

**Squid Fishery Advisory Committee Meeting 5**  
**August 15, 2023, 10am-3pm**  
**CDFW Seal Beach Office, 3020 Old Ranch Parkway, Seal Beach, CA**

**KEY OUTCOMES MEMORANDUM**

**OVERVIEW**

The Squid Fishery Advisory Committee (SFAC or Committee) held its fifth meeting on August 15, 2023. The goals of the meeting were to:

- Review and discuss fishery log and dockside sampling data;
- Review logbook data elements and collection methods and discuss areas for improvement;
- Check in with SFAC members on their desired outcomes for the squid fishery management review; and
- Discuss ways to improve monitoring.

**PARTICIPANTS**

The following SFAC members attended: Richie Ashley, Ryan Augello, Joe Cappuccio, Mark Fina, Corbin Hanson, Nick Jurlin (alternate for John Barry), Porter McHenry, Brian Susi-Blair, Joe Villareal, Anthony Vuoso, and Dan Yoakum. Caitlin Allen-Akselrud, John Barry, Ken Bates, David Crabbe, Russell Galipeau, Greg Helms, Tom Noto, Ken Towsley and Anna Weinstein were absent.

Katie Grady, Briana Brady, John Ugoretz, Dianna Porzio, Kirk Lynn, and Trung Nguyen with the CDFW convening team participated. Scott Cohen of CDFW participated as a law enforcement representative. Scott McCreary and Debbie Schechter with CONCUR served as neutral facilitators.

**MEETING MATERIALS**

The SFAC Meeting 5 Agenda was provided.

**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 and noted

that the meeting includes a mid-course check-in and a discussion of goals for the process.

Katie reminded the SFAC of its charge to review and advise CDFW on potential changes to the California market squid fishery management framework, which includes the seasonal catch limit (118,000 tons), gear restrictions, a weekend closure, sustainable levels of egg escapement, fishery logbooks, and area closures.

## **2. Applications of Market Squid Fishery Monitoring Data**

Katie presented data on fishery dynamics from logbooks and dockside sampling to help evaluate changes since the FMP and to receive feedback on how the data relates to SFAC members' experiences. In addition, CDFW is interested in learning what information is missing. Katie noted that the data presented are raw data that have not been analyzed or checked for quality control. The following data were shared and discussed:

- Vessel activity by fishing season (number of seiners fishing in North and South<sup>1</sup>): These data show increased activity in the North and a decline in the South over time so that the lines overlapped in some seasons. SFAC members provided observations and experiences from the field as follows:
  - The increased value of squid caused convergence.
  - The low level of activity in the North from 2003-2010 was due to the lack of squid in the North.
  - The closure of the sardine fishery has caused fishermen to travel north.
  - Squid populations have a cyclical nature that can't be readily explained.
- Landings and CPUE by fishing season: CPUE comes from the logbooks and is described as catch (tons) per fishing set. CPUE tracks closely with landings and goes up when squid are more abundant. SFAC members shared their experiences as follows:
  - Set numbers in logs are not accurate; fishermen may enter just one set with the total tons due to the effort to enter all the data. Set numbers are variable.
  - Cell phone technology and communication among vessels has made it easier to find squid.
- CPUE by time of day (daytime and nighttime): The data suggest that there are seasonal trends in CPUE but no apparent differences between day and night in either region. SFAC members observations and

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<sup>1</sup> North is north of Point Conception; South is south of Point Conception.

experiences were as follows:

