



Australian Government

Australian Fisheries Management Authority

Scallop Resource Assessment Group (ScallopRAG) Meeting 41

Draft minutes

23 March 2023

13:00-16:30

Microsoft Teams



Australian Government

Australian Fisheries Management Authority

Bass Strait Central Zone Scallop Fishery Resource Assessment Group (ScallopRAG)

Meeting 41 – 23 March 2023

Agenda

Time (AEDT): 13:00 – 16:30

Location: Microsoft Teams

Chair Name: Brendan Kelaher

Meeting 41 – 23 March 2023			
Approximate time	Item	Purpose	Lead presenter
13:00 (20 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 of previous meeting	For action	Chair
	1.5 Action Items from previous meetings	For action	EO
13:20 (60 min)	Agenda item 2. 2023 Biomass Survey Bed Prioritisation	For advice	AFMA member
14:20 (15 min)	Afternoon Tea		
14:35 (90 min)	Agenda item 3. Harvest Strategy Review – Proposed Harvest Control Rule framework	For discussion	Invited presenters
16:05 (25 min)	Agenda item 4. Other Business	For noting	

Meeting 41 – 23 March 2023

4.5 Next meeting – proposed agenda

- Fishery update
- ERA results
- Pre-season survey results
- 2023 season recommendations
 - TAC
 - Closures
 - Season dates
- Harvest Strategy review update
 - Harvest control rules – advice and recommendations
 - Consideration of economics in the management of the BSCZSF – discussion
 - Key priorities and additional considerations
- Bycatch and discard workplan update
 - Incorporation of bycatch analytics from ERA & survey
- Research priorities
- Climate change

16:30

End of meeting

The Chair opened the meeting at 13:00.

Agenda Item 1. Preliminaries

1.1 Welcome and apologies

1. Professor Brendan Kelaher, the Chair, welcomed members, participants, and observers to the meeting.
2. The Scallop Resource Assessment Group (the RAG) members noted that the meeting was being recorded and commenced proceedings.
3. Apologies were received from Jayson Semmens, Stuart Richey and Sally Weekes.

4. Membership

Brendan Kelaher	Chair
Jayson Semmens	Scientific member
Don Bromhead	Scientific member
Julian Morison	Economic member
Stuart Richey	Industry member
John Cull	Industry member
Steve Hall	AFMA member
Yvette Lamont	Executive Officer

Invited Participants

Renee Pearce	Atlantis Fisheries Consulting Group
Matt Koopman	Fishwell Consulting
Doug Ferrell	Independent researcher

Observers

Stephanie Blake	ABARES
Sally Weekes	AFMA

1.2 Declarations of interest

5. The RAG members followed the conflict of interest declarations as outlined in [Fisheries Administration Paper 12 \(FAP12\) – Resource Assessment Groups](#). Members and participants reviewed and updated the Declarations of Interest included at [Attachment A](#).
6. Renee Pearce asked that her declaration of interest be updated as her role is now with Atlantis Fisheries Consulting Group to act on behalf of the Scallop clients. Matt Koopman advised that the projects mentioned on the declaration of interest were now completed and asked for them to be removed and updated with current research projects.
7. Chair asked AFMA member to clarify Doug Ferrell's possible conflict of interest as researcher and presenter of the Harvest strategy review. The RAG agreed that as Doug is not a voting member participation in the discussion was acceptable but not in the decision making process, noting that no recommendations were being sort at this time.
8. Chair asked members to consider that Industry members were valuable in the discussion regarding the survey bed prioritisation with the RAG unanimously deciding that Industry would be involved in the prioritisation and final advice of the survey beds without any change to declarable interests.

1.3 Adoption of agenda

9. The AFMA member discussed with the RAG minor changes to the draft Agenda.
10. The RAG adopted the [agenda](#) as final.

1.4 Minutes of previous meeting

11. AFMA advised that the Minutes from the ScallopRAG 40 meeting on 7 June 2022 were distributed to RAG members for feedback prior to being finalised and they are available on the [AFMA website](#).

