



Australian Government

Australian Fisheries Management Authority

Bass Strait Central Zone Scallop Fishery Management Advisory Committee (ScallopMAC) Meeting 35

Meeting minutes

18 June 2021

10:02-15:55

Microsoft Teams



Bass Strait Central Zone Scallop Fishery Management Advisory Committee (ScallopMAC)

Meeting 35 – 18 June 2021

Agenda

Time (AEDT): 10:00 – 16:00

Location: Microsoft Teams

Chair Name: Daryl McPhee

Approximate time	Item	Purpose	Lead presenter
10:00 (45 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
10:45 (1 hr)	Agenda Item 2. Fishery update		
	2.1 AFMA Management	For noting	AFMA member
	2.2 State fisheries	For noting	State observers
	2.3 Industry	For noting	Industry members
	2.4 Environment	For noting	Environment member
	2.5 Economic	For noting	Economic member
11:45 (45 min)	Agenda Item 3. 2021 pre-season survey		
	3.1 Biomass survey results	For noting	Matt Koopman
	3.2 Bycatch species		
12:30 (30 min)	Lunch		
13:00 (15min)	Agenda Item 4. ScallopRAG advice for the 2021 season	For noting	Scientific member
13:15 (15 min)	Agenda Item 5. Seismic schedule for 2021-22	For noting	AFMA member
13:30 (45 min)	Agenda Item 6. 2021 season recommendations TAC (commercial and doughboy scallop) Closures Season dates	For advice	AFMA member
14:15 (15 min)	Break		
14:30 (15 min)	Agenda Item 7. Co-Management Committee membership	For advice	AFMA member
14:45 (30 min)	Agenda Item 8. BSSIA project update	For advice	BSSIA EO
15:15 (30 min)	Agenda Item 9. Annual research statement	For advice	AFMA member
15:45 (15 min)	Agenda Item 10. Any other business	For advice	AFMA member
16:00	End of meeting		

The Chair opened the meeting at 10:02

Agenda Item 1. Preliminaries

1.1 Welcome and apologies

1. Dr Daryl McPhee the Chair, welcomed members and observers to the meeting and made an Acknowledgement of Country paying our respects to this country's First People and Traditional Custodians of the land throughout Australia. Acknowledging Australia's Traditional Custodians of Country and recognising their continued connection to land, waters and community. Paying our respects to them and their cultures and to Elders past present and emerging.
2. The Scallop Management Advisory Committee (the MAC) members noted the Acknowledgement of Country, that the meeting was being recorded and commenced proceedings.

3. Membership

Daryl McPhee	Chair
Brendan Kelaher	Scientific member
Julian Morison	Economic member
Sylvia Zukowski	Environment member
Peter Mellios	Industry member
Debbie Wisby	Industry member
Andrew Watts	Industry member
Stuart Richey	Industry member
John Hammond	Industry member
John Cull	Industry member
Heather Johnston	AFMA member/ Executive officer

4. Invited Participants

Andrew Sullivan	Industry
Bob Lister	Industry
Matt Koopman	Fishwell Consulting
Toby Jeavons	VFA

5. Observers

Lara Ainley	AFMA Management
Dan Corrie	AFMA Management
Helen Kroger	AFMA Commission
Brett McCallum	AFMA Commission
David Smith	AFMA Commission

6. Apologies

Fiona Hill	AFMA Management
Don Bromhead	ABARES
James Parkinson	DIPWE

1.2 Declarations of interest

7. The MAC members followed the conflict of interest declarations as outlined in [Fisheries Management Paper 1 – Management Advisory Committees](#). Members and participants reviewed and updated the Declarations of Interest included at [Attachment A](#).
8. John Cull, Stuart Richey, Peter Mellios, Debbie Wisby, John Hammond, Bob Lister and Andrew Sullivan declared a potential conflict with Agenda Item 6 '2021 season recommendations'. The members and invited participants with the potential conflict left the meeting while the MAC considered their interest and how they should be managed.
9. The MAC agreed that John Cull, Stuart Richey, Peter Mellios, Debbie Wisby, John Hammond, Bob Lister and Andrew Sullivan could be part of the discussion but should not participate in the forming of the MAC recommendation for Agenda Item 6.
10. Andrew Sullivan, Debbie Wisby and Stuart Richey declared a potential conflict with Agenda Item 8 'BSSIA project update'. Andrew Sullivan, Debbie Wisby and Stuart Richey left the meeting while the MAC considered their interest and how they should be managed.
11. The MAC agreed that Andrew Sullivan, Debbie Wisby and Stuart Richey could be part of the discussion but should not participate in the forming of the MAC recommendation for Agenda Item 8.
12. The MAC agreed that the prioritisation of research at Agenda Item 9 'Annual research statement' take place out of session.

1.2 Adoption of agenda

13. The MAC adopted the [agenda](#) as final.

1.3 Minutes of previous meeting

14. The MAC noted the final minutes of the ScallopMAC 34 meeting on 16 June 2021 are available on the [AFMA website](#) ('Fisheries Management' – 'Committees' - 'Management Advisory Committees' - 'Bass Strait Central Zone Scallop Fishery Management Advisory Committee').

1.4 Actions arising from previous meetings

15. The MAC noted the action items from previous meetings and the updates provided by the AFMA member at [Attachment B](#).

Agenda Item 2 – Fishery update

16. The Chair introduced the Agenda Item and asked the MAC to note the AFMA Management, state fishery, industry, environment and economic updates for the Bass Strait Central Zone Scallop Fishery (BSCZSF).

2.1 AFMA Management

17. The AFMA member provided an update on matters relevant to the management of the BSCZSF:
 - 91 per cent (2,732 t) of the 3,000 t commercial scallop total allowable catch (TAC) was caught by nine boats in 2020. No doughboy scallop were caught; no bycatch or protected species interactions were reported in 2020.

