributes that others envisioned as absent in a healthy kelp forest (e.g., sea otters).

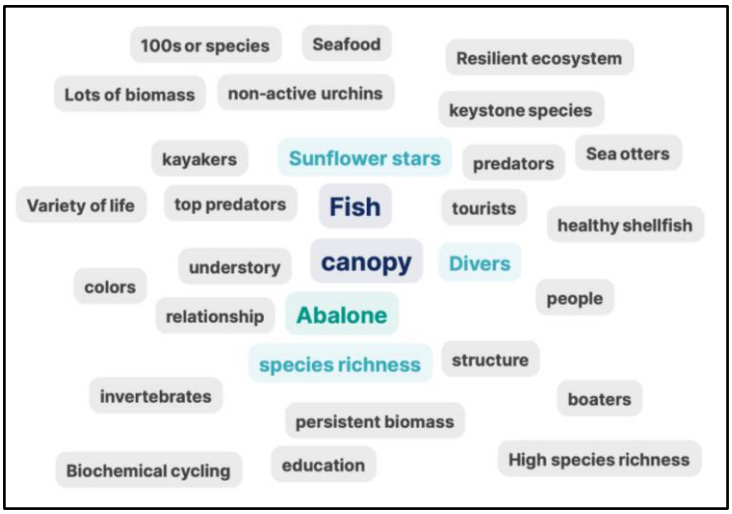

Figure 2: CWG's reflections on what is present in a healthy kelp forest. Words in dark blue had the most responses; those in light blue had the next highest response rate, followed by green and gray.

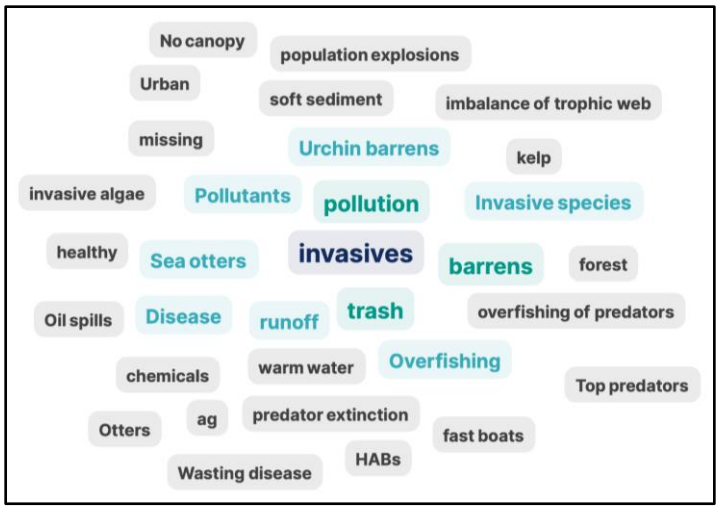

Figure 3: CWG's reflections on what is absent in a healthy kelp forest. Words in dark blue had the most responses; those in light blue had the next highest response rate, followed by green and gray.

After establishing this baseline understanding of where communities across California were entering the conversation, the CWG explored the topic of EBM in an open plenary discussion. The group identified ecosystem species diversity as essential to healthy kelp forests; however, they flagged that species diversity may look different for giant kelp as opposed to bull kelp (i.e., bull kelp forests have different species composition as compared to giant kelp forests). CWG members highlighted that kelps are a highly dynamic species and can visually shift in color and growth abilities from week to week, depending on their current health state and time of year. In recent years, marine heat waves, seasonal storms, and other stressors have had a large impact on the health of kelp ecosystems and need further investigation to understand the full impacts of these events.

CWG members shared that the connectivity between adjacent kelp beds is a direct indicator of kelp health and ability to recover and persist over time. The group identified a knowledge gap and emphasized the need for a better understanding of historical conditions to help contextualize what is "normal" and healthy for constantly changing kelp ecosystems to inform a maintenance and management plan.

Kelp Harvest

CDFW gave a brief presentation (see slides 15-18) explaining the current kelp harvest regulations and practices.

CWG members discussed kelp harvest in breakout groups containing members across sectors. CWG members touched on various harvesting themes, including discussing the following guiding questions:

- *What are some considerations, potential benefits, and potential impacts of harvest on your community and the kelp forest ecosystem? What are the species-specific considerations, if any?*
- *What does a successful harvest season look like to you and your community? Does this differ for giant kelp and bull kelp?*
- *What does sustainable kelp harvest look like to you and your community? Does this differ for giant kelp and bull kelp? What are some considerations, potential benefits, and potential impacts of harvest on their communities and the greater kelp ecosystem?*

Key high-level takeaways from the conversation include:

- Harvest was identified as directly related to sustainability in the sense that harvest cannot happen unless there are healthy kelp ecosystems.
- Concern arose when folks shared recreational harvest is occurring in areas where commercial harvest has been closed, leading to requests for greater transparency around recreational harvest numbers, which are not currently required to be reported by the recreational harvesters.
- The current permitting options are limited in the types of permits available. Consider the need for a distinct harvest permitting framework (e.g., Indigenous practices, research, consumption, subsistence, recreational, commercial, and other).
- Bull and giant kelp species are harvested differently and during different times of the year.
    - Bull kelp harvest occurs when harvesters remove a portion of the frond and retain the remainder of the plant to support regeneration.
    - Giant kelp harvest occurs year-round, and harvesters only remove the top few feet of kelp, which allows the plant to regenerate more easily.