1.5 Actions arising from previous meetings

12. AFMA asked the RAG to note the following two action items from ScallopRAG 39 meeting 3 March 2022:
 - Action item 4.2 –AFMA to provide an update to ScallopRAG once expert advice had been sought to inform the values within a Harvest Control Rule (HCR) framework of sustainable harvest levels and a minimum limit threshold; and
 - Action item 4.3 – AFMA to request that Fishwell consulting provide catch over time from inside vs outside surveyed beds as part of its pre-season survey project output to better inform the potential future setting of a MYTAC and given the dynamic nature of the commercial scallop stock and the history of biomass crashes.
13. AFMA provided an update on the action items and asked the RAG to note:
 - That Action item 4.2 from ScallopRAG 39 would be addressed as part of Agenda item 3
 - That Action item 4.3 from ScallopRAG 39 would be addressed as part of Agenda item 2
 - Further consultation work is required to complete these action items prior to ScallopRAG42.
14. A summary of action items from this meeting is at [Attachment B](#).

Agenda Item 2 – 2023 Biomass Survey Bed Prioritisation

15. The AFMA Member introduced the Agenda Item. The RAG was asked to consider the BSCZSF Industry Co-management Committee advice and to provide advice on which scallop beds should be surveyed in 2023 biomass survey (the 2023 survey).
16. The ScallopRAG noted the following:
 - The BSCZSF Industry Co-management Committee (the Committee) met on 3 March 2023 and 9 March 2023 to provide advice on scallop beds to include in the 2023 pre-season survey.
 - The Committee provided the recommendation, that the following beds should be surveyed in 2023;
 - King Island - 9
 - King Island - 10
 - BDSE
 - The Hill North
 - Five Hours
 - Three Hummock south
 - Three Hummock north

- Three Hummock east
 - Flinders Island
 - FI - The Wreck A
 - FI - The Wreck B
 - New FI - North
- In addition to recommending surveys of the above beds, the Committee supported exploratory work to be conducted around the Three Hummock sites in the Western region and around the Flinders Island wreck sites in the eastern region.
 - AFMA met with Jayson Semmens (Scientific member) and Stuart Richey (Industry member) on 17 and 22 March, respectively, to seek feedback due to their unavailability to attend ScallopRAG. Advice from Jayson Semmens and Stuart Richey would be provided by AFMA as part of ScallopRAG discussion to occur following Fishwell's presentation of the proposed survey design.

17. Fishwell presented the proposed 2022 survey design, the RAG noted the following:

- The principles for prioritising survey beds;
- 91.3 per cent (452 t) of the 495 t logbook reported catch in 2022 was taken from outside of 2022 surveyed beds; and
- 91 per cent (449 t) of the 495 t logbook reported catch in 2021 was taken from eastern bass strait and the remaining 9 per cent (46 t) was taken in western bass strait.
- The RAG discussed the following:
 - Industry (John Ritchie) provided advice that the two proposed new beds extend beyond the surveyed area and provides potential for a new bed, important to do three separate beds at Hummock due to the variability of growth, productivity and/or condition of the scallops at proposed sites. Although the sites have dense biomass the scallop condition and commercial value would vary depending on the bathymetry. Three beds give management more options for closures and selection of beds without affecting the commercial viability of the area, with a need to work with fishers to identify beds to survey;
 - Prioritised thirteen beds for consideration but the survey area needed to be further refined to reduce the amount of survey beds to twelve;
 - Clarity was sought around the third site at Hummocks East as this grouped a number of beds in a small range. Industry members noted the beds extend to the east and by having three beds this would give options for a closure to protect scallops without affecting commercial fishing in the area;
 - Regarding three Hummock sites, Fishwell require further information from key industry contacts to finalise coordinates of the survey beds in order to map the sites for the survey;
 - Refining the smaller survey areas and distributing the survey over a larger area was more aligned with the management objectives. Three beds could be surveyed as a single bed but considered as three for the fishing season although this diminishes precision in relation to depth however provides a greater area for surveying. Fishwell would discuss this further with key Industry contacts. Scallops and topography of scallops is quite variable with little scientific certainty however fishers hold a lot of knowledge as they are constantly fishing;

