



Australian Government

Australian Fisheries Management Authority

Southern Squid Jig Fishery Resource Assessment Group (SquidRAG) Meeting 29

Meeting minutes

12 October 2023

9:30 – 14:58

Microsoft TEAMS

Southern Squid Jig Fishery Resource Assessment Group (SquidRAG)

Meeting 29 – 12 October 2023

Agenda

Time (AEDT): 09:30-14:58

Location: Microsoft Teams

Chair Name: Mr Bruce Wallner

Approximate time	Item	Purpose	Lead presenter
9:30 (30 min)	Agenda item 1. Preliminaries		
	1.1 Welcome and apologies	For action	Chair
	1.2 Declaration of interests	For action	Chair
	1.3 Adoption of agenda	For action	Chair
	1.4 Minutes from previous meeting	For noting	Chair
	1.5 Actions arising from previous meetings	For noting	Executive officer
10:00 (20 min)	Agenda item 2. Fishery update		
	2.1 AFMA Management	For noting	AFMA member
	2.2 Industry	For noting	Industry members
	2.3 Economic	For noting	Economic member
	2.4 Research	For noting	Research members
10:20 (25 min)	Agenda item 3. Catch per unit effort update	For noting/ endorsement	Rocio Noriega
10:45 (15 min)	Break		
11:00 (30 min)	Agenda item 4. Climate Change	For noting/ advice	Alice McDonald
11:30 (20 min)	Agenda item 5. Harvest Strategy update	For noting	AFMA member
11:50 (40 min)	Lunch		
12:30 (60 min)	Agenda item 6. 2024 TAE Recommendation	For advice	AFMA member

Approximate time	Item	Purpose	Lead presenter
13:30 (25 min)	Agenda item 7. Draft Data and Monitoring Strategy	For advice	AFMA member
13:55 (20 min)	Agenda item 8. Research Priorities	For advice	AFMA member
14:15 (25 Min)	Agenda Item 9. Electronic monitoring	For noting/ discussion	AFMA member
14:40 (10 min)	Agenda item 10. Other Business		
14:50	Close		

The Chair opened the meeting at 9:30

Agenda item 1. Preliminaries

1.1 Welcome and apologies

1. Mr Bruce Wallner, the Chair, welcomed members and observers to the meeting and made an Acknowledgement of Country, paying respects to Australia's First People and Traditional Custodians, their cultures and Elders past present and emerging, and recognising their continued connection to land, waters and community from which participants are joining the meeting.
2. The Southern Squid Jig Fishery Resource Assessment Group (the RAG) members noted the Acknowledgement of Country, that the meeting was being recorded and commenced proceedings.
3. A formal apology was noted for Stephen Leporati. Two scientific members are required for quorum for the RAG so Alyssa Marchall was invited to attend this meeting as an interim member. Alyssa was welcomed and thanked for her time.
4. Alannah Wood was welcomed to SquidRAG as the new Executive Officer.
5. The Chair noted that the meeting is being recorded by the Executive officer for minute taking purposes.
6. All members, participants and observers introduced themselves and their background to the RAG.

Members

Bruce Wallner	Chair
Rocio Noriega	Scientific member
Alyssa Marshall	Scientific member
Robert Curtotti	Economic member
John Cull	Industry member
Steve Hall	AFMA member
Alannah Wood	Executive officer

Invited Participants

Alice McDonald	AFMA
Steph Brodie	CSIRO

Observers

Yvette Lamont	AFMA
Jacqueline Lyons	AFMA

Apologies

Stephen Leporati	Scientific member
Sally Weekes	AFMA

1.2 Declarations of interest

7. The RAG members followed the conflict of interest declarations as outlined in in *Fisheries Administration Paper 12*. Members and participants reviewed and updated the Declarations of Interest included at [Attachment A](#).

8. The Chair noted that where there is a perceived conflict of interest with an agenda item, that member/participant can generally participate in the discussion but is asked to leave for the formulation of a recommendation.
9. John Cull declared a potential conflict of interest with agenda item 6 (2024 TAE Recommendation).
10. The RAG agreed on the above process for managing Mr Cull’s declared interest for agenda item 6.

