

Bull Kelp Working Group Meeting #4
June 9, 2021, 1:00 to 4:00 pm via Microsoft Teams
Meeting Summary

Participants

Name	Affiliation
Kirsten Ramey	CA Dept. of Fish and Wildlife (CDFW)
Rebecca Flores Miller	CDFW
Gina Contolini, Ph.D.	CDFW, Sea Grant
Susan Ashcraft	CA Fish and Game Commission (Commission)
Doug Bush	The Cultured Abalone Farm (kelp harvester representative)
James Jungwirth	Naturespirit Herbs, LLC (edible seaweed harvester representative)
Cyndi Dawson	The Pew Charitable Trusts (Castalia Environmental)
Tom Ford	The Bay Foundation
Rietta Hohman	Greater Farallones Association
Janet E. Kübler, Ph.D.	CA State University, Northridge
Eliza Harrison	Ocean Rainforest

Welcome, introductions, announcements

- CDFW confirmed that this was the final Bull Kelp Working Group (BKWG) meeting.
- Timeline and process
 - The Commission's Marine Resources Committee (MRC) is expecting to hear results from the BKWG's effort at their July 21, 2021 meeting. CDFW will develop a summary, documenting areas of agreement and uncertainty and which items will be more appropriately addressed in the Kelp Restoration and Management Plan (KRMP).
 - CDFW will compile information from the BKWG, Tribes, and other stakeholders to develop a draft proposal to the MRC for their consideration and potential recommendation to the full Commission. The formal Commission decision-making process allows for continued opportunity for stakeholder input.

Brief review of CDFW proposed approach as discussed during March and April meetings

- The proposed changes are based on the current status of bull kelp using satellite imagery data. The canopy data has been considered through the last quarter of 2020, no significant increases in canopy in Sonoma and Mendocino counties have been documented in the most recent data. Satellite imagery is the best available data; however, satellite imagery does not differentiate between giant and bull kelp.

Thus, we cannot use the imagery for areas south of San Francisco to evaluate bull kelp status as the two species overlap spatially.

- Refer to April 26, 2021 BKWG meeting summary for CDFW's original draft proposed regional management approach north of San Francisco.
 - CDFW presented a change in the previously proposed approach for Humboldt and Del Norte counties, from limiting the number of permits to the two existing harvesters to considering a 4-ton total annual harvest limit. CDFW is not recommending a limit on the number of permits but is open to recommendations from the industry on how to allocate the overall quota.
- Discussion
 - BKWG member inquired why a limit is needed for Del Norte and Humboldt counties when the member reported they are seeing increased canopy and stated the other bull kelp harvesters in southern areas have expressed they would not travel to Humboldt and Del Norte counties to harvest.
 - BKWG member expressed concern that the proposed approach could allow new permit holders, and this may destabilize current harvester's industry and create a derby-style fishery. Member is supportive of current harvesters from southern areas harvesting in Humboldt and Del Norte if it does not impact his ability to harvest, but is not supportive of new harvesters entering the industry in Humboldt and Del Norte while there is a total annual limit.
 - BKWG member expressed concern that the proposed limits are based on historical take and not the sustainable biological yield. How much bull kelp is necessary for subtidal functions, drift, and how much can be taken? There is a need for sustainable resource management. Member strongly resists using historic take as a baseline, as it restricts growth of a sustainable industry.
 - BKWG member stated that the proposed regional approach recommendations are interim in response to bull kelp loss. The member agreed that harvest needs to be tied to the status of the resource. The proposal should limit take to the current harvesters who have historically harvested in that area. It is common in fisheries to allow people who have had landings (e.g. in the last 3 years) to continue harvest. A derby-style fishery is not ideal.
 - BKWG member agreed on the need for adaptive management. A canopy cover to biomass conversion should be developed. The member is concerned about managing edible harvest based on the status of the administrative kelp beds. This could potentially eliminate the ability to harvest for edible purposes due to closed bed status, especially along the north coast.
 - BKWG member agreed that historical take was not tied to biological conditions. However, in fisheries management, when in a data-poor situation using average take over recent years can be a proxy in the interim. Member would prefer if CDFW considered limiting harvest in Del Norte and Humboldt counties to the average take over the last five years instead of allowing two licensees to have the ability to take the maximum tonnage allowed.
 - Regarding use of historical harvest, BKWG member stated, based on the idea that the resource is relatively constant, and if the main impact is commercial harvest, there is no evidence that harvest (in the current situation) is affecting

