

Squid Fishery Advisory Committee Meeting 9
March 21, 2024 10am-4pm
Santa Barbara Harbor Waterfront Classroom
125 Harbor Way, Santa Barbara, CA 93109

KEY OUTCOMES MEMORANDUM

OVERVIEW

The Squid Fishery Advisory Committee (SFAC or Committee) held its ninth meeting on March 21, 2024. The goals of the meeting were to:

- Revisit the four core topics of the squid fishery management review
- Discuss options and preferences under each topic and begin to develop recommendations

PARTICIPANTS

The following SFAC members attended: Jamie Ashley (alternate for Richie Ashley), Ryan Auguello, John Barry, Joe Cappuccio, David Crabbe, Mark Fina, Russell Galipeau, Corbin Hanson, Greg Helms, Porter McHenry, Tom Noto, Joe Villareal, Anthony Vuoso, and Dan Yoakum. Susan Ashcroft, California Fish and Game Commission Marine Advisor, participated remotely as an observer.

Caitlin Allen-Akselrud, Ken Bates, and Ken Towsley were absent.

Katie Grady, Briana Brady, Dianna Porzio, Trung Nguyen and John Ugoretz with the California Department of Fish and Wildlife (CDFW) convening team and Todd Van Epps with CDFW's Law Enforcement Division participated. Scott McCreary and Debbie Schechter with CONCUR served as neutral facilitators.

KEY OUTCOMES

Below is a summary of the main topics discussed during the SFAC meeting. This summary provides an overview of the main topics, primary points and options raised in discussions, and next steps. It is neither a detailed transcript nor a decision document.

1. Welcome, Agenda Review

Katie Grady welcomed SFAC members and shared the schedule of SFAC meeting dates and topics. Scott McCreary reviewed the agenda. Katie reminded the SFAC of its charge to review and advise CDFW on potential changes to California market squid fishery management.

2. Review SFAC's Progress to date and Provide Status Update on EDM Efforts

Katie noted that the Market Squid Enhanced Status Report (ESR) was the first step in evaluating the market squid fishery management plan (MSFMP). The ESR identified four topics for review: monitoring, fishery dynamics/fishing effort, gear and habitat, and fishery access. The ESR is intended to be a living, dynamic report that can serve as a resource for those interested in the fishery. The SFAC was established to review and advise CDFW on potential changes to California market squid fishery management and has held eight meetings so far to review the identified topics, develop options and provide recommendations.

Egg Escapement: Katie reminded the SFAC that egg escapement estimates (the percentage of eggs released prior to catch) are based on landings, sampling data, and biological information. Currently, an estimated escapement of 30 percent or greater provides for sustainable levels of reproduction and serves as a proxy for maximum sustainable yield. The use of egg escapement is included in the MSFMP and is useful to retroactively look at the status of squid stock and compare across fishing seasons. It is not used as a real-time management tool.

Empirical Dynamic Modeling (EDM): Katie reviewed EDM which is a modelling approach that is ideal for short-lived species like squid and can incorporate environmental drivers such as sea surface temperature. EDM looks at the relationship between variables over time to (1) forecast potential future squid landings and (2) simulate effort controls and temperature scenarios at a relevant scale to optimize effort and yield. EDM results for the squid fishery were delayed and preliminary results will be presented at the next SFAC meeting on May 1. EDM results could provide more resolution for options such as temporal closures but will not provide new options. The modeling may be adjusted to incorporate options that the SFAC provides in this meeting. Preliminary results seem promising and in-line with SFAC discussions. EDM may be useful to inform management procedures in the future, but requires real-time data collection (i.e., e-logs) and further research. CDFW plans to continue testing and development of EDM over the next few years (pending funding).

SFAC members made the following points regarding egg escapement and EDM:

- Egg escapement modeling has proven valuable and should be continued.
- EDM results should be publicly available. EDM has not yet been shown to reflect local data and forecasts have a large margin.
- Several members expressed concern about using EDM for management of the fishery. They noted that it may not be accurate because it's based on harvest effort and catch, does not reflect the complete biomass, and does not directly account for market dynamics.

- EDM could help us better understand trophic levels.
- Development of EDM should continue and should be considered as a tool to inform management procedures in the future.
- There was some interest in reconvening the SFAC in a few years to review EDM data and consider potential implications for management.

