



Australian Government

Australian Fisheries Management Authority

Seventy Second Meeting of the Sub-Antarctic Resource Assessment Group (SARAG)

FINAL MINUTES

SARAG 72

11 FEBRUARY 2025

SUB- ANTARCTIC RESOURCE ASSESSMENT GROUP (SARAG)

CHAIR: Bruce Wallner

Date: 11 February 2025

Venue: Teleconference

Attendance

Members

- Dr Philippe Ziegler, Scientific (AAD)
- Dr Cara Masere, Scientific (AAD)
- Dr Rich Hillary, Scientific (CSIRO)
(left meeting at 2pm)
- Dr Tim Ward, Scientific (IMAS)
- Brad Milic, Industry (ALF Pty Ltd)
- Rhys Arangio, Industry (Austral Fisheries)
- Danait Ghebrezgabhier, AFMA

Invited Participants

- Dr Heather Patterson (ABARES)
- Dr Pia Bessell-Browne (CSIRO)
(left meeting at 2pm)
- Dale Maschette (IMAS/AAD)

Observers

- David Carter, Austral Fisheries

Executive Officer

Rachel Downes, AFMA

Introduction

Agenda item 1 - Preliminaries

1. Welcome and Apologies

The seventy-second meeting of the Sub-Antarctic Resource Assessment Group (SARAG 72) was opened at 1:00pm (AEDT) 11 February 2025 by the Chair, Bruce Wallner. The Chair welcomed members, invited participants and observers to the meeting. The Chair made an Acknowledgement of Country of the Traditional Owners and custodians of Australia, including their ongoing connections to Land and Sea Country and paid respects to their Elders past, present and emerging.

Members noted that the meeting was being recorded for the purpose of developing the meeting minutes.

2. Declarations of Interest

The Chair reminded members and observers of the procedure for declaring and managing conflicts of interest as outlined in the *Fisheries Administration Act 1991* and AFMA Fisheries Administration Paper No. 12, including that all members must declare any actual or perceived conflicts of interest (not limited to pecuniary gain) in the fishery at the commencement of the meeting and as soon as they become evident during the discussion of relevant agenda items. If a member discloses an interest in an item, and unless the RAG decides otherwise, the member must absent themselves from the meeting while the RAG deliberates and decides about the matter where a conflict exists, including any discussions about decisions to allow

the member to be present during deliberations on the matter in conflict. If the RAG decides at any time that a conflict of interest exists and that this conflict is likely to interfere with the RAG's consideration of a particular issue(s), the RAG may ask to hear the member's views on the issue and then require them to retire from the meeting while it is discussed by the other members and the advice/recommendation is formalised.

SARAG noted declarations of interest from members, invited participants and observers at the start of the meeting. All declared interests are reflected in the standing register at **Attachment A**.

The Chair noted that industry had requested AFMA consider the matter to be discussed under Agenda Item 2. The Chair noted the industry interest in the matter and recommended that industry be present for all discussion and forming of advice. SARAG agreed that other conflicts of interest would be dealt with as they arose.

3. Adoption of Agenda

The agenda at **Attachment B** was adopted without any changes.

Agenda item 2 – Variation of the frequency of the Random Stratified Trawl Survey

Industry request

SARAG heard from Industry regarding their request for a specific RAG discussion and advice on changing the frequency of the Random Stratified Trawl Survey (RSTS), seeking to change the annual survey to every second year from 2026 onward. Industry outlined their reasons for this request, noting the following:

- a) The financial impact of the reduced Patagonian toothfish total allowable catch (TAC) for the 2024-25 and 2025-26 seasons has led Industry to assess the benefits and costs of current operations. For the month long RSTS survey, the cost is around \$1.3 million in crew and vessel expenses.
- b) The RSTS typically catches smaller, lower grade Patagonian toothfish that have low market demand. These catches are decremented from available quota which equates to an additional (depending on volume of survey catch) ~\$0.6 million of lost revenue each year between Austral and Australian Longline Fishing (ALF) compared to longline caught fish.
- c) Additional costs of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) workplan and other research commitments total \$3 million over the next few years.