- On 20 April 2021, a joint media release announced \$20 million to revolutionise Commonwealth fisheries. This includes the following projects:
 - e-fish: streamlining and integration of data collection to increase flexibility for operators and reduce the costs of administration; and
 - e-monitoring: improve and expand the existing Commonwealth electronic monitoring into additional Commonwealth fisheries.
- AFMA is currently developing electronic logbooks (elogs) for the BSCZSF. It is anticipated that software vendors may have them developed before the start of the 2021 fishing season. This would allow those operators who chose to transition to elogs to do so in the coming season.
- Electronic catch disposal records (eCDRs) will also be trialled in the 2021 fishing season, noting due to it being a trial it will not be available to all operators.
- As of 7 June 2021, Dr Lara Ainley has commenced in the role of manager of the Small Pelagic Fishery, the BSCZSF and Southern Squid Jig Fishery, and will be based in Canberra.
- In April 2021 AFMA consulted with ScallopMAC and the two BSCZSF industry associations on the 2021-22 draft cost recovered budget explanations, including an overview of the key changes for the scallop fishery.

18. The MAC noted the following key points:

- The cost of elogs and eCDRs will vary depending on the different vendors.
- As part of the consultation process on the draft budget, industry raised concern with the increase in costs of resourcing, Scallop Resource Assessment Group (the RAG) and MAC, and services such as logbook and CDRs. It was generally understood that the additional resources and RAG and MAC meeting were necessary to progress the review of the Harvest Strategy and that work was being done to transition the fishery to electronic reporting.

2.2 State fisheries

19. The Victorian Fisheries Authority (VFA) Invited Participant provided an update on the Victorian scallop (ocean) fishery:

- During 2019-2020 there were anecdotal reports raised by industry of a high abundance of commercial sized scallops, with concerns that the restrictive total allowable commercial catch (TACC) would limit potential exploration and development of the fishery.
- VFA and industry agreed to a small low-cost survey of these beds to provide an estimate of scallop abundance.
- The main bed identified (Tarwhine bed) had an estimated biomass of legal sized scallops of 7,876 t, with the 95 per cent confidence interval limits ranging from 4,000 t to 12,000 t, and a mean density of 1.15 individuals/m².
- In accordance with the draft Victorian Scallop Fishery Harvest Strategy and aligning with the [BSCZSF Harvest Strategy](#), a TACC of 979 t has been set for the 2021/22 season.
- The TACC increase from the 2020 season also led to the implementation of a number of management provisions such as closing half of the Tarwhine bed to commercial fishing, re-introduction of a research levy against licences to fund future surveys, mandatory reporting of all discarded species and introduction of a real time electronic quota management system.

20. The MAC industry members and invited participants provided an update on the Tasmanian scallop fishery:

- The Tasmanian survey is currently underway, with a dredge survey and video survey being undertaken in the White Rock area, a dredge survey on the East Coast of Tasmania and an ad hoc industry survey.

2.3 Industry

21. The MAC industry members provided an update on matters relevant to the BSCZSF:

- Despite the challenges of the COVID-19 pandemic, the 2020 season was successful and are confident that the 2021 season will also be a success.
- Consumers responded well to the large scallops caught near Flinders Island, especially with a reduced quality in the scallops near King Island compared with previous seasons. This meant that once one boat started fishing near Flinders Island most boats moved to the area to keep up with market demand.
- As of June 2021, there were minimal scallops in freezers from the 2020 fishing season.

2.4 Environment

22. The MAC environment member provided an overview of research undertaken on matters relevant to the BSCZSF and scallops:

- Cabado, A.C., Lago, J., González, V., Blanco, L., Paz, B., Diogène, J., Ferreres, L., Rambla-Alegre, M. 2020. Detoxification of paralytic shellfish poisoning toxins in naturally contaminated mussels, clams and scallops by an industrial procedure. *Food and Chemical Toxicology*. 141.
- Tremblay, I., Guderley, H.E. 2017. Possible Prediction of Scallop Swimming Styles from Shell and Adduction Muscle Morphology. *Journal of Shellfish Research*. 36. 17-30.
- Ovchinnikova, K., James, M.A., Mendo, T., Dawkins, M., Crall, J., Boswarva, K. 2021. Exploring the potential to use low cost imaging and an open source convolutional neural network detector to support stock assessment of the king scallop (*Pecten maximus*). *Ecological Informatics*. 62.
- Turner, A.D., Dhanji-Rapkova, M., Fong, S.Y.T., Hungerford, J., McNabb, P.S., Boundy, M.J., Hardwood, D.T. 2020. Ultrahigh-Performance Hydrophilic Interaction Liquid Chromatography with Tandem Mass Spectrometry Method for the Determination of Paralytic Shellfish Toxins and Tetrodotoxin in Mussels, Oysters, Clams, Cockles, and Scallops: Collaborative Study. *Journal of AOAC International*. 103.

2.5 Economic

23. The MAC economic member provided an update that the economic questionnaire had been sent out to operators.

24. The MAC members made the following key points:

- The economic questionnaire should be amended to ensure it correctly reflects the fishery, including the removal of questions regarding boat statutory fishing rights (SFRs) which are no longer used in the fishery.
- Understanding the strong opinions for and against the collection of economic data, if it was possible to collect economic information in a way that was amenable for all of industry it would assist the RAG and MAC with making evidence based decisions regarding economics when making TAC recommendations.

- There is currently no quantitative economic information available, this means any discussion regarding economics is done on a qualitative basis.
- AFMA is developing a Net Economic Return (NER) Policy, which will provide guidance on AFMA's economic objectives.

25. The MAC noted that the update to the MAC on the project 'Informing the Bass Strait Central Zone Scallop Fishery Harvest Strategy and TAC setting process with economic data and MEY proxies' had been postponed to ScallopMAC 36.