- the population. Climate and ecology are affecting populations. We should turn this around and say populations are unpredictable and climate is changing, at what point does this currently unimportant level of harvest matter to the population? Bull kelp requires different considerations compared to a fish species. There is a need for adaptive management.
- Commission staff stated the observations discussed are important to relay to the Commission. The BKWG wants to be explicit that harvesters are not the cause of the decline.
 - BKWG member stated that considering big fishery collapses, environmental drivers are an important part as well as harvest, depending on the species. How much each of those drivers affects a collapse is variable.
 - BKWG member stated that harvest is market-based and has nothing to do with how much is available unless it is a “bust year.” The member uses self-restraint during bust years. If there was an overall harvest limit the member would be more likely to harvest during a bust year because they could not harvest more in a boom year.
 - CDFW is not proposing to limit the number of licenses in Del Norte and Humboldt counties, and is asking the BKWG to help recommend if the 4 tons/year should be limited to the two permittees that typically harvest in the counties thereby establishing a limited entry fishery or if it should be opened to others and how to allocate the proposed 4 ton/year limit. The 2020 data shows canopy in Del Norte is still low, therefore CDFW is approaching Del Norte and Humboldt counties in a precautionary manner as we do not know if we need to anticipate a decline similar to Mendocino and Sonoma counties.
 - BKWG member stated that the industry will be destabilized if new harvesters are allowed to harvest in Del Norte county. The member stated they would allow other current license holders to harvest under their license; however, those outside Del Norte and Humboldt counties have expressed they do not want to travel.
 - BKWG member stated that all the materials reviewed going into today’s meeting accurately summarize the conversations. The member would like the status of the resource reflected in a sustainable approach.
 - As previously discussed, the proposed regional approach would have a sunset date of potentially 3 to 5 years or until the KRMP has been completed. CDFW provided four potential options for the regional approach if the KRMP is not implemented by the sunset date: 1) the regulations pertaining to the regional approach would revert back to the current regulations, 2) the regional approach would be extended until the KRMP is completed, 3) a new regulation package may be undertaken with new information gathered during the time frame and/or utilize the information compiled in a draft KRMP to inform proposed regulation changes, or 4) if kelp rebounds before the KRMP is finalized there is potential for a dedicated regulatory review.
 - CDFW asked BKWG to vote for an end date in the regulations: 3 or 5 years
 - Discussion
 - BKWG member does not support the 3- or 5-year approach. There has been strong upwelling and kelp is growing fast. Instead, there is a need for a quantitative relief valve that will inform reopening harvest.

- BKWG member stated that they have observed a lot of bull kelp and discussed the boom-and-bust cycle. BKWG member recommended, at minimum to maybe consider one year closure and consider new data as available.
- Pew supports the considerations they put forth via email to the BKWG.
- Question on the emergency regulation process
 - Commission staff stated emergency regulations require an imminent risk to the natural resource. It is not a way to get around the rulemaking process and public engagement. If the emergency regulation criterion is met there is no public comment period and the emergency regulation is initially in place for 90 days and can be renewed. The only way emergency regulations can be renewed is if the agency is working on a regular rulemaking. Unless there are triggers defined that would allow the fishery to be open or closed it would be difficult to implement emergency regulations without subsequent rulemaking.
- BKWG member expressed concern that bull kelp “recovery” has not been defined and lack of “recovery” is being used to justify the proposal. Member stated CDFW should define “recovery” before considering any harvest closures.
- Correct, CDFW has not defined recovery, but if you consider the historical record (e.g., last 30+ years) of bull kelp in Sonoma and Mendocino counties bull kelp has not regrown to historic levels.