- Annual survey's includes 25 shots in to each of the finalised pre-season survey beds which can be done within the observers 5hr deck time. Therefore, if treated as one zone shots would be spread across the whole site rather than broken into small sites however 25 shots on each gives a better understanding of beds;
- The need to provide spatial representation for closures in each region to maintain principles of closures;
- Noting the recent high fishing effort around Flinders Island in the Eastern region, and less knowledge of this area, consideration should be given to surveying an additional bed in the East, and excluding a site from the West. This would result in 6 survey beds in each region;
- Industry advised that western beds had low recruitment and patches were dying out and also suggested minimising surveying time in the Apollo scallop beds as they had less interest in this area;
- Industry advised that western beds had low recruitment and patches were dying out;
- Members discussed bed selection further and noted it needed to include a number of beds with a good time series; and
- As part of the survey, industry were keen to carry out exploratory work around the Hummock area in the west and Flinders Island wreck sites in the east. Exploratory work around the proposed Hummock sites could mean only two sites need to be chosen allowing for an additional bed to be selected for survey in the east.

18. Those members and invited participants who declared a potential conflict left the meeting while the recommendations were being formed.

RECOMMENDATION

The RAG recommended that the following beds be surveyed during the 2023 survey:

- King Island 9
- King Island 10
- Kind Island BDSE
- Three hummocks (2 sites)
- AB – The Hill North
- Flinders Island
- FI - The Wreck A
- FI - The Wreck B
- Flinders Island – North (New)
- FI North (The sisters)
- FI South (North of Babel)

19. Members requested updated mapping of the survey beds (polygons), with more regular shapes and spatial representative to better inform the decisions for closures.

20. Members and invited participants who declared a potential conflict returned to the meeting

21. AFMA sought advice from Fishwell on the number of vessels recommended to conduct the 2023 survey. Fishwell confirmed that four boats be used to conduct the survey.

22. AFMA advised that an expressions of Interest (EOI) will be advertised shortly providing an opportunity for industry to be involved in the 2023 survey. Four boats will be selected to undertake the 2023 survey

in collaboration with Fishwell. Applications will only be open for two weeks to allow the necessary arrangements to be in place so the survey can commence on 1 May 2023.

Action item 1: Fishwell Consulting to provide updated mapping polygons following further discussion with Industry on coordinates and details of survey sites and area for exploratory work.

Agenda Item 3 – Harvest Strategy Review – Proposed Harvest Control Rule framework

23. The AFMA member introduced the item and noted the following:

- Under an AFMA funded project, Dr Doug Ferrell has developed an approach for setting biomass thresholds and associated harvest rates, which include implicit reference points and harvest control rules (HCRs);
- The BSCZSF Harvest Strategy Working Group (Working Group) met on the 10 March 2023 to discuss the HCR framework project and approach proposed by Dr Ferrell.
- Prior to discussing the action items from the Working Group meeting, Dr Ferrell would present the key updates made to his project since the Working Group meeting.

24. Dr Ferrell presented key updates to his project and made the following points:

- The upwards change limit rule (1000 tonnes) is proposed to allow appropriate TAC increases but also counter large TAC changes that can be disruptive to industry. This applies to a scenario when stock levels are high. A point made at the Working Group was that in a different scenario, when stock is low and the fishery is recovering from marginal TACs but the survey for the subsequent fishing season suggests a TAC of 5000 tonnes, then a 1000 tonne limit is too low. In such a scenario it is fine to go straight to a TAC of 5000 tonnes. The following additional large change rule to account for such a scenario is proposed:

When quota has been set in the previous year to a level below 4000 tonnes, and the following, current survey suggests safe harvest levels at or above 5000 tonnes, the 1000 tonne increase limit need not apply. This would allow a “recovery” quota of 5000 tonnes to be set whenever the survey warrants it.