- Squid are present day and night, and effort will be there day or night.
- In Monterey, squid are present in the day at the beginning of the season and at night at the end of the season. Katie asked if this may be due to temperature changes, as the water warms up later in the season.
- Squid react differently to lights at different stages of egg laying
- Market squid mantle length by region (based on data from dockside sampling). On average, squid have longer mantles in the North than the South. Katie noted that mantle length at time of spawning is primarily dependent on the environment during juvenile development such as food availability, therefore observable changes in length are likely to be independent of fishing behavior. SFAC members shared the following observations:
  - This is accurate; squid are larger in the North than in the South. This may also be due to fewer squid and less competition in the North or due to differences in food availability or quality.
  - Monterey squid were much larger in the 1970s and the price was much higher than San Pedro.
- Gonad weight by region: These data show the same trend as mantle length, with higher average gonad weight in the North. This supports continued efforts to explore the dynamics in these two regions independently. Katie clarified that gonad weight and mantle thickness are used in the egg escapement model to look at the proportion of eggs spawned. These metrics are used to describe relative fishing pressure or eggs spawned prior to harvest, though differences in gonad weight could be independent of fishing activity. SFAC members shared the following observations:
  - Gonad weight may be impacted by water quality, which is much poorer in the South.
  - Gonad weight may be impacted by the quality of feed in the North vs. the South.
- Gonad weight by fishing season (and day and night): Day and night mirror each other. There seems to be a regime shift in the South in day and night beginning in 2012 where gonad weight drops. SFAC members' observations were as follows:
  - In 2011-2013 there were a lot of fish and they were spawned out. Squid were small in 2018-2019.
  - This could be related to ocean conditions such as temperature.

### 3. Review Fishery Logbook Data Elements and Current Collection Methods

Katie explained that CDFW's goals are to get timely and reliable data and reduce time and effort for data collection. The intent for this agenda item is to discuss the validity, accuracy and value of the data collected, identify challenges with data collection and look at ways to modernize the process. Katie shared examples of challenges with logbook entries for seiners and lightboats.

Seiner log: Common recording mistakes include missing information for permit and vessel ID numbers, set numbers, and landing receipt numbers. SFAC members shared the following feedback about challenges with logs and ways to improve data collection:

- Bycatch is difficult to quantify and is typically not known until the settlement from the market is received. It may not get recorded.
- Set position is not a priority and is often entered at the dock. An electronic system would help capture these data more easily.
- Searching and lighting for seiners is not captured—is this valuable for CDFW?
- Using a 24-hour clock is preferable to AM/PM.
- Start time is more important and more easily captured than end time. Is an end time necessary?
- Logbooks are often filled out at the dock and after landing receipts are received, which can result in less accurate information. It's time consuming and challenging to fill out logbooks while fishing.
- Enforcement is a judgement call by enforcement staff. Clear regulations that are easy to follow will lead to fewer citations.
- Consider revising the logbook regulation to require that the logbook must be complete two hours after the offload.
- Landing receipt does not capture effort well. The form has only one block to enter landing but seiners are fishing in multiple blocks.

Lightboat log: Common recording errors include similar missing information as vessel logs and not filling out a new line for each block. SFAC members shared the following feedback about challenges and ways to improve data collection:

- Bird and mammal interaction needs to be better defined.
- Lightboats need to wait to complete logs until they receive total tons of squid from the seiner, otherwise they are guessing at the total tons.
- Lightboats will set multiple seiners.
- May need different types of data for lightboats and seiners.

CDFW staff and SFAC members noted that the use of electronic logs could make data collection easier for both fishermen and CDFW. CDFW staff explained that some fields that weren't completed could be entered once a season or once a trip via an electronic log that would populate information based on vessel or permit accounts. It was noted that both groundfish and CPFV (commercial passenger fishing vessels) are using electronic logs. Several SFAC members volunteered to help pilot electronic logs for the squid fishery. One potential concern with electronic logs is the lack of internet access for lightboats that may be out at sea for multiple weeks without internet.

#### **4. SFAC Member Goals for this Fishery**

Katie explained that while the available metrics indicate the market squid fishery is sustainable, CDFW wants to take a proactive approach and consider how the existing squid fishery management framework may hold up as we experience more environmental extremes. So far, CDFW has heard from constituents via petitions, interviews, and feedback prior to the SFAC. This meeting provides an opportunity for a mid-course check-in with the SFAC regarding goals for the process and key issues to guide the remainder of the SFAC process. Katie posed three questions to the SFAC:

1. Do you like this framework (seasonal catch limit, gear restrictions, weekend closure, sustainable levels of egg escapement, fishery logbook, area closures)?
2. What would you change (add, remove, alter) and how would you accomplish that?
3. How will this framework hold up as we experience more environmental extremes?

Responses received from SFAC members at the meeting and from one member in advance of the meeting are summarized below.

