



Kelp Restoration and Management Plan Community Working Group

Wednesday, December 18, 2024
1:00pm - 5:00pm PST



Zoom Considerations and Reminders

- Meeting is being recorded and closed-captions are available
- Technical difficulties
 - Contact Noelia at noelia@strategicearth.com or 787-383-0265, or send a message in the chat
- Unmuting: To speak
 - Click the microphone on the bottom-left of your screen
- Chat Function
 - Troubleshooting and clarifying questions



Zoom Considerations and Reminders

- **Renaming:** To help identify yourself and other participants
 - Click “Participants” in meeting controls
 - Locate your name and click “More” and choose “Rename”
 - Enter your full name (first and last) and any identifying sector(s)
- **Closed Captioning:** To turn on subtitles
 - Click “CC” in meeting controls
- **Gallery View:** To see more than one speaker
 - Click “View” in upper right corner, and select “Gallery View”



Meeting Agreements

- Be present
- Be prepared to discuss agenda items constructively
- Share if you need to leave early
- Approach discussions from a place of diversity and inclusion
- Focus discussions on strategies and solutions that move conversations forward
- Listen for understanding and seek clarification
- Identify any personal/professional conflicts of interest
- Do not work at cross-interests with the group's goals and objectives
- Personal attacks will not be tolerated
- Take space, make space



Introductions

- **California Department of Fish & Wildlife:** Adam Frimodig, Kirsten Ramey, Kristen Elsmore, Rebecca Flores Miller, Shelby Kawana
- **Ocean Protection Council:** Pike Spector
- **Strategic Earth Consulting:** Kelly Sayce, Noelia Aponte-Silva, Rachelle Fisher, Scarlett Schroeder, Teresa Romero
- **Science Advisory Committee:** Marissa Baskett and Rosa Laucci, SAC co-chairs



Introductions - CWG Members

Please share in the chat:

- Your Name
- Affiliation/Sector
- Region (North, Central, or South coast)



Photo by Kristen Elsmore, CDFW



Meeting Agenda



PC: K. Elsmore

- Welcome and Introductions
- KRMP Updates
- Kelp Harvesting Practices
 - Discussion: Sustainability and Impact of Harvest Practices
- Kelp Harvest Management
 - Discussion: Management Strategies and the Role of Communities
- Looking Ahead & Adjourn



KRMP Updates

- 2024 SAC Meetings
 - August 15 / October 1 / December 5
- 2025-2026 CWG Meetings
 - Additional virtual meetings, updated Charter
 - May 2025 in-person meeting, including session with the SAC



Photo by Kristen Elsmore, CDFW



KRMP Updates

- December 9, 2024 OPC Meeting
 - Disbursement of funds to two key projects aimed to inform the KRMP:
 - Woods Hole Oceanographic Institution to assess the impact of commercial and recreational harvest on giant and bull kelp in California
 - University of California, Santa Cruz to strategically map giant and bull kelp genomic diversity in California



Images courtesy of NASA, Getty Images, and Pat Webster @underwaterpat



KRMP Updated Tentative Meeting Schedule

Group	CWG Meeting Schedule			SAC Meeting Schedule			
	2025	Date	Topic	Details	Date	Topic	Details
Q1					Feb/Mar	Develop decision tree: management, actions, strategies, interventions suite	In-Person/Virtual
Q2	May	EBM, restoration, harvest & session with SAC	In-Person	May	Develop and evaluate restoration tools, efficacy and cost effectiveness & session with CWG	In-Person	
Q3				Aug/Sep	Harvest framework: quotas, harvest control rule, spatial and methods	Virtual	
Q4	TBD	Additional meeting	Virtual	Dec	Integrate full management framework & scenario planning	In-Person/Virtual	