- The above proposed lower (4000 tonnes) and upper (5000 tonnes) reference points are flexible and subject to advice.
- The RAG should consider how much emphasis it puts into reviewing estimates of natural mortality and what this will achieve. With an infinite amount of money and time, it could be possible to conduct comprehensive reviews of research in different places and different times and we would expose a normal distribution curve of how M varies in time and space. It might be worth some discussion, but Dr Ferrell is comfortable the estimate of $M=0.52$ from Gwyther and McShane’s Port Philip Bay study is appropriate as it is very likely sitting at the left-hand side of the curve, is therefore conservative and within the plausible range of natural mortality estimates for Scallops.

25. Dr Ferrell then provided a graphical example of how M might be applied in the context of also managing fishing mortality and setting an appropriate harvest fraction.

26. The AFMA member noted the key action items from the Working Group and sought further discussion and advice from the RAG. The RAG discussed the following:

- The AFMA member advised that the Population Dynamics project has been approved by the AFMA research Committee. Fishwell Consulting was successful in their proposal and will be undertaking the project that will commence from 1 July 2023. AFMA will enquire with Fishwell the potential of the project to inform assumptions on M.
- Members queried the application of the proposed lower reference points through reserve biomass and setting TAC's at a lower end and whether they are sufficiently precautionary to meet the requirements of the harvest strategy.
- Regarding the application of the proposed lower reference points through reserved biomass and setting TACs at the lower end of surveyed biomass, ABARES recommends that there should be further consideration as to whether this is sufficiently precautionary to meet the requirements of the Commonwealth Harvest Strategy Policy. There should be a process to evaluate the robustness of the underlying assumptions that have been proposed from the project through some form of management strategy evaluation (MSE) or equivalent.
- The proposed 1000 tonne limiting change rule is consistent with other AFMA fisheries and the sharp jump to 5000 tonnes also seems reasonable for scallops. However, there needs to be clear guidelines around increasing quota as there could be friction around processing, logistical matters and market conditions. For example, a potential concern for industry is if the survey sets the quota at 9,000 tonnes; operators know they can only take 5,000 tonnes because of the constraints and pressures of servicing a higher quota. Such logistics should be reviewed on a regular basis.
- In relation to the above and agreeing on the most appropriate numbers, it was noted that Harvest strategies are reviewed quite frequently. The numbers set are analysed with relatively prompt modifications and implemented within a year or two.
- The principle of the proposed large change rule is quite reasonable yet understanding where that first change should fall (i.e. somewhere around 4000 – 5000 tonnes) needs some refining and further discussion by the RAG with more industry members present.

Action item 2: Investigate/confirm the confidence levels for the estimate of M from the Gwyther and McShane (1998) Port Phillip Bay tagging study (Doug Ferrell).

Action item 3: AFMA to enquire with Fishwell the potential for the Population Dynamics project to inform assumptions on M.

Action item 4: Don Bromhead to discuss with ABARES colleagues regarding options for conducting a MSE to evaluate the key underlying assumptions being proposed for the HCR framework, including to potentially seek advice from Professor Malcolm Hadden with the option of inviting him as an invited guest to the working group to provide input on MSE testing.

Action item 5: AFMA to work with ABARES in establishing proposed MSE or equivalent.

Action item 6: AFMA to work with ABARES and industry members in refining options for setting the TAC large change rule reference limits and associated control rules to account for a range of scenarios prior to the next ScallopRAG.

27. AFMA sought further advice from ScallopRAG on incorporating appropriate HCRs in relation to setting multi-year TACs (MYTAC). The RAG discussed:

- The difficulty in setting a MYTAC based on a single survey and how to approach the setting of closures/reserves, particularly for the second year;