1.3 Adoption of agenda

11. The RAG adopted the Agenda as final.

1.4 Minutes of previous meeting

12. The RAG noted the minutes of SquidRAG meeting 28 held on 13 October 2022 are finalised and available on the [AFMA website](#) (‘Fisheries Management’ – ‘Committees’- ‘Resource Assessment Groups’- Southern Squid Jig Fishery Resource Assessment Group’)

1.5 Actions arising from previous meetings

13. The RAG noted the action items from previous meetings and the updates provided by the Executive Officer at [Attachment B](#).
14. The AFMA member noted action item 25.2.1 to be progressed in agenda item 3 and 7 and that it is focused around the CPUE ABARES work.
15. The AFMA member noted action item 26.6.12 where 3 vessels have volunteered to participate from the squid/scallop fishery including one of John Cull’s vessels, Rachel Marie. John notes it has been functioning on the scallop equipment but have had some issues for installing it on squid equipment.

Agenda item 2 – Fishery update

16. The Chair introduced the agenda item and asked the RAG to note the AFMA Management, industry and economic updates for the Southern Squid Jig Fishery (SSJF).

2.1 AFMA Management

17. The AFMA member provided the following update:
 - 642 tonnes of Gould’s squid have been caught by eight boats in the SSJF in 2023 (as of September 2023).
 - No bycatch or protected species interactions were recorded in 2023.
 - It is now mandatory for all operators who have the software installed to use elogs. eCDRs are also available for the 2023 fishing season and can be used in parallel to the elogs. AFMA encourages operators to contact the two vendors listed in table 1 to discuss availability, cost etc.:

Table 1 – Elog software vendor information.

Software vendor	Telephone	Email	Web
CatchLog Trading Pty. Ltd	07 4033 1322	admin@catchlog.com	www.catchlog.com
OLRAC	03 5258 4399	olrac@olsps.com	www.olsps.com

18. AFMA member notes there was some issues with the spatial and effort from this year due to the paper logbook transition.

19. It was queried if gear loss is reported and confirmed that it is not. However, it is noted that it is rarely completely lost, often just the weight at the bottom of the jig line.
20. Feedback was provided on the elogs as they are designed for trawl shots rather than the pace of squid fishing where lines are retrieved each 5-7 minutes. It is not practical to fill in detail each time the line is retrieved.

2.2 Industry

21. The Industry member provided an update on the 2023 fishing season:

- Tasmanian waters were targeted primarily at the beginning of the squid season, Commonwealth waters were targeted later in the season.
- Squid catchability has become more difficult in recent seasons, with squid jigging machines being set at lower depths. Over the last two seasons, squid have been occurring at lower depths (130-140m) than where they have traditionally been caught (90m). It was noted that tuna have been noticed in shallower water 30-40m which may be driving the squid out deeper. Operators have had to move further offshore to target squid as a result. This phenomenon may also be related to climatic impacts and recent La Nina conditions.
- The cost of fuel has become a significant issue for industry and is impacting the overheads of fishing operations, with steaming time now a more crucial factor.
- Crew shortages are significantly impacting operations across the fishing industry, to the extent that it has prevented operators from going to sea on occasions. Most operations are now recruiting crew from overseas.
- We are moving into an El Nino phase which appeared to have higher catch rates in past years.
- 200g squid are ideal for the bait market as they can be easily deployed on longlines without causing machine disruptions. It was highlighted that the 300-400g squid category represents the most commonly caught size range which the majority goes to the commercial bait market. A portion of squid in this category are directed toward the recreational fishing industry, which is often more lucrative. Squid weighing over 400g are primarily intended for human consumption.
- Prior to spawning the squid are very aggressive but after spawning they become very docile and harder to catch, they are often caught in bottom trawl at this stage.
- A major limiting factor is the capacity of the processing plants. For the 2023 season there was only 4 active processing plants however this is often changing with plants opening, closing or restricting how much catch they process. It is likely there are squid in the Great Australian Bight (GAB) however the processing plants do not want to take them as they are at capacity with prawn and tuna processing.
- It was noted that there are some logistical issues with jurisdictional boundaries when fishing in some locations.

Action Item 1: AFMA to investigate the jurisdictional boundary issues.

2.3 Economic

22. The Economic member provided the following update:

- The fishing industry is facing labour shortages across Australia.
- Profitability was up this year as the fuel price dipped a little but has recently risen.
- Prices of squid have been holding steadily and are higher than they were five to ten years ago.