Agenda Item 7 – Co-Management Committee Membership

26. The AFMA member introduced the Agenda Item and asked the MAC to provide advice on the membership of the BSCZSF Industry Co-Management Committee (the Committee).

27. The MAC noted the following background:

- The function of the Committee is described in the BSCZSF Harvest Strategy and it prescribes that the Committee will comprise of members as determined by the MAC, ordinarily consisting of:
 - a chairperson
 - two industry representatives from Tasmania
 - two industry representatives from Victoria
- The main function of the Committee in recent seasons has been to provide advice on:
 - whether to open the fishery with the default TAC of 150 t or proceed directly to a pre-season biomass survey;
 - prioritising beds to be surveyed in the pre-season biomass survey; and
 - coordinating voluntary closures to protect juvenile scallop beds.
- The Committee membership was last reviewed by the MAC in June 2018.
- Membership on the Committee are unfunded positions.

28. The MAC made the following key points:

- Similar to previous memberships, there is benefit in having skippers sit on the Committee.
- AFMA's role on the Committee is to provide the AFMA perspective on the discussions, rather than distribute the outcomes of the meetings.
- The industry association executive officers should have a role on the Committee as observers so they can distribute the information to their members.

Recommendations

29. The MAC made the following recommendations for membership to the Committee:

- Dusty Cull (Victorian representative)
- Jakes Watts (Victorian representative)
- Jonathan Hammond (Tasmanian representative)
- John Richey (Tasmanian representative)
- Andrew Sullivan (Bass Strait Scallop Industry Association observer)

- Bob Lister (Scallop Fishermen’s Association of Tasmania observer)

30. The MAC did not provide a recommendation on Chair but asked that the Committee discuss, within the context of the membership (representatives and observers) who will be chair and provide AFMA with their recommendation for Chair. At the time of writing, the Committee has since advised that Johnathan Hammond will take on the role as Chair.

Action item 1 – AFMA to write to the recommended Committee members and seek their recommendation on Chair, within the context of the membership.

Dr Koopman joined the meeting

Agenda Item 3.1 – 2021 biomass survey results

31. Dr Matt Koopman, Fishwell Consulting, introduced the Agenda Item and the MAC were asked to note the results of the 2021 pre-season biomass survey presented. Dr Koopman thanked the owners and crew of the three boats that participated noting their valuable contribution.

32. The MAC noted the following background:

- In accordance with the BSCZSF Harvest Strategy, the total allowable catch (TAC) for commercial scallops will not be increased above 150 t unless a biomass estimate, as determined by the biomass survey, is able to identify an area or scallop bed containing at least 1,500 t biomass of high density scallops with a minimum size of 85 mm.
- The objectives of the annual biomass survey are to:
 - coordinate a fishery survey to measure the size distribution and calculate biomass estimates to assess the potential for commercial catch rates in the BSCZSF; and
 - inform the assessment of fishery impacts on bycatch.
- The identification of the 2021 survey beds was done in consultation with industry and Fishwell Consulting, with consideration given to previous survey beds, recent commercial catch and exploratory marks provided by industry.
- The Industry Co-Management Committee and the RAG provided advice on the prioritisation of the survey beds, with the final survey plan including 12 beds, which were a mix of known beds and exploratory marks across the spatial extent of the fishery. The RAG also recommended that if the first five exploratory marks at King Island Middle, a bed thought to be declining, yield less than 50 kg per tow on average, then the survey boat should move onto King Island 7 and no biomass estimate to be obtained from King Island Middle.
- In March 2021 AFMA wrote to all concession holders and active operators seeking expressions of interest to participate in the 2021 survey. Four boats were selected by an independent panel based on the terms set out in the call for expression of interest, however only three boats participated in the survey.

33. Dr Koopman presented the 2021 pre-season biomass survey results, the MAC noted the following:

- The 2021 pre-season biomass survey was conducted during May 2021 and aimed to estimate the commercial scallop biomass, discard rate, number of meats per kg, size frequency distribution, density of scallops and bycatch from 12 beds (seven previously surveyed and five exploratory beds) across the spatial extent of the fishery.
- Five shots only were conducted at King Island Middle; no scallops were caught in any of these shots so the boat moved onto survey King Island 7.

- The summary of information collected for each of the beds surveyed during the 2021 BSCZSF annual biomass survey is presented in [Attachment C](#). This includes estimates of biomass (t), percent weight greater than 85 mm, estimated biomass of scallops greater than 85 mm, density of individuals per square metre, mean size and meat weight per kg.

34. The MAC thanks industry for the efficient survey and Fishwell Consulting for their high quality and timely work.

Agenda Item 3.2 – 2021 bycatch species results

35. The AFMA member introduced the Agenda Item and asked the MAC to consider the results of the bycatch component of the 2021 pre-season biomass survey presented by Dr Koopman and the advice from the RAG, and provide advice on any management responses in regard to bycatch and discarding for the 2021 fishing season.