3. Revisit the Four Core Topics of the Squid Fishery Management Review in Sequence and Evaluate Emerging Options/Directions

Katie explained that the objectives at this meeting were to summarize discussions to date on each of the four topics, review and evaluate options including their pros and cons, and work toward emerging recommendations. She distributed a worksheet listing each topic and options for SFAC members to use individually to note their thoughts and ideas. The worksheets were not collected or reviewed.

Monitoring: Consider ways to modernize market squid fishery monitoring efforts.

Katie reported that there was broad support from SFAC members for modernizing data collection using electronic logbooks (e-logs). She noted that there was also interest in improved monitoring of wildlife interactions. CDFW is currently discussing funding for a new type of e-log and would like to use the squid fishery as proof-of-concept.

The following options for monitoring were discussed. Pros, cons and other comments from SFAC members are noted below under each option:

- *Electronic logbook with updated data fields* (note that e-logs could support options for fishing effort, gear/habitat, and access topics)
 - E-logs are easier and less burdensome for everyone and are likely to result in fewer errors
 - Fishermen and light boat operators on the SFAC are willing to help design and pilot e-logs
 - Education on e-logs for operators will be important to ensure accurate data collection and violations are minimized.
 - Consider what data fields will support EDM and egg escapement
 - Gather data on lighting use through e-logs
- *Continue modelling to assess sustainability* (discussed at the onset of meeting, page 2)
- *Research on wildlife interactions* (i.e., analysis of existing data)
 - Include data fields in e-logs for marine mammal interactions, use of seal bombs, and nocturnal bird collisions
 - Motus stations on the Channel Islands will provide information on Scripps murrelets (listed as Threatened by the State of California).
 - Russell Galipeau expressed willingness to share additional specific information on this topic.

Fishing Effort: Consider the impacts of changes in fishery dynamics and consider strategies that continue to provide time for uninterrupted squid spawning.

Katie reviewed the SFAC's previous discussions on this topic. The SFAC reviewed the 2021 petition to extend the weekend closure and revert to 12-hour daily closures in Monterey. The SFAC also reviewed changes in fishery dynamics including the increased value of squid, the closure of and lack of markets for other fisheries, and market and economic drivers like tariffs, which have all resulted in increased competition in the squid fishery. Katie presented data indicating that catch distribution is higher earlier in the week and drops off by Friday. CDFW noted that this is a consistent pattern Statewide and across years and indicates that extending the weekend closure later on Sunday or into Monday could result in more sustained catch by Thursday and Friday. Katie reported that, on average, there is more daytime fishing in the north and more nighttime fishing in the south.

The following options to guide fishing effort were discussed. Pros, cons, and other comments from SFAC members are noted below under each option:

- Leave the seasonal catch limit (SCL) in place
 - SCL is working; the fishery has demonstrated sustainability
 - SCL is important for maintaining markets
 - With the current seasonal catch limit, there could be an allowance for open access either as part of the SCL or in addition to it
 - SCL doesn't do much from a conservation standpoint
- Extend the weekend closure (statewide or Monterey): either Sunday at sunset/7pm, Sunday midnight, Monday 7am/sunrise or Monday noon. The extension could act as an added conservation measure that would push the start of the fishing week later to enable aggregations to build and could maintain similar yields. CDFW indicated that there is biological evidence that the current closure allows squid to spawn uninterrupted on the weekend, as squid landed Monday morning are more spawned out than Friday catches.
 - A longer weekend closure would benefit squid biomass by allowing for more spawning.
 - One fishery participant goal is to reduce interaction with recreational users
 - Monday 7am start is better to reduce interactions with other ocean users on Sunday late afternoon/evening
 - Not needed statewide because interaction with users is only an issue in Monterey, the fishery has demonstrated sustainability and statewide extended closure would reduce fishing opportunities