- Squid found more readily, and the GDP has followed.

2.4 Research

23. The scientific member provided the following update:

- The Tasmanian fishery has enacted some longer spawning periods for southern calamari.
- It isn't really known where Gould's squid spawn other than in Portland.

Agenda item 3 – Catch per unit effort project update

24. Rocio Noriega noted that work on the project 'Investigating catch per unit effort (CPUE) for Gould's squid in the SSJF and the Commonwealth Trawl Sector (CTS)' is complete, there is no further update from her presentation made at last years' RAG and referred to the draft report. Ms Noriega sought the RAG's endorsement of the draft report prior to ABARES finalising and publishing a final report. The RAG noted the following:

- There is a need for improved data on the fishery. The available data does not currently support the use of CPUE indicators as a useful index of relative abundance for undertaking a depletion analysis and supporting evaluation of catch and effort triggers as outlined in the Harvest Strategy. Better size and growth data and better resolution in effort and gear data are required. Recruitment data and natural mortality data is also required to undertake a reliable depletion analysis.
- The SSJF is a secondary fishery to most operators, and therefore SSJF vessels are all configured differently, meaning that it is difficult to attribute cause to factors affecting catch rates when there are many variables across each vessel in the fleet (e.g. computer systems, jigging machines, type of lights, age of lights).
- Quality data is required from the fishery over the next five years, in order to be able to effectively analyse CPUE in the fishery.
- The data requirements for the fishery are achievable through logbooks/elogs, industry surveys on operational the dynamics of the fleet and further onboard sampling.
- Due to the higher levels of effort in the CTS, the data is much more reliable than that of the SSJF.

25. Members did not have any privacy concerns and endorsed the report.

26. A question was raised on the low level of fishing activity in 2014. Industry responded that the majority of fishing in 2014 was conducted in Tasmanian waters where conditions were more favourable and squid catches were high, however the greater catch in 2014 impacted squid prices which resulted in operation being less profitable. The RAG noted this general trend across historic catch and effort records; where in years of low catch/effort in the SSJF, rather than poor fishing conditions or a reflection on squid abundance, it is a result of operators opting to fish in Tasmanian waters where condition have been more favourable and corresponding squid catches high.

27. The RAG noted the close link between operations in adjacent fisheries and the importance to take into account information from adjacent jurisdictions where possible to best understand the context of the SSJF.

28. Ms Noriega noted that Tasmania catch is included in ABARES fishery status reports but was not considered in the CPUE project.

29. The Chair noted that SquidRAG endorse the report to be published but will allow comments to be provided to ABARES for a further 2 weeks.

Action item 2: RAG members to provide any further advice regarding the CPUE project being undertaken by ABARES to Rocio Noriega via email out of session.

Action item 3: AFMA to explore implementation of the recommended data parameters from the CPUE project through logbooks/elogs and industry surveys.

Agenda item 4 – Climate and ecosystem update

30. Alice McDonald introduced the agenda item, and update from last year. Ms McDonald noted that climate adaption has progressed with discussions in RAGs and MACs about the ecosystem status report, and advised the following:

- The report is very high level however, from the preliminary assessment, Gould's squid has a low sensitivity but it is likely to become more variable with its association with different climatic and ecosystem variables which become more variable and extreme over time.
- Updated information and fact sheets are published on the AFMA website with internal workshops for managers to include climate change adaption in their fisheries.

31. Steph Brodie (CSIRO) was then invited to speak and present the climate change report ([Attachment B](#)).

- There has been significant warming since the 1970s, on average it is half a degree warmer.
- The southern annular mode has an impact on the north south movement of the westerly winds that often bring rains to southern Australia. Positive phases have become more common which bring stable, drier conditions to southern Australia. The implications of the fleet are related to the storminess to if the boats can operate in the conditions.
- We have moved into an El Nino and will likely stay in this until March, and this may raise the thermocline and can increase the upwelling in the bonny area. El Nino also increase the strength of the east Australian current.
- The southern node is in the negative phase, the westerly winds shift further north and increase stormy conditions.