36. The MAC noted the following background:

- The [Commonwealth Fisheries Bycatch Policy](#) (the Bycatch Policy) and the [Guidelines for Implementation of the Commonwealth Fisheries Bycatch Policy](#) (the Bycatch Guidelines) were updated in 2018 and provide a transparent and systematic approach to assessing, managing, monitoring and reporting fisheries bycatch in Commonwealth fisheries based on the precautionary principle.
- AFMA is responsible for implementing the Bycatch Policy through its operational policies and supporting fisheries management strategies (bycatch strategies).
- The [BSCZSF Bycatch and Discarding Workplan 2015-17](#) (current Workplan) describes, where possible, action items aimed at reducing impacts to species from fishing activities and to cost effectively collect bycatch and discard data for the BSCZSF.
- It is an action of the current Workplan that logbook data, observer data and catch disposal records (CDRs) are monitored to identify gaps in reporting to address inconsistency with data gaps relating to bycatch and discarding.
- At its 2019 meeting, the RAG considered options for the most cost effective means of obtaining bycatch and discarding data and made the following recommendations:
 - the annual biomass survey in its current form be used as the primary tool to monitor the impact of fishing on bycatch species in the fishery, as it provides information sufficient to meet the Bycatch Policy requirements;
 - the four species identified as high risk in the Ecological Risk Assessment (ERA) in 2009 be included in the identification guide carried by observers undertaking the biomass survey; and
 - when considering bycatch data, that the four high risk species be presented by year and by bed to allow monitoring through time.
- AFMA has highlighted a review of the Bycatch and Discarding Workplan to be completed in the next 12 to 24 months, however, in the interim AFMA proposed, consistent with the 2019 RAG recommendation to use the pre-season survey to monitor the impact of fishing on bycatch species, that:
 - the RAG and the MAC consider the results of the pre-season survey and recommend management responses; and
 - the four high risk species be presented by year and by bed to allow monitoring through time.

37. Dr Koopman presented the bycatch component of the 2021 pre-season biomass survey results, the MAC noted the following:

- For each tow the weight was recorded for each species, identified to the lowest taxonomic level possible.
- There was one southern blue ringed octopus caught during the 2021 biomass survey, this species was one of the four species identified as high risk in the [BSCZSF ecological risk assessment \(ERA, 2009\)](#)
- There was one spiny pipehorse caught during the 2021 biomass survey, this species is a listed marine species under the [Environment, Protection and Biodiversity Conservation Act 1999](#) (EPBC Act)
- There was one Australian handfish caught during the 2021 biomass survey, this is a species of interest.
- The top five species caught, other than commercial scallop, were ascidians, spider crabs, eleven-arm seastars, sponges and whelks.

38. The MAC noted key points made by the RAG:

- The RAG supported continuing to using the pre-season biomass survey as an indicator of bycatch in the fishery, as it surveys the spatial extent of the fishery using randomised shots and includes an assessment of bycatch, noting that it may not represent any seasonality of bycatch species.
- The pre-season biomass survey indicates that the bycatch in the fishery remains at an acceptable level.
- Should AFMA observers undertake trips during the fishing season, bycatch biomass estimates should be obtained using a similar methodology to the pre-season survey to assist with the validation of the bycatch estimates from the pre-season survey.
- There may be an opportunity to observe and report on the bycatch caught during commercial tows as a part of the Fisheries Research and Development Corporation (FRDC) project 2019-120 'Building industry capacity to lead co-management initiatives within the BSCZSF: training industry to conduct biomass estimate surveys'.

39. The MAC considered the results of the bycatch component and made the following key points:

- Due to the low levels of bycatch, the BSCZSF has not been listed as a 'high priority' for an updated ERA. Unless a high priority issue is identified requiring immediate action, the BSCZSF is not scheduled to be reassessed under after 2022.
- While it is not a requirement under the Harvest Strategy, it should be noted that one of the beds recommended by the RAG for a closure during the 2021 fishing season is the bed where the Australian handfish was caught during the biomass survey.
- The MAC did not provide any recommendations for additional management arrangements in regard to bycatch and discarding for the 2021 fishing season.

Action item 2- AFMA to write to operators to request that operators make every attempt to record any interactions with the four high risk species and include an identification guide in the 2021 fishing season Management Arrangements Booklet.

Dr Koopman left the meeting.

Agenda Item 4 – ScallopRAG advice for the 2021 fishing season

40. The MAC scientific member introduced the Agenda Item and asked the MAC to note the RAGs advice regarding the TACs, closures and season dates for the BSCZSF 2021 fishing season from their 15 June 2021 meeting.
41. The MAC noted the key points made by the RAG in regard to the 2021 biomass survey:
- The RAG have previously considered research to update the dredge efficiency, however it has not been a priority in recent years. There may be further information available to update dredge efficiency as a part of the Fisheries Research and Development Corporation (FRDC) underwater video survey project, noting that a change in dredge efficiency may have implications on the biomass estimate time series.
 - The catch from the dredge under-represents small scallops, as the dredge is not designed to catch them. However, the presence of small scallops in this survey suggest that they are likely to be present in larger numbers.
 - The 2021 biomass survey indicates increased recruitment across the three surveyed regions of the fishery since the 2019 survey.
 - The biomass estimate for JH extended bed decreased since 2019, noting that the area of the bed had been extended since 2019. It is unusual that this bed remains to be dominated by juvenile scallops and there is no clear reason as to why the quality of the bed is declining.
 - The biomass estimate for Blue Dot Extended decreased. It is unlikely that this decrease is due to any migration of scallops due to the typical behaviour of commercial scallops. The increase in dead shell may indicate the bed is declining, however it is hard to track the recruitment from 2019 due to the absence of the 2020 survey.
42. The MAC noted the key points and recommendations made by the RAG in regard to the TACs, closures and season dates for the BSCZSF 2021 fishing season:
- In formulating its advice on the commercial scallop TAC, the RAG made the following key points:
 - Tier 2 of the BSCZSF Harvest Strategy was the most appropriate approach given the estimated biomass of scallops greater than 85 mm was 56,067 t, noting that this estimate was only for the beds surveyed and not a total estimate of the biomass in the fishery.
 - In 2020 the TAC was set at a precautionary level (3,000 t) due to the absence of the pre-season biomass survey and a 4,000 t TAC would provide stability in the fishery, consistent with the 2018 and 2019 TAC levels.
 - Based on the commercial catches in 2020, it is unlikely that if the TAC was fully caught it would come from only one region of the fishery. However there needs to be a level of precaution applied, through the TAC and closures, as there could be sustainability concerns if the whole TAC was caught from a single bed.
 - If a TAC was to be set only from a sustainability basis, based on the estimated biomass, it could potentially be higher than 5,000 t, recognising the increased recruitment across the regions of the fishery and the decline of some beds.
 - Any undercatch in the 2021 fishing season is likely to be due to operational reasons, noting that the TAC has not been fully caught in the last three seasons for this reason.
 - Similar to previous years, the research catch allowance (RCA) from the pre-season biomass survey would be subtracted from the TAC.