Kelp Recreational Harvest Community Survey

- **14 Community Responses as of 12/9**
 - 9 participate in Tribal subsistence or recreational kelp harvesting
 - Recreational harvest (marine algae), non-consumptive dive community, recreational fishing
- **Community Sustainable Practices**
 - Harvest only what is needed (e.g., blades above the bladder or washed-up kelp), avoid holdfasts, and focus on healthy or abundant areas
- **Community Challenges and Concerns**
 - Shrinking kelp forests, limited access outside MPAs, and restrictions in commercial-only zones
 - Concerns over losing harvesting opportunities and lack of restoration efforts



Kelp Recreational Harvest Community Survey

- **Community Harvest Practices**

- **Giant Kelp**

- Occasionally (3-6 times/year) and rarely (1-2 times/year), access by foot or swimming
- Harvest 1-5 lb wet weight daily, beached/washed up and hand cut, portion of individual
- Located in San Diego
- Primary use for food or food supplement, gardening/fertilizer, arts/crafts, research

- **Bull Kelp**

- Rarely (1-2 times/year), access by foot or swimming
- Harvest 1-5 lb wet weight daily, beached/washed up, portion of individual
- Located in Mendocino or Monterey
- Primary use for food or food supplement and research

Kelp Harvest



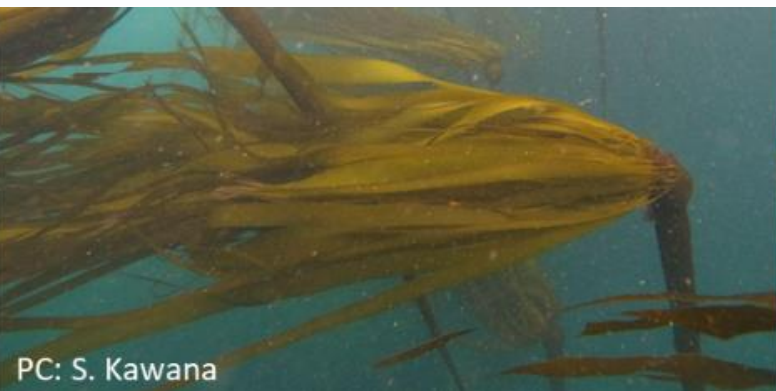
Giant kelp (*Macrocystis pyrifera*) and Bull kelp (*Nereocystis luetkeana*) are harvested for Tribal, commercial, and recreational purposes, with regulations varying by species and location.

- **Primary Uses of Commercial Giant Kelp:** Feed for aquaculture abalone
- **Primary Uses of Commercial Bull Kelp:** Human consumption