Considering the combined costs and lost revenue, Industry are of the view that the annual RSTS is not good value, and moving to a biennial survey is preferable and would still provide a level of RSTS data equal or better than other fisheries in CCAMLR.

SARAG noted that AFMA are seeking clear, scientific advice on the impact of changing the frequency of the RSTS on the accuracy and certainty of the Patagonian toothfish stock

assessment, including any potential effects on the TAC. AFMA are also seeking clear advice on any other potential impacts, including the Mackerel icefish stock assessment.

Introductory discussion on the use of the RSTS and work done so far

SARAG noted the AAD's advice on the following:

- a) The outcomes of the RSTS are currently used for the Patagonian toothfish and mackerel icefish stock assessments, bycatch and ecosystem assessments.
- b) The RSTS is the only data collection method that provides information on juveniles and recruitment, as well as informing the biomass of Patagonian toothfish and mackerel icefish.
- c) The RSTS captures a different segment of the population than the longline fishery and provides information on toothfish movement, maturity and growth.
- d) The icefish stock assessment relies entirely on the RSTS to determine the TAC for the next two fishing seasons.
- e) Upcoming bycatch assessments (FRDC projects) rely on biomass and recruitment estimates from the RSTS, including some species' catch composition and biologicals collected entirely from the RSTS.
- f) The RSTS provides information used by AFMA in ongoing climate change work.

SARAG noted the current and previous work undertaken, including:

- a) The retrospective analyses of the frequency of the RSTS on the toothfish and icefish stock assessments (Phillips and Ziegler 2022). This work shows that there is a discrepancy between the RSTS and the tagging data. Previous planned work on the cost-benefit analyses of various data collection methods has not progressed far enough to determine the effect of reducing the annual RSTS to a biennial RSTS on the toothfish and icefish stock assessments.
- b) Current planned FRDC project work focuses on observer data which could be expanded to look at the RSTS.
- c) No impact assessments have been done on bycatch or ecosystem impacts. Overall, there is not much data or research on the impact of a reduced frequency RSTS.

SARAG discussed survey and stock assessment methods of other CCAMLR toothfish fisheries (South Georgia, Kerguelen Islands and Ross Sea), including fishing methods, survey frequency, the variability of the survey data and impact of it on the stock assessment. The

RAG noted the different fishery characteristics and therefore different survey and stock assessment methods of these fisheries compared to HIML.

SARAG noted that it may be worthwhile considering alternative funding sources to leverage some of the costs of the RSTS given its broader uses.

Impact on Patagonian toothfish stock assessment

SARAG noted the following:

- a) The toothfish stock assessment fits mainly to the tagging data and doesn't fit well to the RSTS data. The weight of the RSTS in the current stock assessment model is relatively low.
- b) The RSTS data has been useful to estimate recruitment in the current stock assessment and to show tagging bias. The RSTS is a strong and useful time series and has been particularly helpful in CCAMLR discussions. In 2024, the RSTS was crucial to highlight the effects of the tagging data and tagging bias. Having the RSTS as an independent data source is an important consideration with the current stock assessment.
- c) The RSTS is the only independent data source to show that the tagging data is putting a downward bias on the model.
- d) The impact on recruitment with different sampling frequencies could be variable. Reducing the frequency of the RSTS to a biennial survey would halve the number of observations (e.g., 10 observations would reduce to 5 over 10 years). Less observations should not affect recruitment projections although there may be more uncertainty due to less data. The effect of less observations may flow on to the Markov chain Monte Carlo (MCMC) and provide greater variability or uncertainty around more recent data points. This could be managed by giving less weight to more recent projections.
- e) The current stock assessment model is in CASAL2, whereas the stock assessment model used in Phillips and Ziegler 2022 was CASAL, therefore the previous work would need to be redone with CASAL2. Testing involves redoing the analysis in CASAL2 with more recent data. In considering what effect not doing an RSTS would have on foregone catch, SARAG noted that if the work of Phillips and Ziegler 2022

were to be redone in CASAL2 and with updated data, the outcome is not likely to change as the results are still driven by the tagging data.