- Precautionary rules, such as a minimum biomass, in order to consider a MYTAC should be in place. For example, this could include having survey evidence of high biomass, large recruitment abundance and wide distribution of scallops;
- ScallopRAG should meet prior to Year 2 reserve setting to review year 1 of fishing;
- A large increase in abundance from biomass survey will increase quota in Y1 by 1000 tonnes – it would be sensible to keep Year 2 quota at or below Year 1;
- A MYTAC can save money for industry, which is important, but there is also a lot of valuable data collected by the annual survey that provides beyond informing the annual TAC process, such better understanding scallops population dynamics and information on bycatch. Careful thought needs to be made in to whether a MYTAC is considered for the fishery – other AFMA fisheries have gone down this path and has resulted in significant cost savings – if BSCZSF was to go ahead, the appropriate checks and balances or control rules in place to ensure its conservative enough;
- The current population dynamics project being undertaken by Fishwell Consulting would have a lot less data available to inform the study if the fishery had been operating under a MYTAC for the past several years;
- Because industry and the survey team have a such a good relationship, there is scope for cost saving ‘hybrid’ research that could occur in the absence of a formal survey. Noting that there is a lot information that industry collectively holds that could be used to inform management and mitigate risk in the fishery. It is worth thinking further about how this information could be shared;
- The RAG discussed the options for setting of closures including to apply the same closures over the first and second year or pre-specifying the change to closure beds for year 2. Both options would rely on strict adherence to the move on rule; and
- In summary, the RAG recognised the value and importance of the annual survey in setting TACs, assessing bycatch, providing information to help manage the fishery, build longer term data sets. However, in years where scallop biomass is particularly good there is capacity to set conservative MYTACs. Any MYTAC would require a robust set of control rules and appropriate closures as well as advice from industry that the cost savings are warranted.

Action item 7: AFMA to seek further advice from ScallopRAG at its next meeting on incorporating appropriate HCRs in relation to setting MYTACs.

28. AFMA to sought advice from ScallopRAG on how best to consider the economics in the management of the fishery. The ScallopRAG noted the following:

- The Fisheries Gross Margin (FGM) model is no longer being pursued.
- In the absence of an FGM model, alternative models could be considered such as the Economic Performance Index (adopted by ABARES) or relatively simple economic models – Which beds to harvest/not to harvest; targeting larger vs smaller scallops (proposed by industry).
- The RAG discussed whether economics guiding the fishery should be incorporated within or stay outside the Harvest Strategy Framework.
- Mr Bromhead provided a quick summary from economists in ABARES noting that incorporating a formal economic component into the Harvest Strategy would be extremely difficult.

- The current draft Harvest Strategy is actually more consistent with what ABARES suggested last year (i.e. set TACs mainly on biological grounds then industry can choose to catch or not to that level outside the TAC setting process – This will be driven by economic)
- Economics is on the agenda for the June meeting so perhaps in the meantime AFMA could arrange further discussion with ABARES, key economists and industry.

Action item 8: AFMA to seek further advice internally and discuss potential approaches with ABARES, ScallopRAG economic member Julian Morison, and industry on how best to consider economics in the management of the BSCZSF and at what point.

Agenda Item 4 – Other Business

Agenda Item 4.1 – Next meeting – proposed agenda

29. The AFMA member flagged the proposed items for the next ScallopRAG meeting to be held in early June 2023, including:

- Fishery update
- ERA results
- Pre-season survey results
- 2023 season recommendations
 - TAC
 - Closures
 - Season dates
- Harvest Strategy review update
 - Harvest control rules – advice and recommendations
 - Consideration of economics in the management of the BSCZSF – discussion
 - Key priorities and additional considerations
- Bycatch and discard workplan update
 - Incorporation of bycatch analytics from ERA & survey
- Research priorities
- Climate change