32. The RAG noted the following background:

- Chlorophyll A is measured through satellite images to create a monthly mean to try and account for cloud cover but more specific in situ data would be beneficial. The FRDC project is experimenting with technology like this with conductivity, temperature and depth sensors on gear.
- The projected variability projected for Gould's squid under climate change will challenge the management of the SSJF, as squid stocks have typically displayed high seasonal variability in catches.
- The influence of environmental variability on the catchability of squid has been challenging to investigate in the past, due to data limitations and confounding variables.
- Biological information, such as spawning data could provide necessary data for understanding the projection of squid stocks.
- Environmental variables drive catches in all fisheries. Identifying which variables are useful as indicators for the catchability of squid would be valuable to the fishery.

- By being involved in data collection, industry has the capacity to positively influence the adaptability of the SSJF to climate change related impacts.

Agenda item 5 – Harvest Strategy update

33. The AFMA member provided an overview of the harvest strategy amendment of the lower catch and effort trigger that were introduced in the 2023 fishing season. As the catch for the 2023 season has already reached this trigger, this will be considered under agenda item 6.

Agenda item 6 - 2023 TAE Recommendation

34. The AFMA member introduced the agenda item and asked the RAG to provide advice to the South East Management Advisory Committee (SEMAC) and the AFMA Commission on the total allowable effort (TAE) for the SSJF 2024 fishing season. The AFMA member noted the following background:

2023 Catch summary

- As of September 2023, the total catch of Gould's squid for the 2023 fishing year is 642 tonnes, which is well below the intermediate and limit trigger levels outlined in the current SSJF Harvest Strategy of 3,000 and 5,000 tonnes respectively. However, it did reach the lower catch and catch and effort trigger of 360t and 213 day.
- Trawl catch was approximately 230 tonnes, with 180 tonnes being caught by the Commonwealth sector and 45 tonnes caught by GAB Sector, as of September 2023, which is also below the 2,000-tonne trawl catch limit trigger in the current SSJF Harvest Strategy.
- Combined jig and trawl catch was approximately 872 tonnes, well below the combined catch limit trigger in the current SSJF Harvest Strategy of 6,000 tonnes.
- Eight vessels have been active in the SSJF in 2023 as of September 2023, up from five vessels in 2022. This does not exceed the effort trigger of '30 standard vessels' in the fishery as outlined in the current SSJF Harvest Strategy.

Economic performance of the fishery

- While the fishery is characterised by very high levels of latent effort, leaving the potential for overcapitalisation, the TAE is typically set at a level to minimise the risk of this occurring without introducing any unnecessary impediments to efficiency. However, the TAE level should also enable the fishery to sustainably exploit the resource and capitalise on a 'boom' year.

2023 TAE considerations

- The TAE, in conjunction with the total number of gear statutory fishing rights (SFRs) in force at the beginning of the fishing year are used to determine how many SFRs are required to operate a single standard squid jigging machine in the fishery.
- For the 2023 season, the TAE was 550 standard squid jigging machines and has been set at this level since 2013. There are 4,800 gear SFRs currently held in the fishery (as of September 2023). If the 2023 TAE remains at 550 standard squid jigging machines it would mean 8.7 SFRs are required for each machine.
- Climate change considerations to be taken into account from agenda item 4. It is predicted that increased environmental variability due to climate change will increase variability in the squid fishery, including stronger increases and decreases in squid abundance through time. In particular, the industry observations suggest that an approaching El Niño year may see higher than average catches. Studies from squid fisheries outside of Australia (Robin and Denis, 1999, and Hurst et al, 2012) have suggested that there has been evidence of water temperature and chlorophyll-a

concentrations influencing catches in squid fisheries. SquidRAG consider that the annual TAE setting process enables AFMA to respond to any potential changes in the fishery and that the TAE is sufficiently precautionary to account for any potential risks currently posed by climate change.

- The RAG found no strong justification to significantly reduce the TAE below 550 standard jigging machines and noted that if this was done, it could impose unnecessary costs upon active industry members by requiring a greater number of SFRs to maintain their usual jigging operations.

Recommendation 1: 2024 TAE Recommendation

The RAG recommended that the 2024 TAE be set at 550 standard squid jigging machines. The RAG considered this level to be sustainable and suitable, given the available information; and while there is latent effort in the fishery, the level maintains the capacity of the fleet to respond to changes in squid availability and/or markets and is sufficiently precautionary to account for potential risks currently posed by climate change.