##### 1. Do you like this framework?

A majority of SFAC members in attendance liked the framework. Several wanted to see as few changes as possible. A few mentioned that monitoring and data collection can be improved. A few noted that open access needs to be discussed. One wanted to ensure that the framework supports ecosystem functioning.

##### 2. What would you change (add/remove/alter) and how would you accomplish that?

Responses are reflected in the table below and categorized by topic and the

meeting in which the topic is scheduled for discussion. A majority of SFAC members in attendance supported a later Sunday opening primarily in the Monterey Bay area, and testing electronic logs.

Meeting 7 & 8	Today (Meeting 5)	Meetings 6 & 7	Meeting 8
<b>Effort/Fishery Dynamics</b>	<b>Monitoring</b>	<b>Gear/Habitat</b>	<b>Access</b>
Later Sunday opening either statewide or specific to Monterey Bay area (e.g., at dark)	Test electronic logs and move away from the paper logbook	Minor gear alterations to protect bottom habitat	Allowance for open access: Discuss this earlier to allow more time to deliberate
Half-day closure to moderate fishing effort during the week/ consider safety at sea specific to Monterey Bay area	Include information about lightboats on fish tickets	Area closures and gear restrictions to protect seabirds	Permit process and transfers— make it more transparent
		Managing gear near and transit through closed areas	

3. How will this framework hold up as we experience more environmental extremes?

A few SFAC members supported periodic re-evaluation of fishery control rules to support adaptive management or adjustment as conditions in the fishery change.

The following additional topics were raised by SFAC members during this discussion:

- Empirical Dynamic Modelling (EDM): A few SFAC members expressed concerns about EDM and had questions about how it will be used. One member stated that EDM could provide value, especially as it is refined over time. Comments included:

- Appreciation for using EDM to learn, not to regulate the fishery
- There is value in using modelling to inform long-term understanding of the fishery but not for use in real-time
- There is value and interest in continuing the paralarval surveys
- Market issues: A couple of members noted that the squid market and associated challenges impact the fishery and are not addressed by the management framework.

In addition to the topics mentioned by SFAC members, CDFW expressed an interest in discussing the following topics:

- Bottom contact impacts (as part of the gear discussion)
- Petition for reverting to earlier regulations in the Monterey Bay area with a daily 12-hour closure during the week
- Lighting restrictions including how to address changes in the types of lights used and language used in FMP

## **5. Electronic Monitoring Techniques**

Katie explained that CDFW is seeking input from the SFAC on other fishery monitoring needs. In particular, there is an interest in moving from paper logs to electronic means of data collection. SFAC members shared the following ideas:

- Sensors on nets to gauge depth and temperature: This is a developing technology. Some SFAC members shared experiences with testing and developing this approach, though the efforts are in the very early stages.
- Devices: A tablet or a phone app could be used for electronic data collection. Some SFAC members have experience with this for groundfish and CPFV and multiple members expressed interest in helping with pilot studies to transition to electronic data collection.
- Data quality: Concerns were expressed about false reports and the need for a backup to be in place when electronic systems break down.

## **6. Public Comment**

Two members of the public provided comments at the meeting. One person expressed opposition to the idea of a half day closure because it restricts the ability to fish when they want and need to. Another person stated that a ribline above the leadline is needed to reduce bottom contact to safeguard the fishery.

## **SUMMARY, NEXT MEETING, NEXT STEPS**

CDFW staff expressed appreciation for the feedback provided by the SFAC and members of the public. The next SFAC meeting will be held via Zoom on October 6, 2023 and will focus on gear including gear use, lighting and efficiency over time; bycatch and interactions with wildlife; and habitat impacts. It will also likely include further elaboration on the intent and potential use of EDM and updated results from the EDM work . Additionally, CDFW will look at the sequencing of topics and will make adjustments to discuss the topic of fishery access earlier.

Based on the Convening Team's deliberations, the following next steps were identified:

### **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 review by SFAC members
- Share meeting presentations
- Reassess sequence of meeting topics

For questions regarding this meeting summary, please contact [sfac@wildlife.ca.gov](mailto:sfac@wildlife.ca.gov).