Areas of agreement and divergence

- CDFW originally approached the BKWG to reach a consensus recommendation to provide to the Commission. Not everyone agrees on how to move forward, but ultimately the Department is proposing the regional approach as provided as well as other considerations discussed during the meeting.
- Considering the input received from the BKWG, CDFW found that while the BKWG agreed on many core issues there was a divergence on how to address the issues. Refer to Areas of Agreement and Divergence document for greater detail (document available upon request from rebecca.floresmiller@wildlife.ca.gov).
- Discussion
 - BKWG member stated the satellite imagery data is the best available data if taken at low tide and bull kelp decline in Del Norte is not unprecedented.
 - BKWG member stated preceded/unprecedented is quantitative and can be answered with data. The amount of reduction in Mendocino and Sonoma counties is not unprecedented, but the duration is. This is not a matter of opinion.

Harvest methods

- CDFW presented the currently allowed harvest methods for bull kelp:
 - Hand harvest only. Drift, unattached bull kelp may be harvested.
 - Kelp regulations allow cutting attached kelp not more than 4 feet below the water surface. While edible seaweed regulations allow take of the entire individual.

- The information gathered during the 2019 CDFW web-based harvester survey and communications with bull kelp harvesters found most harvesters cut a portion of the blades, while a few cut below the pneumatocyst.
- CDFW proposed a statewide harvest method, in areas where take is allowed, to cut blades one foot above the pneumatocyst. This method will allow kelp to continue to grow and produce spores, although at a reduced rate. Detached, drift kelp may still be allowed for harvest but will require law enforcement review.
 - Research on sustainable harvest methods is extremely limited, this has been identified as a need in the draft Kelp Enhanced Status Report.
 - An entire bull kelp stand can potentially be harvested under current regulations.
 - CDFW acknowledges the current losses are not due to harvest and most, but not all, harvesters currently harvest only a portion of the blades. Two harvesters cut below the pneumatocyst and this proposal would require their harvest methods to change.
 - The proposed harvest methods would not have a sunset date but may change upon additional research on sustainable harvest methods and/or unless the KRMP determines otherwise.
 - The proposed method may result in harvesters who usually take stipes and blades to take more blades.
 - The proposed harvest method is more precautionary than currently allowed methods.
- Discussion
 - BKWG member stated that the Roland¹ study found that photosynthesis decreases and regrowth is slow once the fronds are cut. Spore development and growth somewhat stops after cutting the fronds. However, biomass amounts do not matter when harvesting overwintered kelp as it is an annual species. The member does not understand the reason for changing the harvest method. Harvesters who cut the stipe can harvest faster. Ocean conditions can be rough, and it can be unsafe and inconvenient to take blades only. For an actively growing bull kelp plant approximately 2/3 of the weight is the fronds. For those that selectively harvest, a regulatory change in harvest method is a moot point.
 - BKWG member stated the proposed harvest approach does not take into consideration the seasonality of spore production. The proposed harvest method overlaps with the Monterey Bay National Marine Sanctuary (MBNMS) closure. A harvester in the MBNMS stated this proposal would triple their labor efforts. MBNMS also has State Marine Reserves that restrict take.
 - CDFW stated that the MBNMS seasonal closure is April 1-July 31. Bull kelp harvest is not allowed during the seasonal closure unless you have a leased bed. Detached beached kelp is allowed for take during the seasonal closure.
 - BKWG member stated that considering the biology of bull kelp, it could be more sustainable to harvest half of the fronds instead of all of the fronds a foot away from the pneumatocyst. However, given at this time that we do not have any evidence that harvesting affects the population size, maybe harvest

methods should be considered after research of sustainable harvest methods is conducted and the KRMP is drafted.

- BKWG member stated the post-sori material is worthless for edible harvest. The bull kelp is tattered and all the nutrition went into the sori development.
- BKWG member agreed that considering an increase in labor costs and the need for further research, harvest methods should be part of the KRMP. The member recommended total take be considered.