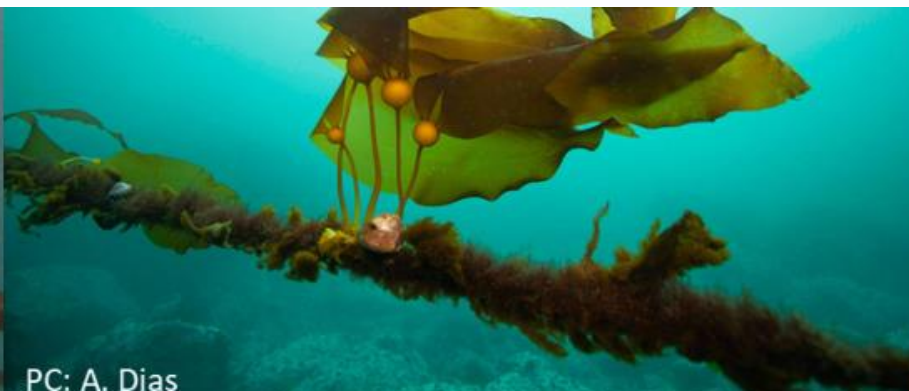


Tribal and Recreational Harvest Regulations

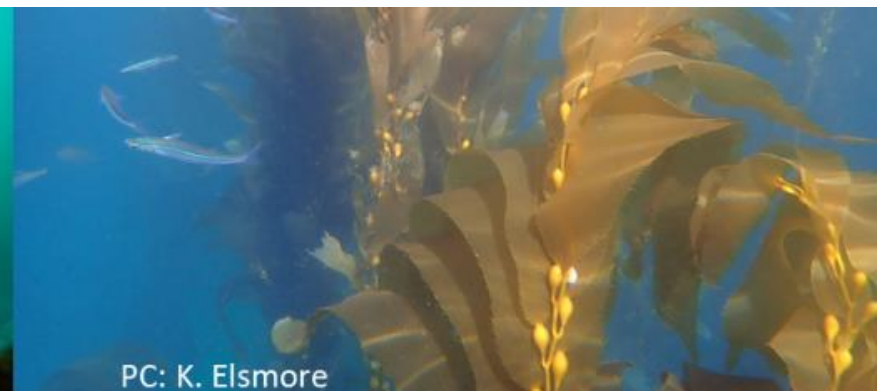
- Sport fishing regulations, but **no sport fishing license required**
- Daily bag limit of **10 lbs wet weight in aggregate** for allowable marine algae
- Reporting is not required with lack of information on harvest practices and locations
- **Harvest Methods**
 - Not specified, no closed seasons
- **Locations**
 - May be prohibited in Marine Protected Areas (MPAs) and some state parks



PC: S. Kawana



PC: A. Dias



PC: K. Elsmore



Commercial Harvest Regulations

- Requires an annual **Commercial Kelp Harvesting License**, reports and royalty fees, though bycatch reporting is not mandated.
- **Harvest Methods**
 - **Bull Kelp:** Cannot cut >4 feet below the surface. Edible seaweed allows take of whole individual. North of Point Montara, San Mateo County, harvesting is restricted to hand collection
 - **Giant Kelp:** Harvest mechanically or by hand. Cannot cut >4 feet below the surface. Mechanical harvest requires a California Fish and Game Commission (FGC) approved Kelp Harvest Plan.
 - Detached kelp can be harvested for both species
- **Harvest Limits**
 - **Bull Kelp:** Edible seaweed limit of 2 tons of wet weight annually per license holder with no limits to the number of license holders.
 - **Giant Kelp:** No limits.



Discussion: Sustainability and Impact

Please approach these questions from a social, economic, and community lens. The SAC will look at these through a scientific lens.



Photos by Kristen Elsmore, CDFW

- Share **your community's** experiences with giant kelp and bull kelp harvesting in your area.
- Should there be **limits on Tribal, commercial and/or recreational giant kelp and bull kelp harvest?**
- Should **Tribal and recreational harvesters follow the same regulations as commercial harvesters** (e.g., license requirements, reporting requirements, harvest methods, limitations, etc.)?



Kelp Harvest Management

Commercial Harvest - Spatial Management (Edible Purposes)

- May be prohibited in MPAs and some state parks
- Giant kelp and bull kelp for **edible purposes is managed using fishing blocks**
 - No closed, leasable, or lease-only designations





Kelp Harvest Management

Commercial Harvest - Spatial Management (Non-Edible Purposes)