- f) The Phillips and Ziegler 2022 work didn't study the effect on recruitment; therefore it isn't possible to understand the impact on the assessment at present.
- g) The RSTS is a multi-cohort survey, therefore undertaking a biennial assessment will not miss any cohort observations.
- h) There has been previous discussion on a cost-benefit analysis to consider where costs could be cut without having a detrimental impact on toothfish or other data collection needs, noting that this work is not complete.
- i) There has been recent scrutiny on recruitment and CASAL2 modelling shows decreased year class strength (YCS), with below average YCS since 2000.
- j) There have been ongoing discussions in CCAMLR on using independent time series as an alternative way to come up with recruitment time series. The current work on the tagging data should help mitigate some of the complexity within the current assessment.

Impact of moving to a biennial assessment

The Scientific members advised that as the stock assessment currently stands (with the discrepancies between the tagging and RSTS data), moving to a biennial assessment would likely have very little effect on the toothfish stock assessment. However, given the work underway to review the stock assessment, an updated stock assessment may show that the RSTS is more influential on the assessment model than currently observed.

SARAG agreed that understanding the impact on recruitment is the main factor in determining the frequency of the RSTS and discussed the following points:

- a) there is a fundamental need to understand the true trends in recruitment, and the RSTS is a ground-truthing signal to confirm the fishery is behaving as assumed.
- b) Scientific members were of the opinion that the effect on YCS is likely to be subtle, as a small or large year class would still be observed in a biennial assessment.
- c) It is important to understand if the pattern of recruitment would still be observable with less data, or if reducing the frequency of the RSTS would eliminate or reduce the pattern of recruitment that would be observed. Likewise, how much additional uncertainty would be added to the recruitment trend is a key consideration.

AAD were of the view that it is not possible to give clarity on what impact moving to a biennial RSTS would have on observable recruitment trends at this stage. Given recent CCAMLR discussions, the AAD member gave their preference for an annual RSTS as it provided evidence of recruitment.

There are two key actions that need to occur before definitive advice can be given. The first is to look at the contribution of the RSTS on recruitment estimation and the uncertainty around

those estimations. The second action is a re-analysis of the contribution of the RSTS when/if the tagging bias is resolved in the stock assessment. This is because, ideally, the data would fit better and the RSTS would have a greater contribution to the stock assessment. SARAG noted that further discussion on the frequency of the RSTS depends on the feedback reported from the first meeting of the upcoming HIMI Technical Working Group (TWG), as the tagging data issues will be considered in their workplan.

Industry noted the discussion, and given the costs, they are unconvinced of the benefit of an annual RSTS. They concluded that although they don't see current reasoning to keep the annual survey, they acknowledged the current value of the RSTS in the stock assessment discussions in CCAMLR. In order to allow time for the stock assessment workplan to be completed and a new assessment be delivered to CCAMLR in 2026, industry (Austral member) proposed a compromise to commence biennial surveys in 2027. This proposal was not agreed by all industry members however with the ALF member dissenting and expressing a preference to move to biennial surveys in 2026. They noted that industry is interested in looking at the cost and benefits of the RSTS in the long term, as well as consideration of resources directed towards the CCAMLR workplan.

SARAG noted that additional time to develop our scientific understanding of the impact of the RSTS would be beneficial, noting the current work to revise the stock assessment and recent CCAMLR discussions. SARAG noted that testing the effect of removing the RSTS before doing so is important but also noted resourcing constraints as an issue.

The RAG agreed that the current stock assessment does not necessitate a strong need for an annual RSTS. However, given the upcoming work of the TWG and that the stock assessment is due to be updated, SARAG is not currently in a position to give explicit scientific advice on dropping the frequency of the RSTS to a biennial survey.