- Enforcement is more challenging if there is not a specific prescribed time (i.e., sunset or sunrise)
- Concern about losing labor for processing with an extension until Monday morning in Monterey
- Important to define the boundaries of the Monterey area: Pt. Lobos to Moss Landing was proposed.
- Extended closure provides other ecosystem services and benefits and could be of value while EDM and other tools are further refined.
- Consider Statewide closure beginning early Friday morning or Thursday at midnight
- One comment that there is no benefit to the resource from a 12-hour closure. Squid also spawn during the day.
- This requires significantly more enforcement effort due to a closure every day and creates more issues with lighting over the closed period.
- Could create more interaction with other users by concentrating fishing effort
- Creates derby-style fishing
- Poses operational challenges
- Seasonal closure at the onset of spawning window (varies by region) e.g., close April north and October south for predictability and to allow more time for squid to signal each other to aggregate.
 - Consider a seasonal closure around the primary nesting areas for the Scripps murrelet at the Channel Islands (nest primarily on Santa Barbara, Anacapa, and San Miguel Islands)
 - Not clear how a seasonal closure at the onset of spawning would be operationalized
 - Not needed for the resource

Gear/Habitat: Consider changes in gear over time and potential impacts to habitat or other wildlife.

Katie reviewed the SFAC's previous discussions of gear and habitat. The SFAC discussed lighting and shielding, noting that most shields are compliant with regulations. Differences between running lights, deck lighting, spotlights, and squid lights were also addressed. Based on surveys and interviews from 2020, use of riblines has increased, with one third of interviewed vessels using riblines. Chains are mostly phased out, as the fleet has switched to cables or rope. Preliminary results from dockside sampling indicate interactions of gear with spawning habitat. Concerns have also been expressed about lighting impacts on nocturnal seabirds.

The following options for gear and habitat were discussed. Pros, cons and other comments from SFAC members are noted below under each option:

- Develop a “best practices” guide for the market squid fishery
 - Reduce wattage, use fewer lights, or use LED lights which are directional
 - Enforcement efforts on lighting are focused on ensuring the proper shielding is being used
 - Information on the location of nesting seabird species of concern and the season they are most vulnerable would inform best practices for reducing the impacts of lighting on seabirds
 - Consider regulatory changes regarding shielding (i.e., shield entire bulb) instead of best practices
- Ribline
 - Riblines effectively protect egg beds and benthic species without reducing catch
 - Can potentially be costly and time consuming to install
- Ribline with depth limit (i.e., ribline requirement if fishing shallower than X)
 - Depth does not matter if you are using a ribline
 - Depth limit would mean that riblines are required only for nets used in shallower areas rather than for all nets on board
 - Poses enforcement challenges: consider color-coding
 - Consider requiring a ribline for specific locations nearshore instead of depth limit
- Cable vs. rope purse line
 - It was initially stated that if you have a ribline, then rope vs. cable doesn't matter.
 - It was then expressed by others that cable sinks and rope floats. Therefore, a ribline with a rope purse line is more effective than a ribline with a cable line.
 - Conversion from cable to rope is costly, especially for permit holders with multiple nets
 - Not many boats still run cable—used primarily by those who fish tuna and mackerel
 - Consider requiring a rope purse line only for fishermen who fish only squid

Access: Consider ways to improve access to the California market squid fishery.

Katie reviewed the SFAC's previous discussions of access. Under the existing restricted access program, there are fewer seine permits, some are not being used, and the majority of brail permits are being used to support seining or for lighting. Various petitions and proposals have been received seeking improved

access in specific areas, for specific gear types, with a daily or yearly catch allowance, and for use as bait for other fisheries. The SFAC has invested time to define small-scale in an operational way; this has proven challenging.

The following options for improving access were discussed. Pros, cons, and other comments from SFAC members are noted below under each option:

- Small-scale Experimental Fishing Permit (EFP): CDFW explained that this is a new program that could be an avenue for small-scale, low volume squid fishing that would cater to local markets. Under the EFP program, people could apply for an EFP and develop a market for small-scale access. Participants in the program would test some of the concerns that were raised such as competition with the limited access fishery and enforcement. The EFP could be bounded by location and/or gear type.
 - Concern about having an EFP in areas where there is a seiner: interaction, impacts to existing fleet (e.g., operational or market impacts)
 - Requires clear definition of geographic area, gear type, and weight limit (e.g., two tons)
 - Could work for local small-scale and different gear types (e.g., jigs)
 - Concern about impacts to the resource
- Buy brail permit:
 - Too costly for small-scale (approximately \$250,000)
 - Option exists already
- Develop method to lease restricted access permits (due to financial limitations)
 - May be too costly for small-scale, though less costly than purchasing a brail permit
 - Need to clarify whether this option is currently available
 - Makes use of brail permits that aren't being used to brail for squid
- Open access allowance:
 - Concern about impacts to existing permit holders and maintaining fairness for those who have invested in permits
 - Concern about potential impacts to the resource
 - Favored by north coast petitioners; suggest 10,000 tons in excess of seasonal catch limit or 6,000 tons if part of seasonal catch limit; limit of 10 tons per day