Agenda item 7 – Draft Data and Monitoring Strategy

35. The AFMA member introduced the agenda item and advised that there have been some changes made to address gaps in the logbook data and plans to undertake a gear survey to address data gaps and improve CPUE modelling in the fishery. The RAG was asked to provide advice on the draft Data and Monitoring Strategy (Data Strategy) to AFMA Management out of session.

Action item 4: AFMA to seek comment from the RAG on the draft Data Strategy out of session.

Agenda item 8 – Research Priorities

36. The AFMA member introduced the agenda item and asked the RAG to provide advice on research priorities for the 2024-25 financial year to be included in the 2024-25 SSJF Annual Research Statement (draft Annual Research Statement).

37. The RAG noted the following background:

- Each year, the RAG are asked to provide advice on upcoming research needs for the fishery, in this instance for potential AFMA or FRDC funding in 2024-25 financial year.
- This is usually required in the context of a fishery specific five year Strategic Research Plan (Research Plan), however a Research Plan has not been developed for the SSJF. AFMA has committed to developing a SSJF Research Plan for consideration at the next SquidRAG meeting in 2024.
- As part of the annual research process, the RAG are asked to prepare an Annual Research Statement and complete a research scope form for each new priority.
- The Annual Research Statement includes consideration of the cost-effectiveness, priority and timeframes for achieving identified priorities.

38. The RAG considered research priorities to be included in the draft Annual Research Statement, making the following key points:

- The FRDC boats of opportunity project has included three squid/scallop boats that are to be fitted with sensors to collect environmental data, including conductivity, temperature and depth.
- The CPUE standardisation project undertaken by ABARES (Rocio Noriega), while not an AFMA funded project, should be listed as a project in the Annual Research Statement.

- No new research priorities have arisen in the past 12 months.
- Targeting PhD/Honours research on Gould's squid could fill some of the data gaps for the fishery.
- A basic literature review that provides a summary of relevant research would be useful and can be incorporated into the Data Strategy. AFMA have some budget committed to do this work.

Action item 5: AFMA to develop a SSJF five year Strategic Research Plan for SquidRAG's consideration at the next SquidRAG meeting in 2024.

Action 6: As part of next year's Research agenda item, invite researchers who are undertaking relevant research to present a summary of their work at SquidRAG.

Action item 7: AFMA to seek advice from the RAG on the draft Annual Research Statement for 2025-26 out of session.

Agenda item 9 – Electronic Monitoring (EM)

39. The AFMA member introduced the agenda item and asked the RAG to discuss if it is a priority to explore in the SSJF fishery.

40. The RAG noted the following background:

- EM may not be used in a traditional sense for compliance monitoring, but using cameras focussing more on environmental data.
- AFMA has funding for expanding and enhancing EM in Commonwealth fisheries until June 2025.
- As many boats work across both squid and scallop fisheries - it may also be beneficial, efficient and cost effective to have EM set up in both fisheries.
- The data likely to be collect through EM in SSJF overlaps with the data expected from the boats of opportunity project and could extend it if it is deemed beneficial.

41. The RAG considered EM and made the following key points:

- Cameras may be beneficial for measuring size of squid.
- More data for the fishery would always be good but only if we can find a way to use it. If you only collecting for the sake of collecting, we shouldn't pursue it.
- The RAG noted that EM is unlikely to provide meaningful benefit to the fishery at this time and did not recommend pursuing its further use at this stage.

Agenda item 10 – Other business

42. The Chair advised it would be useful to fill the vacant industry member position for next year.

43. It was suggested that a dedicated research meeting may be useful out of session.

Close of meeting

44. The Chair thanked the RAG for their contribution and closed the meeting at 14:58.

Attachment A - Register of interest

Table 1. Members, invited participants and observers declarations of interests (reviewed & updated at SquidRAG 29).