Mackerel icefish stock assessment

SARAG noted that undertaking a survey every second year may risk having a year(s) without an icefish TAC if only one large cohort is observed in the RSTS, or if the vessel is unable to complete the RSTS in a planned survey year. Without a survey, the CCAMLR decision rule defaults to a 30 t research TAC. The AAD member provided reasoning for observing a cohort three times, noting it isn't a definitive rule but it provides reliability to the estimation.

Industry members advised they were comfortable with the risk of not having an icefish TAC given other economic consideration, adding that if an agreed biennial survey posed problems, industry is not precluded from returning to an annual survey in the future.

Other considerations

SARAG discussed that the RSTS is important for bycatch, ecosystem, and climate monitoring, and that moving to a biennial assessment may make it harder to track and understand future

significant changes that may be observed in the fishery, noting the uncertain climatic future of the Kerguelen Plateau.

Discussion summary and concluding remarks

The Chair summarised the discussion as below:

- In terms of the toothfish stock assessment, the discussion has not provided a compelling argument as to why the RSTS needs to be continued annually. As the model has poor fit to the RSTS, it currently has low impact on the stock assessment outcome.
- In terms of tracking YCS and providing certainty around recruitment, the RSTS is a very important data source. This is particularly valuable given the increased level of uncertainty with the TAC and recruitment.
- In terms of secondary considerations, the RSTS is an important input into bycatch species tracking, ecosystem and climate change monitoring.
- By deferring the RSTS to be reduced in frequency from 2027 onward, SARAG is given additional time to quantify how the RSTS contributes to the stock assessment and understanding of recruitment.

Recommendation

SARAG recommended maintaining the RSTS as an annual survey until the current issues in the toothfish stock assessment are resolved. SARAG to review the proposal for commencing biennial RSTS in 2027 in light of further work

While SARAG is of the view that there is not a strong scientific argument to keep the annual RSTS, SARAG noted that the value of the RSTS may change following the review of the toothfish stock assessment by the HIMI Technical Working Group.

However, given the issues to be resolved, the RSTS currently offers the best estimates for recruitment and YCS and is a compelling time series to justify the outputs of the stock assessment model that show that the tagging data is having a negative bias on recruitment.

Other business

SARAG **noted** that SARAG 73 would take place in late April or early May 2025 and the final date will be finalised in the coming weeks.

The Chair closed the meeting at 3:03pm (AEDT)

Attachment A

Table 4. Member, invited participant and observer declarations of interest as advised to date.

Name	Membership	Declared interests
Bruce Wallner	Chair	No pecuniary or other potential interests in sub-Antarctic fisheries.
Dr Philippe Ziegler	Scientific member	Employed by AAD and is the Fishery scientist responsible for Heard Island and McDonald Islands Fishery (HIMIF) work, including the HIMI stock assessments. Dr Ziegler has no pecuniary interest in the sub-Antarctic and his salary is not connected to any research grants noting that he is a principle and co-investigator on current FRDC projects. Dr Ziegler is also the scientific member of SouthMAC, and the Scientific Representative for Australia to CCAMLR.
Dr Cara Masere	Scientific member	Member of the Fisheries team within the Southern Ocean Ecosystems Program at the AAD and has no pecuniary or other interests in the sub-Antarctic fisheries.
Dr Rich Hillary	Scientific member	Employed by CSIRO and is the Principal Investigator of the Macquarie Island Toothfish Fishery (MITF) stock assessment. He is a member of AFMA's Southern Bluefin Tuna Management Advisory Committee (SBTMAC) and Tropical Tuna RAG. Dr Hillary advised that he has no pecuniary interests in the sub-Antarctic fisheries.
Dr Tim Ward	Scientific member	Institute Marine and Antarctic Studies, University of Tasmania, Associate Professor, Fisheries Scientist AFMA Small Pelagic Fishery Resource Assessment Group, Scientific Member AFMA Sub-Antarctic Resource Assessment Group, Scientific Member AFMA Great Australian Bight Management Advisory Committee, Conservation Member AFMA Research Projects (SPF Monitoring, Blue Mackerel Spawning Fraction, DEPMs), Principal Investigator Natural Resources and Environment Tasmania (Developmental Tasmanian Sardine Fishery), Scientific Advisor, Principal Investigator South Australian Marine Scalefish Fishery Management Advisory Committee, Independent Conservation Scientist, Member