- The total catch in the BSCZSF is likely to be influenced by the Victorian scallop fishery and, if open, the Tasmanian scallop fishery. Operators will target the best quality scallops across the open fisheries.
- The TAC should not be set at a level which constrains catch and pushes effort into the state fisheries due to operational costs. Alternatively, consideration should be given to the impact of a large increase in the TAC and the impacts this may have on the market price.
- Industry members noted that due to the constraint on the number of boats and processors an increased TAC would be unlikely to impact market price, however there is a limit to the capacity of the domestic market.
- There is limited economic data to help support the TAC setting process.
- In formulating its advice on the doughboy scallop TAC, the RAG made the following key points:
 - A 100 t TAC allows for exploration of the fishery and markets, if industry decided to do so.
 - Noting the number of doughboy scallop quota statutory fishing rights (SFRs), a reduction in the TAC may limit individual SFR holder's ability to explore the fishery and markets.
- In formulating its advice on closures, the RAG made the following key points:
 - While not defined in the BSCZSF Harvest Strategy, the RAG have previously considered it important that closures represent the spatial extent of the fishery.
 - Normally the area closures would be for the whole of a bed, however it is possible to close part of a bed and obtain a biomass estimate for that area.
 - Consideration should be given to the long term economics and the value that closed areas provide to the fishery in future seasons.
 - When considering closures and spawning potential, a higher density is considered more important than estimated biomass.
 - Industry members noted that the 5 hours bed had better quality scallops (meat/kg), while The Hill had a higher density.
 - Previous genetic studies have indicated that the scallops in the North of Babel bed are more closely related to the scallop beds on the east coast of Tasmania than the other two surveyed in the Flinders Island area.
 - The North of Babel bed is economically important to industry in 2021 and the RAG want to support this where possible.
 - Industry members proposed closing the Flinders Island bed, noting it has maintained a biomass since first surveyed in 2015 and while the density is lower than other beds in the Flinders Island area it met the minimum density requirement of 0.2/m².
 - A closure of King Island 7 would support protection of recruitment in the King Island area and a closure of King Island 9 would support protection of recruitment and spawning potential due to the density estimate of the bed.
- In formulating its advice on fishing season dates, the RAG made the following key points:
 - To allow AFMA enough time to prepare for the season roll over there needs to be a minimum of three weeks between the RAG and MAC meetings and the fishing season opening.

- Industry's preference is for the fishery to open on Saturday 10 July, rather than Monday 12 July to allow operators to land their catch on the Monday.
- Noting the advice above, the RAG recommended the following for the 2021 fishing season:
 - the commercial scallop TAC be set at 4,000 t (less research catch allowance);
 - the doughboy scallop be set at 100 t;
 - the following areas be closed:
 - The Hill east (estimated biomass > 85 mm 7,540 t);
 - King Island 7 (estimated biomass > 85 mm 209 t);
 - King Island 9 (estimated biomass > 85 mm 4,725 t);
 - North of Babel A (estimated biomass > 85 mm 1,288 t); and
 - the 2021 fishing season open on, or as soon thereafter, 10 of July 2021 and close on 31 December 2021.
- RAG members and invited participants with declared a potential conflicts left the meeting while the recommendation was being formed.

Agenda Item 5 – Seismic schedule for 2021-22

43. The AFMA member introduced the Agenda Item and asked the MAC to note the schedule of planned seismic activity and consider any potential implications for closures that may be recommended under Agenda Item 6 (2021 season recommendations).
44. The MAC noted the following:
 - Seismic activity in the Bass Strait continues to be a concern for BSCZSF industry.
 - ScallopRAG ([June 2018](#)) recommended a standing annual agenda item to consider scheduled seismic activity when providing advice on management arrangements, with a particular focus on closures and TACs.
 - A research priority was submitted to the FRDC to investigate the impacts of seismic surveys on scallop larvae. This project is on the Commonwealth Research Advisory Committees (COMRACs) list of research priorities however FRDC are waiting on the outcomes of FRDC Project 'Oil and Gas: National coordination -seismic and other issues (2017-186)'.
 - A senate inquiry into the impact of seismic testing on fisheries and the marine environment is currently underway.
 - The Environment and Communications Reference Committee released the report 'making waves: the impact of seismic testing on fisheries and the marine environment'. The report provides 19 recommendations. AFMA will engage with the process as and when required.
 - ScallopMAC ([April 2020](#)) noted industry concerns regarding the plans by Beach Energy to undertake seismic activity in the seas of the fishery. The MAC chair resolved to write to the AFMA Commission to highlight industry's concerns and ask that AFMA and the Commission relay these concerns to the relevant Government Agencies.
 - The AFMA Commission responded to the MAC chair, including:

- The AFMA Commission discussed the ongoing concerns raised by industry regarding the potential impacts of seismic testing and the role AFMA has in supporting industry.
- As a regulator of Commonwealth fisheries, AFMA's role is to facilitate engagement with industry and ensure relevant fisheries data are provided to oil and gas companies as part of their consultation and environmental impact assessment processes.
- The Commission was encouraged by the ongoing industry-led work to develop guidelines for the assessment and compensation of fisheries impacts that both AFMA and National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) are involved in.
- AFMA will continue to liaise with Beach Energy to ensure the most recent fishery and survey data are available to inform its processes.
- There is currently one seismic survey which is 'under assessment' by NOPSEMA in the area of the fishery and it overlaps with KI10.