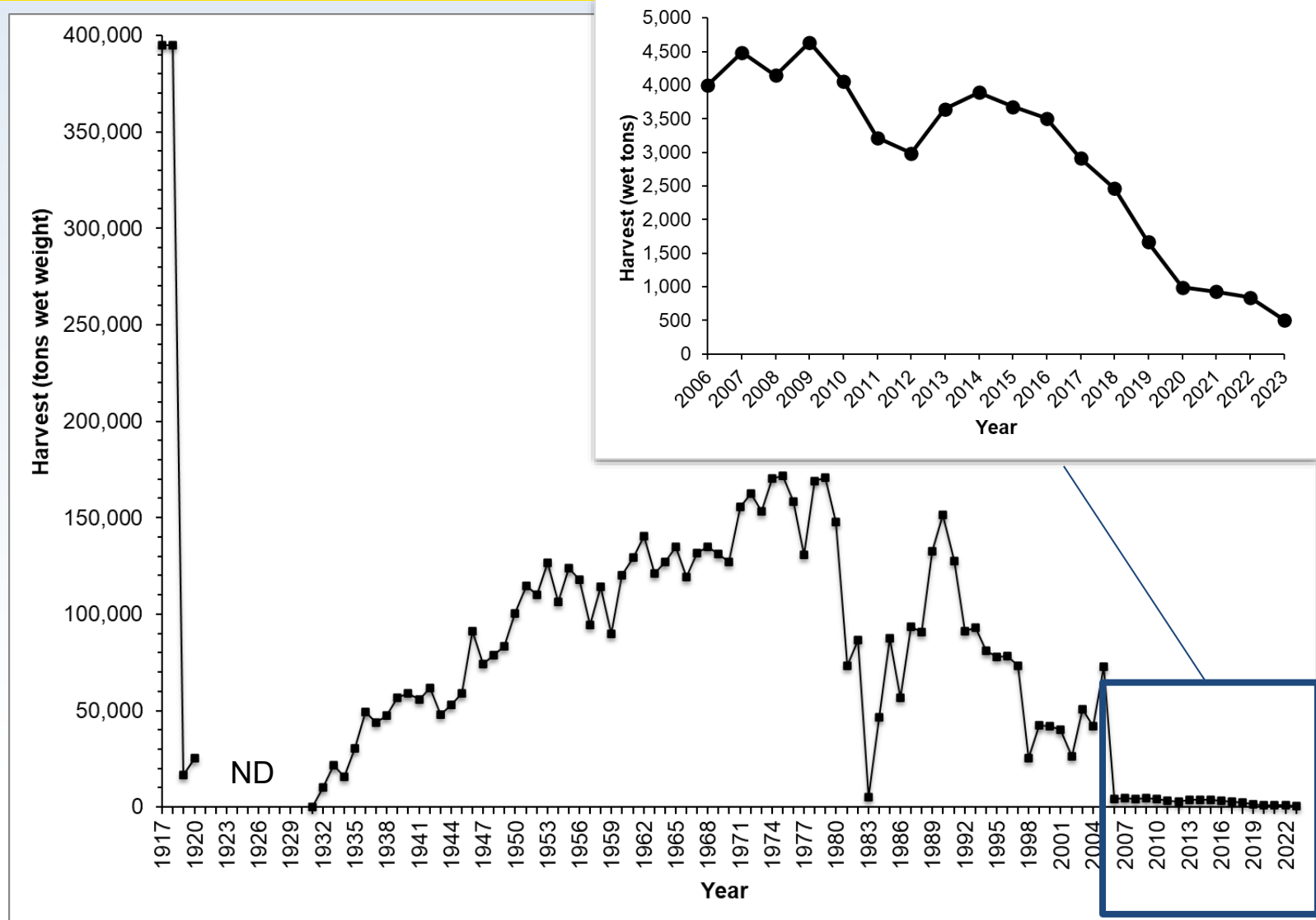
- May be prohibited in MPAs and some state parks
- **Managed in 87 Administrative Kelp Beds**
 - Leases granted by the California FGC
 - Bull kelp requires annual surveys and harvest is limited to <15% biomass in lease-only beds

Status	Management Category	Number of Kelp Beds
Open	Available to harvest by all commercial kelp harvesters	33
Closed	Harvesting prohibited, except bull kelp for edible purposes	18
Leasable	Open to harvest by all commercial kelp harvesters until exclusive lease granted by the California FGC	33 (1 of 33 is currently leased)
Lease Only	Closed until leased, only the leaseholder may harvest (bull kelp harvest may occur for edible purposes until leased)	3 (all temporarily closed to leasing)