Close of meeting

30. The Chair closed the meeting at 16:25.

Attachment A- register of interest

Table 1 Declared interests

Name	Membership	Declared interests
Brendan Kelaher	Chair	No interest in the fishery pecuniary or otherwise.
Jayson Semmens	Scientific member	Scallop Research Group Leader, Institute for Marine and Antarctic Studies. Organisation is known to submit research funding applications for consideration by ScallopRAG
Don Bromhead	Scientific member	ABARES Employee, on temporary transfer from AFMA. No interest in the fishery pecuniary or otherwise.
Julian Morison	Economic member	Director, Kuti Co Pty Ltd – SA Pipi quota holder, Director, BDO Advisory (SA) Pty Ltd - current contracts with SA & Qld state governments collecting fisheries economic data, providing economic advice; Member, SA Snapper Management Advisory Committee (PIRSA), Economics member, Shark Resource Assessment Group (AFMA) and Scallop Management Advisory Committee, Member, Economics Working Group (AFMA), Member, Human Dimensions Research subprogram Steering Committee (FRDC), Principal & coinvestigator on several FRDC research projects; Economics member, Total Allowable Fishing Committee (NSW DPI); Economics Member, Trawl Whiting and Spanner Crab Harvest Strategy Working Groups (NSW DPI)
Stuart Richey	Industry member	Holds Commonwealth and State concessions.
John Cull	Industry member	Holds Commonwealth and State concessions.
Steve Hall	AFMA member	AFMA employee. No interest in the fishery pecuniary or otherwise.
Yvette Lamont	Executive Officer	AFMA employee. No interest in the fishery pecuniary or otherwise.
Matt Koopman	Invited participant, Fishwell Consulting	Fishwell Consulting have undertaken the BSCZSF annual survey since 2015, this includes catch and effort for the Fishery. Fishwell also submit research funding applications and undertake research projects for Commonwealth, State and

		International fisheries agencies and other organisations including fishery associations and private companies. Recent projects include the Development of a methodology to validate ageing techniques for Bass Strait Scallops. No interest in any commercial fisheries.
Doug Ferrell	Invited participant	Independent researcher. No interest in the fishery pecuniary or otherwise.
Renee Pearce	Invited participant	Industry representative, Atlantis Fisheries Consulting Group
Stephanie Blake	Observer, ABARES	ABARES employee. No interest in the fishery pecuniary or otherwise.

DRAFT

Attachment C- Action items

Table 3. Recommendations and action items from ScallopRAG 41

Agenda Item	No.	Recommendation / Action Item	Agency/Person Responsible	Timeframe
Recomendations				
2	1	<p>The RAG recommended that the following beds be surveyed during the 2023 survey:</p> <ul style="list-style-type: none"> • King Island 9 • King Island 10 • Kind Island BDSE • Three hummocks (2 sites) • AB – The Hill North • Flinders Island • FI - The Wreck A • FI - The Wreck B • Flinders Island – North (New) • FI North (The sisters) • FI South (North of Babel) 		
Actions				
2	1	Fishwell Consulting to provide updated mapping polygons following further discussion with Industry on coordinates and details of survey sites and area for exploratory work.	Fishwell Consulting	Before 2023 survey start
3	2	Investigate/confirm the confidence levels for the estimate of M from the Gwyther and McShane (1998) Port Phillip Bay tagging study (Doug Ferrell).	Doug Ferrell	Prior to ScallopRAG42
3	3	AFMA to enquire with Fishwell the potential for the Population Dynamics project to inform assumptions on M.	AFMA	Prior to commencement of project (1 July 2023)

3	4	Don Bromhead to discuss with ABARES colleagues regarding options for conducting a MSE to evaluate the key underlying assumptions being proposed for the HCR framework, including to potentially seek advice from Professor Malcolm Hadden with the option of inviting him as an invited guest to the working group to provide input on MSE testing.	Don Bromhead/ABARES	Prior to ScallopRAG42
3	5	AFMA to work with ABARES in establishing proposed MSE or equivalent.	AFMA/ABARES	Upon progression of Action item 4
3	6	AFMA to work with ABARES and industry members in refining options for setting the TAC large change rule reference limits and associated control rules to account for a range of scenarios prior to the next ScallopRAG.	AFMA/ABARES/Industry	Prior to ScallopRAG42
3	7	AFMA to seek further advice from ScallopRAG at its next meeting on incorporating appropriate HCRs in relation to setting MYTACs.	AFMA	To be included in ScallopRAG42 agenda
3	8	AFMA to seek further advice internally and discuss potential approaches with ABARES, ScallopRAG economic member Julian Morison, and industry on how best to consider economics in the management of the	AFMA/ABARES/Julian Morison/Industry	Prior to ScallopRAG42

		BSCZSF and at what point.		
--	--	---------------------------	--	--

DRAFT