Harvest logs

- Both harvesters and CDFW are interested in online reporting. However, online reporting cannot be achieved in the near future due to staff constraints. However, CDFW will continue exploring this option.
- Kelp and edible seaweed logs
 - CDFW proposed including latitude and longitude coordinates on harvest logs. This will allow for greater refinement of harvest location and improve the ability to assess if harvest is sustainable in specific areas.
 - CDFW proposed to include the number of individuals harvesting on the monthly harvest logs as it is unknown how many individuals are harvesting under a single business license. The intent is to allow for an understanding of overall effort and this information may be useful in future royalty fees and license considerations.
 - General log cleanup
- Kelp logs
 - CDFW proposed to combine the kelp logs onto a single page for more efficient record keeping and to differentiate between giant and bull kelp take.
- Discussion
 - BKWG harvester members stated it would be easy to separately report bull and giant kelp on kelp logs. If creating online reporting is a challenge, then it may be a challenge to use latitude and longitude data and may not improve management. The member thinks latitude/longitude coordinates would mostly apply to edible industry. The harvester member stated that the proposed changes to harvest logs seem reasonable. A harvester member stated that latitude/longitude may help with enforcement, and this can be implemented if needed.

Kelp harvester license

- CDFW is looking into the possibility for online sales and proposes to include a drying permit option on the Kelp Harvester License. The drying permit option will ensure statutory compliance is met at no additional cost to harvesters.
- Discussion
 - Harvesters want the ability to purchase licenses online. A BKWG member discussed the challenges with the current method to request a license by phone in December to obtain license by January 1. The member also pointed out that the application contains personal information instead of business information only.
 - CDFW confirmed that currently a commercial fishing license is not required for commercial seaweed harvesting, only a kelp harvesting license is required.

InterTribal Sinkyone Wilderness Council proposal

- CDFW suggested the BKWG consider the bull kelp portion of the Tribes proposal only. CDFW will relay any feedback provided by the BKWG to the Tribes.
- Discussion
 - A BKWG harvester member stated that the ITSWC proposal depicts seaweed harvest as an activity which is incompatible with sustainable management of the resource. The BKWG member stated that every seaweed harvester they know is highly engaged in promoting the sustainable use of the resource and would love to collaborate with all stakeholders and the Tribal community.
 - Another BKWG member harvester does not understand the conflict and would like to know how the situation can be remedied.

Wrap up and next steps

- CDFW will consider feedback from the BKWG, Tribes, and all stakeholders to develop the CDFW summary for MRC meeting in July.
- Anticipated timeline:
 - CDFW's recommendation will be provided to the MRC on July 21.
 - The MRC will consider and potentially make a recommendation to the full Commission in August.
 - A tentative notice during the October Commission meeting.
 - Discussion and possible adoption of the proposed regulations during the December Commission meeting.

Updated kelp canopy graphs were reviewed after the agenda items were discussed. The graphs depict the quarter with the most canopy reported.

- CDFW presented kelp canopy graphs that reflect an updated land masking procedure which resulted in modified data.
 - Del Norte County canopy was higher in 2018, dropped in 2019, and 2020 was similar to 2019. Humboldt County kelp canopy also decreased in 2019 but increased in 2020, the canopy appears to be within a normal range.
 - Marin county data is now available. Less canopy is found in Marin County but there does not appear to be a decline.
- Discussion
 - A BKWG member stated that criteria are needed for opening and closing harvest in Sonoma and Mendocino counties.
 - CDFW agreed, triggers for closing and opening will be developed in the KRMP and it is important to be clear what is needed for management.
 - A BKWG member asked how tides were considered during data collection. Another BKWG member responded in Teams chat that the data is collected on cloud-free days, and timing (of data collection) is random. The difference between low and high is around 13-20% maximum canopy area extent.
 - Both giant and bull kelp can be found in Marin County. BKWG member responded in Teams chat that giant kelp is in and around Tomales Bay.
 - A BKWG member asked if take could be allowed in Marin since the canopy trends are similar to those observed in Del Norte County.
 - CDFW proposed prohibiting harvest in Marin County due to concerns for harvest potentially shifting to an area with historically low canopy area based on CDFW historic aerial surveys. Historically, Marin County has not been

commercially harvested. CDFW recently received the data for Marin County which was previously not available and will consider this further.

¹Roland, WG (1985). Effects of lamina harvest on the bull kelp, *Nereocystis luetkeana*. Can J. Bot 63:333-336.