Statewide Commercial Giant Kelp Harvest

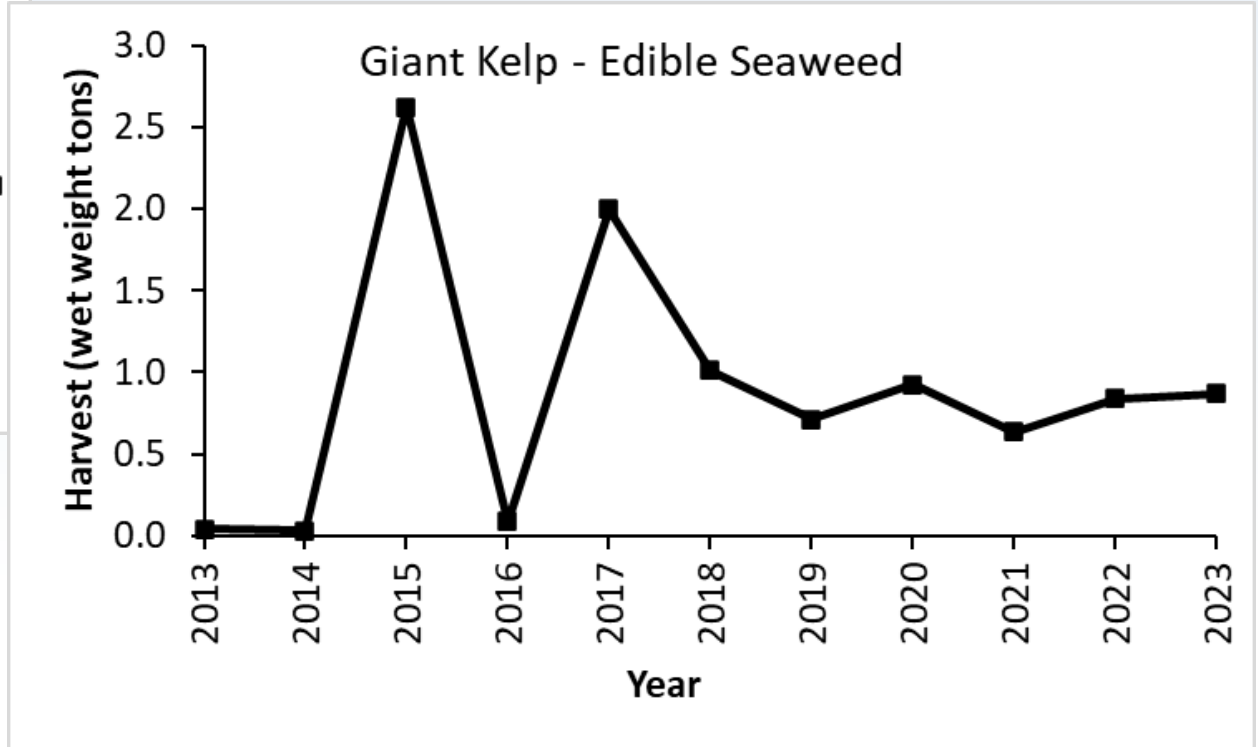
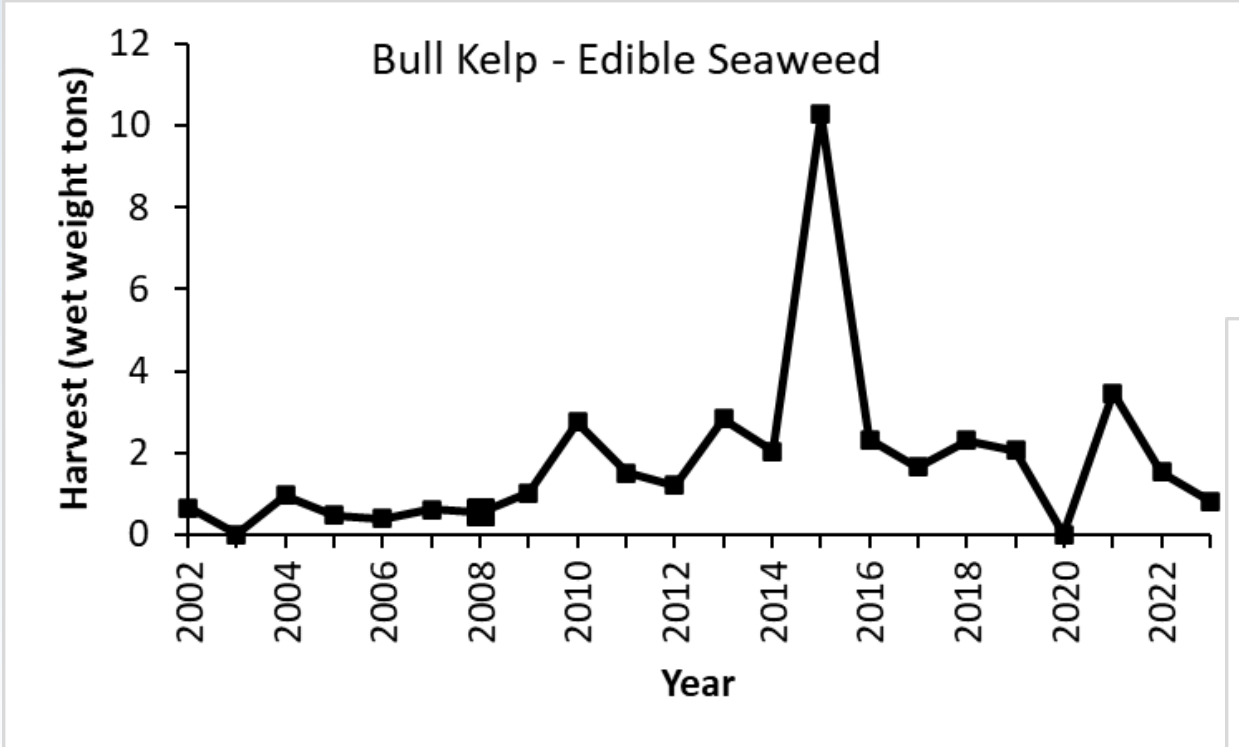
- **During WW1** - extract potash and acetone used to manufacture explosives
- **After WW1** - manufactured livestock and poultry food and feed for aquaculture abalone
- Majority of harvest from **1931 to 2005** was used to extract algin