Name	Membership	Declared interests
Bruce Wallner	Chair	No interests declared, pecuniary or otherwise in the SSJF.
Rocio Noriega	Scientific member	ABARES undertakes research on a range of commonwealth fisheries related matters. No interest declared, pecuniary or otherwise in the SSJF.
Robert Curtotti	Economic member	ABARES undertakes research on a range of commonwealth fisheries related matters. No interest declared, pecuniary or otherwise in the SSJF.
John Cull	Industry member	Holds Commonwealth and State concessions.
Steve Hall	AFMA member	No interests declared, pecuniary or otherwise.
Alannah Wood	AFMA, Executive officer	No interests declared, pecuniary or otherwise.
Alice McDonald	Observer, AFMA Management	No interests declared, pecuniary or otherwise.
Alyssa Marshall	Scientific member	No interests declared, pecuniary or otherwise.
Sally Weekes	AFMA member	No interests declared, pecuniary or otherwise.
Steph Brodie	CSIRO	Employed by the CSIRO and through the organisation either has in the past or may in the future, receive funding for research related to the fishery.
Jacquelin Lyons	AFMA member	No interests declared, pecuniary or otherwise.

Attachment B- action items

Table 2. Progress of action items from previous meetings

Complete/Redundant		Underway		Yet to start		Need further advice		On hold	
RAG meeting	Agenda Item	No.	Action Item	Agency/Person Responsible	Timeframe	Progress			
25	2	1	AFMA to review the timing of the HS review subject to a) investigating methods and data requirements for evaluating whether the current harvest strategy remains appropriate, including when it would be appropriate to complete an updated depletion analysis; and, b) determining whether nominal and/or standardised CPUE is an appropriate performance measure against which triggers can be set.	AFMA/ABARES	On-going	To be progressed following additional data collection. To be discussed in agenda items 3 & 7.			
26	6	12	AFMA to contact FRDC/Fishwell regarding whether it may be an option to have some of the SSJF vessels become boats of opportunity.	AFMA	Confirmed	AFMA have nominated SSJF boats to be apart of the project. Fishwell have approached 3 SSJF vessels.			

27	6	3	AFMA to seek comment from the RAG on the draft data strategy out of session.	AFMA	Prior to SquidRAG 28	To be addressed at Agenda item 7.
28	3	1	RAG members to provide any further advice regarding the CPUE project being undertaken by ABARES to Rocio Noriega via email.	SquidRAG members	Prior to SquidRAG 29	Complete. Further opportunity to discuss at agenda item 3.
	3	2	AFMA to implement the recommended data parameters from the CPUE project into logbooks and elogs.	AFMA	Prior to SquidRAG 29	In progress. To be discussed at agenda item 3.
28	6	3	AFMA to seek comment from the RAG on the draft data strategy out of session.	AFMA	Prior to SquidRAG 29	Incomplete. To be discussed at agenda item 7.
28	8	4	As part of next year's Research Agenda item, invite researchers who are undertaking relevant squid research to present a summary of their work at SquidRAG.	AFMA	Prior to SquidRAG 29	Not forthcoming. Suggest making this a rolling action item.
28	8	5	AFMA to seek out of session advice on the draft Annual Research Statement for 2024-25.	AFMA	Prior to SquidRAG 29	To be addressed at Agenda item 8.

Table 3. New action items from SquidRAG 29

Agenda Item	No.	Action Item	Agency/Person Responsible	Timeframe
2	1	AFMA to investigate the jurisdictional boundary issues.	AFMA	Prior to SquidRAG 30
3	2	RAG members to provide any further advice regarding the CPUE project being undertaken by ABARES to Rocio Noriega via email by the 26 th of October	SquidRAG members	26 th October
3	3	AFMA to implement the recommended data parameters from the CPUE project into logbooks and elogs.	AFMA	Prior to SquidRAG 30
7	4	AFMA to seek comment from the RAG on the draft data strategy out of session.	AFMA	Prior to SquidRAG 30
8	5	As part of next year's Research Agenda item, invite researchers who are undertaking relevant squid research to present a summary of their work at SquidRAG.	AFMA	Prior to SquidRAG 30
8	6	AFMA to seek out of session advice on the draft Annual Research Statement for 2024-25.	AFMA	Prior to SquidRAG 30

Table 4. Recommendations from SquidRAG 28

Recommendation number	Agenda item	Recommendation
1	6	The RAG recommended that the 2024 TAE be set at 550 standard squid jigging machines. The RAG considered this level to be sustainable and suitable, given the available information; and while there is latent effort in the fishery, the level maintains the capacity of the fleet to respond to changes in squid availability and/or markets.