CWG members who represented communities not directly associated with harvest shared their interest in understanding harvest conversations, and acknowledged they provided limited perspective on this topic. The CWG intends to revisit and dive deeper into conversations around harvest during future CWG meetings.

Kelp Restoration

CDFW introduced the restoration concept (see slides 19-21) and provided insight into how it will be framed within the context of the KRMP. Restoration approaches currently being tested through a suite of different collaborative efforts around the state are intended to help inform the development of a "restoration toolkit" consisting of a suite of scientifically tested kelp restoration techniques.

Within the scope of the KRMP, restoration is considered a management tool with various options (i.e., different restoration techniques and/or approaches) to support and manage kelp ecosystems. To the extent possible, the goal is to promote ecosystem resilience and natural recovery. However, assisted recovery (i.e., restoration) may be needed under certain circumstances. For the purposes of the KRMP, restoration is defined as the process of repairing or assisting the recovery of an ecosystem that has been degraded or destroyed. Specifically, restoration is a means of promoting ecosystem functioning and resilience, conserving biodiversity, and maintaining sustainable use and enjoyment by the public. These goals and definitions may be refined throughout the KRMP development process to incorporate scientific, Tribal, and community perspectives.

CWG members returned to their pre-assigned breakout groups, discussing the following questions:

- *What are some specific kelp restoration goals and outcomes most important to your community? How might those differ for giant and bull kelp forest ecosystems?*
- *Under what scenarios or conditions does your community feel restoration activities should be considered or warranted, if any?*
- *What signs of success or optimism has your community observed with regard to giant kelp and/or bull kelp restoration efforts/techniques?*
- *Has your community expressed concerns or risks associated with kelp restoration efforts/techniques? How might those concerns or risks be addressed?*

Key high-level takeaways from the conversation include:

- The removal of Indigenous communities from their coastal ancestral homelands and the need for cultural revitalization to be considered part of the kelp forest restoration efforts.
- There is no single universally applicable restoration approach, and each approach needs to be adapted to consider multiple techniques for each individual region (e.g., north, central, south) and its stressors in a changing climate.
    - There are a variety of possible restoration techniques, including, but not limited to, re-seeding efforts, introduction of predators (e.g., sea stars, otters; note: North Coast representatives expressed concern around sea otter reintroduction), and manipulating grazer population abundances (e.g., urchin culling) to target[4] levels.
    - Implementation techniques could include recruiting fishermen or volunteers to help replant kelp individuals after marine heatwaves or storms.
- Identifying and tracking specific goals and outcomes is critical to evaluate the efficacy of restoration throughout the process and determine whether efforts have been successful.
- More research is needed, specifically long-term monitoring of kelp forests to fill in data gaps, determine how often human intervention would be needed, better understand kelp life cycles, understand how restoration will affect fishing and other stakeholder groups, and help determine the baseline health of a specific system before implementing management programs.
    - It is unclear whether human intervention is the best approach to restoration. The monitor-only approach versus human intervention should consider if humans could further harm the ecosystem by intervening.
    - It was suggested to look to other successful kelp restoration efforts for inspiration (i.e., to other states or non-western science techniques)
- Various concerns were raised, including worries about maintaining genetic diversity within kelp species, the uncertainty of artificial reefs in the KRMP process, and the inability to use restoration techniques within MPAs.
    - *CDFW and OPC shared that artificial reefs are outside the scope of the KRMP because the KRMP is intended to focus on restoring existing natural reefs. Artificial reefs do not fall into this category, and therefore, their development and implementation will not be considered in the development of the KRMP. More information about CDFW's artificial reef program is available on the CDFW website. The KRMP will include consideration of MPAs and other management measures. Additional information about MPAs is available on the CDFW website.*

[4] Targets were not identified or defined further in the discussion.

- Strong need for interagency information sharing and scalability (when applicable) throughout the state.
    - Various members shared they have experienced difficulty working on multi-faceted projects that require approval across multiple agencies and jurisdictions and would like to ensure the KRMP is developed in a manner that is mindful of the lessons learned across these experiences and projects.

The CWG intends to revisit and further consider conversations around restoration during future CWG meetings.

Looking Forward

During the KRMP's upcoming meetings (slide 8)—two virtual and one in-person between 2024-25—the CWG will continue to discuss EBM, harvest, and restoration and provide CDFW with recommendations for consideration as CDFW and OPC develop the KRMP. This meeting summary and future outcomes from CWG meetings will be shared with the SAC to ensure community insights are incorporated into the KRMP.