Data source: CDFW Kelp Harvester Monthly Reports



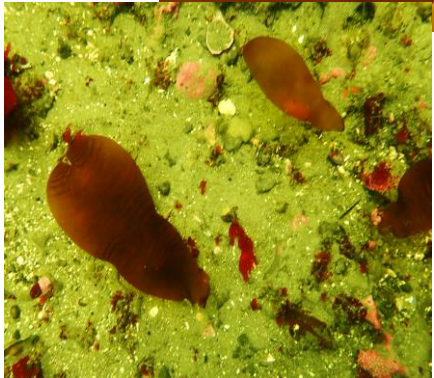
Statewide Commercial Kelp Harvest



Data source: CDFW Edible Seaweed/Agarweed Harvester Monthly Reports



Kelp Harvest Management



Commercial Harvest - Closures

- **Seasonal Closures**
 - April 1 to July 31: No bull kelp harvest in the Monterey Bay National Marine Sanctuary in non-leased kelp beds. Beached kelp is allowed.
- **Temporary Restrictions (Jan. 1, 2023– Jan. 1, 2026)**
 - No commercial bull kelp harvest in Sonoma and Mendocino counties
 - Annual bull kelp fishery quota not to exceed 4 tons (8,000 lbs) wet weight in Humboldt and Del Norte counties combined
 - Closed three lease-only Administrative Kelp Beds in Mendocino, Humboldt, and Del Norte counties



Kelp Harvest Management

Considerations for Sustainable Management

- **Bull Kelp Harvest**
 - Ecological impacts are not well understood due to limited research
- **Giant Kelp Harvest**
 - Improve light access for younger kelp, reduce disease and dislodgement in large individuals
- **Impacts of Beach Wrack Removal**
 - Loss of primary production, disruption to shorebird habitats, reduced native plant abundance and increased sand transport
- **Research and Data Gaps**
 - No criteria for assessing overharvest or population rebuilding
 - Need to improve canopy and biomass surveys