45. The MAC noted the key points made by the RAG in regard to the seismic schedule for 2021-22:

- The seismic proponent has agreed to fund a before and after control impact (BACI) survey.
- In general, a BACI study looks to detect changes above what is normal in the fishery, meaning it requires the fishery to operate as usual.
- The RAG supported the BACI survey being undertaken.

46. The MAC made the following key points:

- The Beach Energy, Prion 3D Marine Seismic Survey is scheduled to commence between July 2021 and June 2022, with the favourable time being between October and December and is expected to take up to 40 days. The operational area, 2,272 km², is approximately 75 km east of King Island.
- At the request of SFAT, Beach Energy are in discussions with Fishwell Consulting regarding a biomass survey of the southern part of the operational area, in addition to the areas surveyed under the BACI.
- It is unknown if the BACI will consider the impacts on juvenile scallops.
- At the request of BSSIA, Beach Energy have committed to part fund an investigation into alternative sound gun technology to reduce the impacts on commercial and non-commercial species and habitats.
- Some of the members and invited participants noted that Beach Energy have been engaged throughout the process.

Agenda Item 6 – 2021 fishing season recommendations

47. The AFMA member introduced the Agenda Item and asked the MAC consider the results of the 2021 biomass survey ([Agenda Item 3.1](#)) and the RAG advice (Agenda Item 4) and provide advice to the AFMA Commission on TACs, closures and season dates for the BSCZSF 2021 fishing season.

48. The MAC noted the following overview of the management framework:

- The [Commonwealth Harvest Strategy Policy 2018](#) (Harvest Strategy Policy) provides a framework for applying an evidence based, precautionary and transparent approach to setting harvest levels in Commonwealth fisheries.
- The objective of the Harvest Strategy Policy is the ecologically sustainable and profitable use of Australia's Commonwealth commercial fisheries resources (where ecological sustainability takes priority) through implementation of the harvest strategies.

- The BSCZSF Harvest Strategy achieves this by implementing a tiered approach to setting TACs and closures based on the results of the pre-season biomass survey.
- The intent of the BSCZSF Harvest Strategy is to maintain the stock at sustainable levels by closing sufficient areas of the fishery that contain a high density of spawning size scallops (greater than 85 mm) to promote recruitment, and allows for the remaining areas to be fished within a TAC that represents a sustainable harvest.
- The biomass estimates from the biomass survey will determine whether the fishery can open, either under a Tier 1 or a Tier 2, or remain closed.

2021 commercial scallop TAC

49. The MAC noted the following background:

- Should the biomass estimates demonstrate that the requirements to conduct fishing at either Tier 1 or Tier 2 have been met then advice will be sought from the RAG and MAC on setting a TAC for commercial scallops, the AFMA Commission will consider this advice when making a decision to move to either a Tier 1 or 2 from the default opening.
- Density is important for more synchronised spawning, at 0.2 individuals/ m² it implies that 25 per cent of the scallops are within a distance that allows synchronised spawning.
- At the BSCZSF research workshop in March 2017 it was recommended that for a scallop bed to be considered as having reasonable spawning potential it should have a minimum density of 0.2 individuals/m². This was adopted by the RAG (meeting 29, 2017) and is now applied annually, so that a density of > 0.2 individuals/m² is considered as the minimum for the purposes of the BSCZSF Harvest Strategy.

50. In formulating its advice, the MAC noted the following:

- The reduction of the TAC in 2020 had an economic impact on some operators due to the cost of leasing.
- Some industry members felt that the recommended TAC was overly conservative, based on the outcomes of the biomass survey.
- A larger TAC would allow industry to explore additional markets and more flexibility for operators.
- The Harvest Strategy provides sufficient guidance for setting a commercial scallop TAC when the estimated biomass is low (between 1,500 and 3,000 t) however it lacks guidance on setting a TAC in circumstances when the estimated biomass is above these levels.
- The MAC continue to support the review of the Harvest Strategy currently underway, noting the need for the revised Harvest Strategy to include additional guidance to assist with providing advice on the commercial scallop TAC.
- In the absence of additional guidance and data, including how to achieve AFMA's economic objectives, the RAG and MAC are in a challenging position when setting the TAC.
- There are a number of different business models in the fishery, with AFMA's economic objectives applied to the fishery rather than at the business level and it is important that the economic data collected is representative of the different business models.

2021 doughboy scallop TAC

51. The MAC noted the following background:

- The Harvest Strategy allows for a TAC for doughboy scallops to be determined at different levels each year, however as they are not targeted, the default TAC of 100 t is typically applied.
- No doughboy scallops have been landed since 2017.

52. In formulating its advice, the MAC noted the following:

- The major factors limiting catches of doughboy scallops is that they are difficult to split and the size limit.

Action item 3 – AFMA to confirm the minimum size for doughboy scallops.

2021 area closures

53. The MAC noted the following background:

- In order for an area/scallop bed to be closed under the Harvest Strategy it must have been surveyed during the biomass survey, with any beds that are closed, are closed for the entire fishing season.
- Beds fished that exceed a discard rate of 20 per cent of scallops less than 85 mm will be closed under a voluntary arrangement applied by industry via the Industry Co-Management Committee.

54. In formulating its advice, the MAC noted the following:

- While the tonnage recommended for closure is greater than what is required under the Harvest Strategy, it is consistent with the approach taken in recent seasons.
- Anecdotal on water experience from industry suggests that the majority of larvae from the North of Babel area disperses out off the shelf, meaning a limit number of scallops settle in this area. However due to easterly weather patterns in recent years when the scallops are spawning the larvae haven't dispersed as far and have settled in an area that was fished 25 years ago.
- Overden et al.¹ includes biophysical modelling of the Babel Island region based on particle release and it suggests that there should be connectivity based on oceanographic modelling.