Meetings will be informed by, and help inform other KRMP-related discussions, including, but not limited to, the KRMP SAC meetings, Fish and Game Commission meetings, OPC meetings, Government to Government consultations, and Tribal Roundtable Listening Sessions.

If you have questions or comments, would like additional information, or would like to request direct Tribal consultation on the KRMP, please contact kelp@wildlife.ca.gov. Updates, informational materials, upcoming opportunities, and events will be highlighted on the KRMP Website.

Next Steps

CWG members will continue to review background materials already circulated (see Appendix) in addition to EBM and restoration supplementary materials that will be circulated before the next CWG meeting in early summer 2024.

Appendix

Kelp Restoration & Management Plan Community Working Group (CWG) Meeting #2 Agenda

Wednesday, March 13, 2024

2:00pm - 6:00pm PST

Join Zoom Meeting

Meeting Goals

- Verify the CWG's schedule and anticipated discussion topics for upcoming meetings in 2024-25, and ensure shared understanding around the process for communication between the Science Advisory Committee (SAC) and the CWG.
- Discuss the community's priorities and considerations around kelp ecosystem management, including restoration, harvest, and healthy ecosystems.
- Across sectors, identify what each group considers the key characteristics of healthy, functioning kelp forests.

Welcome, Introductions, and Community Building

Opportunity to meet new CWG members, confirm meeting goals and intentions, and walk through the agenda.

CWG Work Schedule for 2024-25

California Department of Fish and Wildlife (CDFW) to present an overview of anticipated discussion topics during meetings 2-5. Confirm tentative meeting schedule, including connections between CWG activities and the SAC, updates to FGC committees, OPC, etc.

Ecosystem-Based Management

CDFW will introduce the concepts around Ecosystem-Based Management, as described in the MLMA Master Plan, and initial considerations for kelp forest ecosystems. The CWG will provide perspectives on healthy, functioning kelp forest ecosystems and how those key elements or features might be supported or maintained.

Potential Discussion Questions

- When you and your community envision a healthy kelp forest, what does it look like? How might it differ between giant and bull kelp forest ecosystems?
    - What are the features of the kelp itself?
    - What are the features of the other ecosystem aspects, such as other species, processes, human elements, and the broader ocean regime?
    - What is present? What is absent?
- What are your communities' thoughts on maintaining a healthy kelp forest? What must be considered (e.g., harvest activities, water quality, changing ocean conditions, cultural connections)?

Available Resources

- MLMA Master Plan Ch. 6 EBM Objectives
- Giant Kelp and Bull Kelp Enhanced Status Report

Kelp Harvest

In small groups, CWG members will be invited to share their experiences and insights on sustainable harvest. Groups will report out a summary of the discussion in plenary, and the information exchanged will help inform future CWG conversations.

Potential Discussion Questions

- What are some considerations, potential benefits, and potential impacts of harvest on your community and the kelp forest ecosystem? What are the species-specific considerations, if any?
- What does a successful harvest season look like to you and your community? Does this differ for giant kelp and bull kelp?
- What does sustainable kelp harvest look like to you and your community? Does this differ for giant kelp and bull kelp?

Available Resources

- California Code of Regulations, Title 14, Sections 165 Commercial Harvesting of Kelp and Other Aquatic Plants and 165.5 Lease of Kelp Beds for Exclusive Harvest of Macrocystis and Nereocystis.
- California Code of Regulations, Title 14, Sections 30.00 Non-Commercial Use of Marine Plants and 30.10 Non-Commercial Use of Marine Plants, Prohibited Species.
- Giant Kelp and Bull Kelp Enhanced Status Report: Section 2; Section 3
- Kelp and Other Marine Algae CDFW webpages
- Bull Kelp Working Group Areas of Agreement and Divergence
- Blog Post about Bull Kelp Regulation Changes

Kelp Restoration

In small groups, CWG members will be invited to share their priorities for successful kelp restoration. Groups will report in plenary, and information exchanged will help inform future CWG conversations.

Potential Discussion Questions

- What specific kelp restoration goals and outcomes are most important to your community? How might those differ for giant and bull kelp forest ecosystems?
- Under what scenarios or conditions does your community feel restoration activities should be considered or warranted, if any?
- What signs of success or optimism has your community observed about giant kelp and/or bull kelp restoration efforts/techniques?
- Has your community expressed concerns or risks associated with kelp restoration efforts/techniques? How might those concerns or risks be addressed?

Available Resources

- Giant Kelp and Bull Kelp Enhanced Status Report
- Kelp and Other Marine Algae CDFW webpages
- November 2023 CDFW and OPC Report: Status of Research and Monitoring, Restoration Efforts and Developing Management Strategies for Kelp Canopy Forming Species in California
- Sonoma-Mendocino Bull Kelp Recovery Plan
- Interim Action Plan for Protecting and Restoring California's Kelp Forests

Looking Ahead and Adjourn

CDFW will review a high-level overview of the upcoming CWG meeting and opportunities for continued communication and engagement.