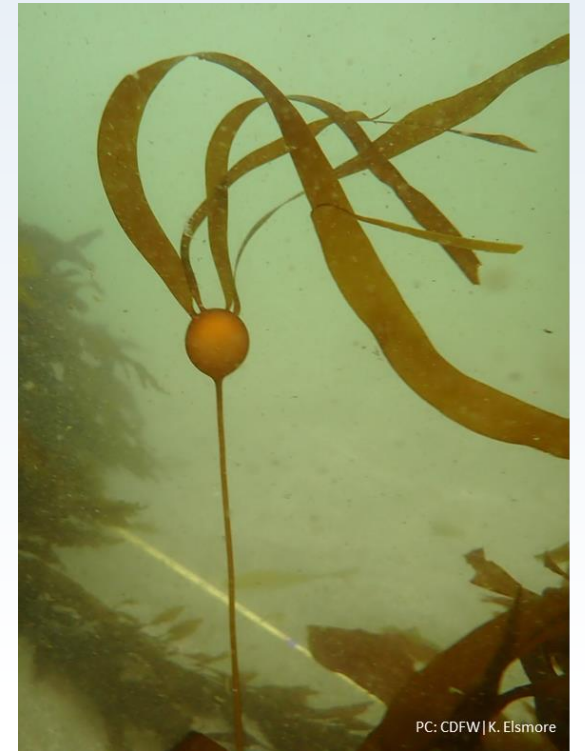
Photo by Rebecca Flores Miller, CDFW



Discussion: Management & Community

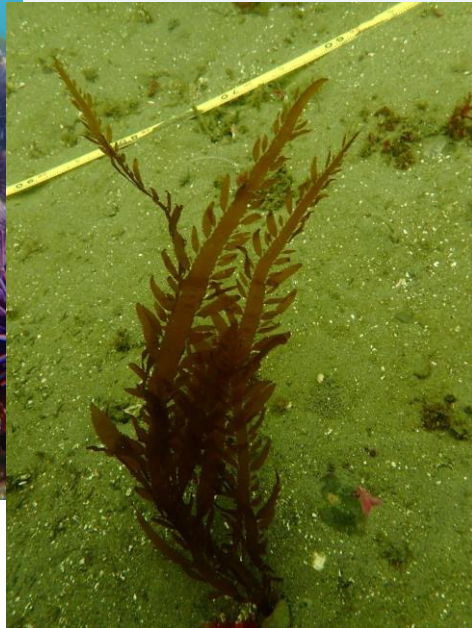
Please approach these questions from a social, economic, and community lens. The SAC will look at these through a scientific lens.

- What are some **successful regulations or management strategies** for commercial and recreational giant kelp and bull kelp harvesting?
- How do current giant kelp and bull kelp **harvest regulations or management strategies align with your community's practices and needs?**
- How have recent temporary commercial bull kelp **harvest limits and closures in Norcal affected your community?**
- Could **community-based monitoring or co-management help protect kelp resources?**





KRMP Next Steps



Photos by Kristen Elsmore, CDFW

- Community Working Group
 - January 2025
 - Review meeting summary
 - Logistics for May in-person meeting



KRMP Continued Communication



Questions, comments, or requests for additional KRMP information
Email kelp@wildlife.ca.gov