Name	Membership	Declared interests
Brad Milic	Industry member	Senior Manager of Policy and Resource at ALFPL which holds various fishing rights in, and operates vessels in, the sub-Antarctic fisheries and New and Exploratory fisheries under the jurisdiction of CCAMLR. Mr Milic owns a consultancy business that currently has a contract with Atlantis Fisheries Consultancy Group, involved with their clients' interests in the BSCZSF, and their fishery and chain of custody MSC accreditation.
Rhys Arangio	Industry member	Employed by Austral Fisheries P/L (Austral Fisheries) as the General Manager of Science and Policy. Austral Fisheries owns Statutory Fishing Rights (SFRs) in the Australian sub-Antarctic fisheries, which include waters under the jurisdiction of CCAMLR. Noting no changes since the last meeting, Mr Arangio is the Executive Officer of COLTO, as well as being a member of SouthMAC. He was not aware of any investigation or prosecution action by AFMA against his Company, nor of any legal action taken by his Company against AFMA, and has an interest in all agenda items.
Danait Ghebregabhier	AFMA member	AFMA employee, no interests pecuniary or otherwise.
Rachel Downes	Executive officer	AFMA employee, no interests pecuniary or otherwise.
Dr Heather Patterson	Invited participant	Employed by the Department of Agriculture, Fisheries and Forestry and is the author of the chapters relevant to SARAG in the Australian Bureau of Agricultural Resource Economics and Sciences (ABARES) Fishery Status Reports. Dr Patterson noted that she has no pecuniary interest in the sub-Antarctic fisheries.
Dr Pia Bessell-Browne	Invited participant	Employed by CSIRO as an assessment scientist. Dr Bessell-Brown advised they are the principal investigator on the FRDC project 'Developing a harvest control rule to use in situations where depletion can no longer be calculated relative to unfished levels.' Dr Bessell-Browne noted she has no pecuniary interests in the sub-Antarctic fisheries.
Dale Maschette	Invited participant	Employed by IMAS and is a fishery scientist responsible for HIMI work including the HIMI icefish stock assessments. They hold no pecuniary interest in the subantarctic fisheries. Their salary is connected to two FRDC research grants related to Southern Ocean fisheries, one that they are the primary investigator on, another that they are a co-investigator on.

Name	Membership	Declared interests
David Carter	Observer	<p>Employed by Austral Fisheries P/L (Austral Fisheries) as Chief Executive Officer. Austral Fisheries owns Statutory Fishing Rights (SFRs) in the Australian sub-Antarctic fisheries, which include waters under the jurisdiction of CCAMLR. Mr Carter holds the position as Director and deputy chair of the Northern Prawn Fishing Industry Company, board member WA Marine Science Institution, Board member Fish Org (international standard fishing industry labour), member of WA Chamber of Commerce and Industry General Council, Secretary and director Airscope Industries, board member and deputy chair Commonwealth Fishers Association. He was not aware of any investigation or prosecution action by AFMA against his Company, nor of any legal action taken by his Company against AFMA and has an interest in all agenda items.</p>

72nd Meeting of the Sub Antarctic Fisheries Resource Assessment Group (SARAG)

Extraordinary meeting
11 February 2025 - 1:00 – 4:00pm (AEDT) - Videoconference

Draft Agenda

Chair: Bruce Wallner

Approx time	Item	Purpose	Presenter
1:00 pm	1. Preliminaries		
	1. Welcome and apologies	For noting	Chair
	2. Declaration of interests	For action	Chair
	3. Adoption of agenda	For action	Chair
1:30pm	2. Variation of frequency of the RSTS	For advice	AFMA/AAD/Industry
3:55pm	3. Next meeting		
4:00pm	Meeting Close		