2021 fishing season dates

55. The MAC noted the following background:

- In recent years, the season has commenced in July, after the pre-season survey, and closes on 31 December to protect settling or newly-settled scallop spat.
- The [Bass Strait Central Zone Scallop Fishery Management Plan 2002](#) defines the fishing season to be 'a period determined by AFMA'.

56. Those members and invited participants with declared a potential conflicts left the meeting while the recommendation was being formed.

Recommendations for 2021 fishing season

57. Noting the advice above, the MAC supported the RAG recommendations of:

- the commercial scallop TAC be set at 4,000 t (less research catch allowance)
- the doughboy scallop be set at 100 t

¹ Ovenden, J. R., Tillett, B. J., Macbeth, M., Broderick, D., Filardo, F., Street, R., Tracey, S. R., and Semmens, J. Stirred but not shaken: population and recruitment genetics of the scallop (*Pecten fumatus*) in Bass Strait, Australia. ICES Journal of Marine Science. 10.

- the following areas be closed:
 - The Hill east (estimated biomass > 85 mm (t))
 - King Island 7
 - King Island 9
 - North of Babel A (estimated biomass > 85 mm (t))
- the 2021 fishing season open on or as soon thereafter 10 of July 2021 and closed on 31 December 2021.

58. Those members and invited participants who declared a potential conflict returned to the meeting.

Agenda Item 8 – BSSIA project update

59. The BSSIA Executive Officer introduced the Agenda Item. The MAC were asked to consider the BSSIA request for 18 t of RCA as part of the FRDC project '2019-120: Building industry capacity to lead co-management initiatives within the Bass Strait Central Zone Scallop Fishery: Training industry to conduct biomass estimate surveys and provide advice on any sustainability risks of surveys being conducted in areas closed in 2020 or areas identified to be closed in 2021'.

60. The MAC noted the following background:

- FRDC project is a two year project, with the focus being educating and training skippers and crew in the use of survey techniques and equipment to enable reliable and quick assessments of scallop beds using the same methods currently used in the biomass survey.
- BSSIA intend to undertake this project under a scientific permit prior to the start of the 2021 fishing season but there is potential that it may occur in-season.
- While MAC are being asked to provide advice on the request for RCA, the approval is at the discretion of the AFMA Commission or the AFMA Research Committee. In this case the request would be put to the AFMA Commission and, if possible, a decision would be made prior to the start of the 2021 fishing season.

61. The MAC noted the key points made by the RAG in regard to the BSSIA project:

- Based on the results of the biomass survey, there is unlikely to be any sustainability issues from allocating an 18 t RCA.
- The RAG supported the request for 18 t of RCA and recommended that the research be undertaken outside of the areas recommended for closure during the 2021 fishing season.

62. In formulating its advice, the MAC noted the following:

- Noting the uncertainty on whether or not the project will be completed prior to the 2021 fishing season due to time constraints, AFMA are in discussions with BSSIA about seeking RCA for 2022 from the AFMA Commission in the coming months.

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

Recommendations

64. The MAC supported the request for 18 t of RCA.

65. Those members and invited participants who declared a potential conflict returned to the meeting.

Agenda Item 9 – 2022-23 annual research statement

66. The AFMA member introduced the Agenda Item and asked the MAC to consider the RAGs advice and to provide advice on research priorities for the 2022-23 financial year to be included in the 2022-23 BSCZSF annual research statement.
67. The MAC noted the following background:
- Each year, the MAC are asked to provide advice on upcoming research needs for the fishery, in this instance for potential AFMA/ FRDC funding in 2022-23 financial year.
 - This is required in the context of the BSCZSF Five Year Strategic Research Plan 2017-2021.
 - As part of this process, the MAC 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.
 - The BSCZSF Five Year Strategic Research Plan 2022-26 is currently being developed, with the MAC to consider it at ScallopMAC 36.
68. The MAC noted the following regarding research priorities from the 2021-22 BSCZSF annual research statement:
- 2020-2022 Annual Biomass surveys are funded until June 2022.
 - Maximum Economic Yield (MEY) project to inform the harvest strategy/TAC setting process is funded until September 2021.
 - The project for the development of ageing techniques for Bass Strait scallops was prioritised as medium in the 2021–22 BSCZSF Research Plan and was not supported by the ARC for funding in 2021–22.
 - The analysis of economic data collected in the fishery is funded for 2021-22.
 - The impact of seismic surveys on scallop larvae is to be provided to FRDC for consideration in 2021.
 - Determining if recruitment is under-represented in biomass surveys and establishing a sampling method for estimating scallop recruitment was not supported by the ARC for funding in 2021–22.
69. The MAC noted the key points made by the RAG in regard to the research priorities identified in the 2022-23 BSCZSF annual research statement:
- There is a continued need to undertake the pre-season biomass survey in the fishery; the scope of this priority work needs to clarify that there is a bycatch component to the survey. Given the review of the Harvest Strategy it may be appropriate to only fund this project for one year.
 - The analysis of economic data collected in the fishery is important since quantitative and robust economic data would provide useful information to be considered when making TAC recommendations.
 - Establishing a sampling method for estimating scallop recruitment is needed to determine if recruitment is under-represented in biomass surveys. Given the linkages to this priority and the underwater video survey project, due to start in 2022, it would be appropriate for this project to be put on hold until the underwater video project has been completed.

- The scope of the project to develop ageing techniques for Bass Strait scallops needs to be re-framed to capture the need to validate ageing techniques.
- There is still a need to look at the impacts of seismic surveys on scallop larvae despite other projects being put forward separate to the RAG process regarding scallops.