4. Public Comment:

Nine members of the public provided comments on the following topics:

- *Extended weekend closure*: Several people spoke in favor of an extended weekend closure in Monterey. Of those, several supported a Monday 7am start. One speaker supported a later Sunday start. One also supported a closure earlier on Friday,
- *12-hour weekday closures*: Seven people spoke in opposition to this idea. They noted that this would actually limit fishing time to 11 hours or less due to the need for a buffer if something happens. Variability in fishing conditions and the likelihood of having more boats concentrated in one area make this idea impractical. It would create a shotgun start that is harder to enforce five days a week.
- *Seasonal catch limit*: One person spoke in favor of retaining the seasonal catch limit.
- *Riblines*: Several people spoke in favor of riblines, noting that they protect the fishery, reduce damage to egg beds and don't impact the amount of fish caught. One suggested allowing an implementation timeline until at least April 2026 to require riblines and noted that rope purse lines are better than cable.
- *Lighting*: A few people noted that fishermen already use best practices to reduce lighting and use different colors and brightnesses depending on conditions. One noted that shielding is important. One person recommended no changes to lighting requirements and that current shielding regulations to the filament allow for some spread of light on the water necessary to be effective at aggregating squid.
- *Open access*: A few people spoke in opposition to open access, noting that it is not fair to those with permits and it does not protect the resource.
- *Small-scale access*: One person supported the provision allowing people to catch 100 to 150 pounds of live bait. Another suggested that a plan for small-scale access is needed; otherwise it is unmanageable and unenforceable.
- *E-logs*: One person spoke in favor of e-logs.

Summary of SFAC Member Comments Regarding Fishery Management Review Options¹

Topic	Options	Notes	Pros Expressed by SFAC Members	Cons Expressed by SFAC Members	Apparent Level of Support from SFAC
Monitoring	Electronic logbook	<ul style="list-style-type: none"> • Interest from fleet to pilot • Need for education • Needs to be easier than paper logbooks • Include data fields for wildlife interactions and use of seal bombs 	<ul style="list-style-type: none"> • Easier for fleet and CDFW • Should reduce errors 		Broad support expressed
	Modeling to assess sustainability	<ul style="list-style-type: none"> • Continue egg escapement modeling • Continue to explore EDM • Interest in reconvening to review EDM data 	<ul style="list-style-type: none"> • EDM could help inform management procedures in the future • EDM could help understand trophic levels 	<ul style="list-style-type: none"> • EDM does not directly account for market dynamics 	Concerns expressed regarding use in management. General support to continue exploring modeling. Support to continue egg escapement.
	Research on wildlife interactions	<ul style="list-style-type: none"> • Get data from seabird monitoring stations on Channel Islands • Link to best practices 	<ul style="list-style-type: none"> • Concerns regarding impacts to seabirds could be explored 	<ul style="list-style-type: none"> • No reported documented evidence of negative impacts 	General support to continue research

¹ Note: This table is intended as a summary of key ideas as part of the SFAC's ongoing deliberations; it is not intended as a transcript of each statement and is *not* meant to represent either final analytical findings or concluding policy recommendations.

Topic	Options	Notes	Pros Expressed by SFAC Members	Cons Expressed by SFAC Members	Apparent Level of Support from SFAC
Fishing Effort	Leave seasonal catch limit	<ul style="list-style-type: none"> Links to small-scale access 	<ul style="list-style-type: none"> Fishery has demonstrated sustainability 	<ul style="list-style-type: none"> Does not have biological/ecological value 	Many SFAC members expressed support
	Extend the weekend closure	<ul style="list-style-type: none"> Interaction with other users is only an issue in Monterey Debate on timing- Sunday pm/sunset vs. Monday am Could consider ending early in Friday Define boundaries if limited to Monterey (Pt. Lobos to Moss Landing) 	<ul style="list-style-type: none"> Allows for more spawning and can benefit squid biomass Reduces interaction with recreational users 	<ul style="list-style-type: none"> Squid are resilient-not needed statewide 	Broad support expressed in Monterey, mixed support/opposition to statewide
	12-hour weekday closures (Monterey)	<ul style="list-style-type: none"> Proposed in previous petition This was historically the regulation in place 		<ul style="list-style-type: none"> Doesn't benefit the resource Poses operational challenges Creates shotgun start More effort for enforcement 	None
	Seasonal closure at the onset of the spawning window	<ul style="list-style-type: none"> Concept would allow uninterrupted spawning at a key point in life cycle 		<ul style="list-style-type: none"> Very difficult to implement/ enforce Not needed for the resource 	None