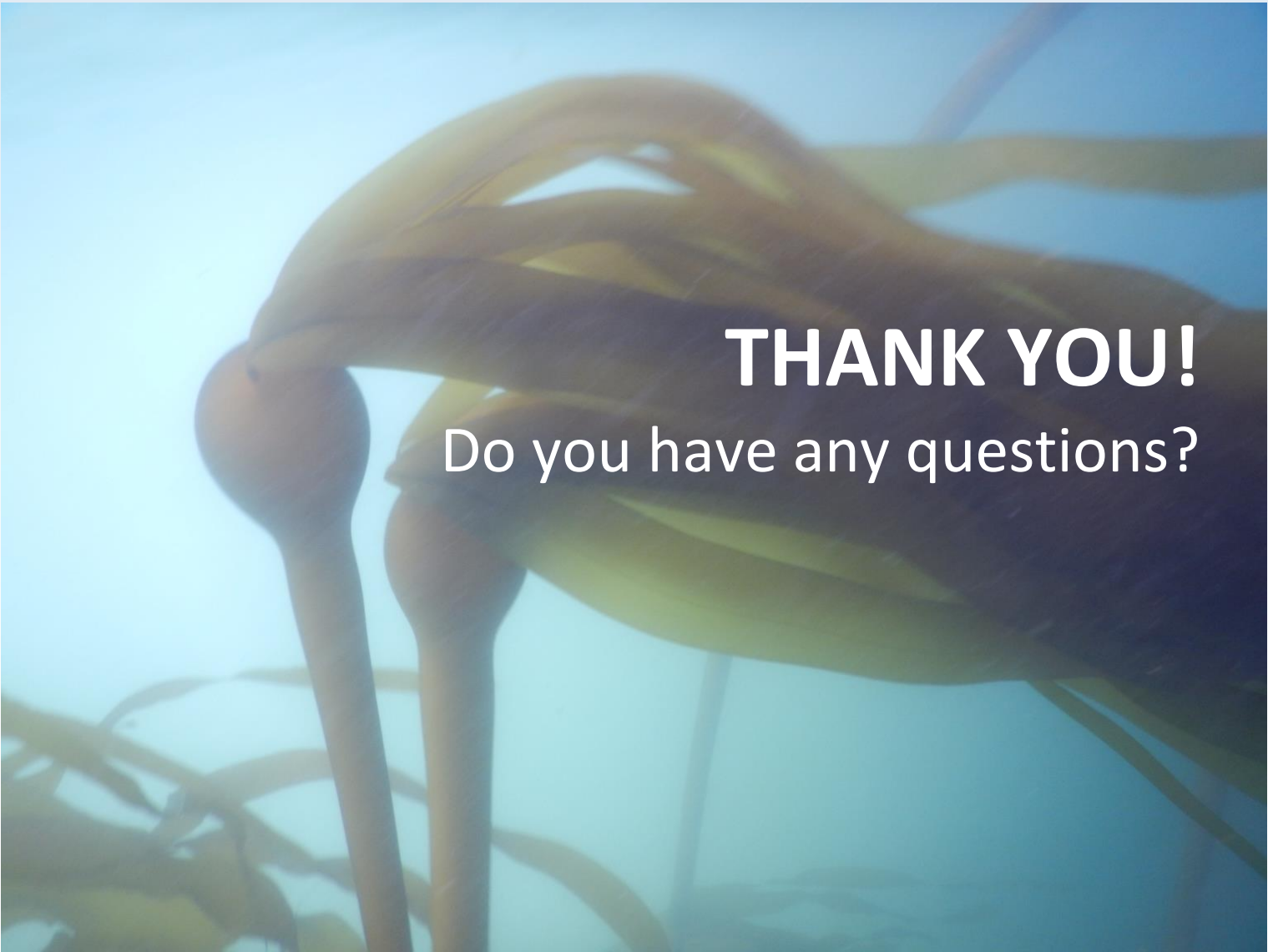
Information sharing amongst KRMP Community Working Group Members
Email: krmp-cwg@gaggle.email



Tribal Specific Engagement Opportunities
Email kelp@wildlife.ca.gov



Updates, Informational Materials, Upcoming Opportunities and Events
KRMP Website: <https://wildlife.ca.gov/Conservation/Marine/Kelp/KRMP>



THANK YOU!
Do you have any questions?

Photo by Shelby Kawana, CDFW