70. The MAC made the following key points:

- It is important that a robust discussion is had regarding the BSCZSF Five Year Strategic Research Plan 2022-26.
- The RAG and MAC will consider the outcomes of the FRDC project 'wider investigation of the use of video survey techniques to determine commercial scallop abundance in inshore and offshore waters, closed areas and juvenile beds' and AFMA will seek advice on how any recommendations may be applied in the BSCZSF.
- The biomass survey identified in the 2022-23 Annual Research Statement would be the survey undertaken in May of 2023.
- If by May of 2023 there have been changes either to the management of the fishery as a result of the Harvest Strategy review or there is a development in industry collection of data, the RAG and MAC will have an opportunity to provide comment.

71. The MAC will be asked to provide recommendations on research priorities out of session.

Close of meeting

72. The Chair thanked the MAC for their contribution to the meeting and wished industry all the best in the 2021 fishing season.

73. The meeting was closed at 15:55.

Attachment A- register of interest

Table 1 declared interests

Name	Membership	Declared interests
Daryl McPhee	Chair	No interest in the fishery pecuniary or otherwise.
Brendan Kelaher	Scientific Member	ScallopRAG Chair. 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 Resource Assessment Group, 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)
Sylvia Zukowski	Environment Member	No interest in the fishery pecuniary or otherwise
Andrew Watts	Industry member	Holds Commonwealth and State concessions
Debbie Wisby	Industry member	Holds State concessions and leases Commonwealth quota.
John Cull	Industry member	Holds Commonwealth and State concessions
Peter Mellios	Industry member	Holds Commonwealth concession and a processor
Stuart Richey	Industry member	Holds Commonwealth and State concessions.
John Hammond	Industry member	Holds Commonwealth and State concessions.
Heather Johnston	AFMA member/ Executive Officer	AFMA employee. No interest in the fishery pecuniary or otherwise.
Matt Koopman	Invited participant, Fishwell Consulting	Fishwell Consulting. We have undertaken the BSCZSF survey since 2015. We 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. We are regularly engaged by SETFIA to report to numerous seismic exploration companies on fishing catch, effort and value that takes overlaps with the proposed seismic testing areas. This included catch and effort from the BSCZSF. Related projects are looking at the effects of the seismic survey off east Gippsland on Danish seine catches, and on scallop densities in Bass Strait. I have no interest in any commercial fisheries.
Andrew Sullivan	Invited participant, Industry	Executive Officer, Bass Strait Scallop Industry Association
Bob Lister	Invited participant, Industry	Executive Officer, Scallop Fishermen's Association of Tasmania
Dan Corrie	Observer, AFMA Management	AFMA employee. No interest in the fishery pecuniary or otherwise.
Lara Ainley	Observer, AFMA Management	AFMA employee. No interest in the fishery pecuniary or otherwise.
Helen Kroger	Observer, AFMA Commission	AFMA Commissioner. No interest in the fishery pecuniary or otherwise.
David Smith	Observer, AFMA Commission	AFMA Commissioner. No interest in the fishery pecuniary or otherwise.
Brett McCallum	Observer, AFMA Commission	AFMA Commissioner. No interest in the fishery pecuniary or otherwise.

Attachment B- action items

Complete/Redundant	Underway	Yet to start	Need further advice
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Table 2. Progress of action items from previous meetings

Meeting #	Agenda Item	No.	Action Item	Agency/Person Responsible	Timeframe	Progress
32	3	1	AFMA and the ScallopMAC Chair to write to the AFMA Commission regarding industry concerns over planned seismic activity in Bass Strait and urge the Commission to relay ScallopMAC's concerns onto the relevant Government Agencies.	Chair and AFMA	As soon as practical, after finalisation of ScallopMAC 32 minutes	Commission response at Agenda item 5

Table 3 new action items from ScallopMAC 35

Agenda Item	No.	Action Item	Agency/Person Responsible	Timeframe
7	1	AFMA to write out to the recommended Committee members and seek their recommendation on Chair, within the context of the membership.	AFMA	Prior to 2021 fishing season
3.1	2	AFMA to write to operators to request that operators make every attempt to record any interactions with the four high risk species and include an identification guide in the 2021 fishing season Management Arrangements Booklet.	AFMA	Prior to 2021 fishing season
6	3	AFMA to confirm the minimum size for doughboy scallops.	AFMA	As soon as possible after ScallopMAC 35

Attachment C – Summary of information collected during the 2021 BSCZSF biomass survey

Table 4 summary of table of information collected for each of the beds surveyed during the 2021 BSCZSF annual biomass survey. AB = Apollo Bay, KI = King Island and FI = Flinders Island. Source: Fishwell Consulting.

Area	Bed	Estimated biomass (t)	% weight > 85 mm	Estimated biomass > 85 mm (t)	Density (ind/m ²)	Mean size	Meats/kg (>85 mm)
Apollo	5 Hours	3,627	99.2	3,598	1.745	97	90
	AB2-ext.	818	99.5	814	0.221	106	96
	The Hill	16,137	99.5	15,419	3.167	94	128
	Sub total	20,582		19,831			
Flinders Island	FI	6,477	89.9	5,821	0.602	94	77
	FIN-TS	1,078	95.0	1,023	0.751	97	76
	FIS-NB	5,587	95.5	5,337	1.566	100	71
	Sub total	13,142		12,181			
King Island	JH-ext.	633	23.5	149	0.183	81	114
	KI-10	4,351	95.5	4,154	2.776	92	85
	KI-7	1,473	14.2	209	2.300	78	No scallop over 85 mm in samples
	KI-9	6,367	74.2	4,725	2.820	86	93
	KI-BDE	1,904	90.4	1,721	0.331	90	86
	KI-BDSE	15,550	84.2	13,099	2.928	89	85
	Sub total	30,278		24,055			
	Total		64,002		56,067		