Topic	Options	Notes	Pros Expressed by SFAC Members	Cons Expressed by SFAC Members	Apparent Level of Support from SFAC
Gear/Habitat	Fishery Best Practices guide	<ul style="list-style-type: none"> • Need more information to precisely target lighting best practices for seabirds (area, species, timing) • Reduce wattage/use fewer lights • Improve light shielding • Track lighting use thru e-logs 	<ul style="list-style-type: none"> • Best practices are effective 	<ul style="list-style-type: none"> • Best practices do not have the force of regulations 	Broad support expressed
	Ribline	<ul style="list-style-type: none"> • All or nothing from enforcement perspective • Consider color-coding ribline • Allow phase-in period 	<ul style="list-style-type: none"> • Protects egg beds and benthic species without reducing catch 	<ul style="list-style-type: none"> • Costly, particularly if needing to modify multiple nets 	Many SFAC members expressed support
	Ribline with fishing depth limit	<ul style="list-style-type: none"> • Limits need to alter all nets • Focuses on the area where benthic impacts occur 	<ul style="list-style-type: none"> • Cost savings over requiring for all nets 	<ul style="list-style-type: none"> • May Pose enforcement challenges 	Little support and some opposition to a depth limit
	Cable vs. rope purse line		<ul style="list-style-type: none"> • Not too many boats still run cable • Rope is safer, less impact to bottom 	<ul style="list-style-type: none"> • Costly to modify 	Some support for use of rope over cable, but concerns about cost

Topic	Options	Notes	Pros Expressed by SFAC Members	Cons Expressed by SFAC Members	Apparent Level of Support from SFAC
Access	Small-scale EFP	<ul style="list-style-type: none"> • Need to define: where and what • Should be clearly defined and different from what exists • Would be useful for bait 	<ul style="list-style-type: none"> • Makes sense for local small-scale, different gear type • Provides a way to test market 	<ul style="list-style-type: none"> • Concern about precedent • Requires infrastructure for enforcement • Concern about interactions with existing fleet 	Many SFAC members expressed support for the idea of an EFP, but had concerns about how it would be executed
	Buy brail permit	<ul style="list-style-type: none"> • Existing option to enter fishery 	<ul style="list-style-type: none"> • Option exists already 	<ul style="list-style-type: none"> • Costly • Doesn't address-small scale 	Few expressed the view that this as a viable option
	Develop method to lease restricted access permits	<ul style="list-style-type: none"> • Option would provide method to temporarily use a permit somewhere else 	<ul style="list-style-type: none"> • Less costly than purchasing a brail permit 	<ul style="list-style-type: none"> • Costly • Doesn't address-small scale 	Few viewed this as a viable option
	Open access allowance	<ul style="list-style-type: none"> • Requires definition 	<ul style="list-style-type: none"> • Responsive to petitions 	<ul style="list-style-type: none"> • Requires changes to restricted access policy • Concern about impacts to existing permit holders; fairness • Concern about impacts to the resource 	Mixed, few in support and many in opposition

SUMMARY, NEXT MEETING, NEXT STEPS

Next Meeting:

The final SFAC meeting will be held May 1-2, 2024 in person in Long Beach. The meeting is expected to cover about two full days. CDFW will share preferred options for discussion and the SFAC will develop its final recommendations. CDFW intends to present a draft report to the Marine Resources Committee (MRC) of the Fish and Game Commission (Commission) in July, followed by CDFW recommendations to the MRC in November. The Commission will then consider the recommendations in December.

SFAC Members:

- Each SFAC member is asked to review the draft meeting summary after it is distributed and propose bounded edits to address key misstatements or omissions.

Facilitation Team/Conveners:

- Prepare and distribute draft meeting summary for red flag review by SFAC members.
- Share meeting presentations.

For questions regarding this meeting summary, please contact:

sfac@wildlife.ca.gov