



Australian Government

Australian Fisheries Management Authority



**Sub-
Antarctic
Resource
Assessment Group
(SARAG)**

**FINAL MINUTES
SARAG 54**

7-8 SEPTEMBER 2016

SUB- ANTARCTIC RESOURCE ASSESSMENT GROUP (SARAG)

CHAIR: Prof John Buckeridge

Date: 7-8 September 2016

Venue: Australian Antarctic Division, Channel Highway, Kingston

Attendance

Members

Prof John Buckeridge, Chair
Dr Malcolm Haddon, CSIRO
Dr Philippe Ziegler, AAD
Dr Dirk Welsford, AAD
Mr Martin Exel, Industry Member
Mr Malcolm McNeil, Industry Member
Ms Jo Fisher, AFMA
Ms Sarah Kirkcaldie, Executive Officer, AFMA

Observers

Dr Heather Patterson, ABARES (via phone)
Mr Rhys Arangio, Industry
Dr Jemery Day, CSIRO
Dr Mariana Sporcic, CSIRO
Dr Cathy Bulman, CSIRO
Ms Eloise Carr, AAD
Mr Trent Timmiss, AFMA

Introduction

Agenda item 1 - Preliminaries

The fifty fourth meeting of the Sub-Antarctic Resource Assessment Group (SARAG 54) was opened at 9:00 am on 7 September 2016 by the Chair, Professor John Buckeridge.

1.1 Declaration of interests

Professor Buckeridge asked members and observers to declare their professions and any conflict of interests that they may have on specific agenda items.

Professor Buckeridge advised that he is a Professor of Natural Resources Engineering at RMIT University and he has no pecuniary interest in the sub-Antarctic fisheries.

Dr Haddon advised he is employed by CSIRO and is not undertaking specific research projects in relation to Sub-Antarctic fisheries, although he does provide advice to other researchers in relation to stock assessments, particularly for the Macquarie Island Toothfish Fishery (MITF). Dr Haddon is also a member on the Northern Prawn Fishery Resource Assessment Group and Southern and Eastern Scafish and Shark Fishery Resource Assessment Group. Dr Haddon advised that he has no pecuniary interests in the sub-Antarctic fisheries.

Mr McNeill advised is the Managing Director of Australian Longline P/L which holds various fishing rights in, and operates vessels in the sub-Antarctic fisheries and waters under the jurisdiction of CCAMLR. Mr McNeill further advised he is a member on the Sub-Antarctic Management Advisory Committee, Slope Resource Assessment Group and the Coalition of Legal Toothfish Operators (COLTO). Mr McNeill was not aware of any investigation or



prosecution action by AFMA against his Company or of any legal action taken by his Company against AFMA.

Mr Exel advised that he is the General Manager, Environment and Policy, Austral Fisheries Pty Ltd. Austral Fisheries P/L owns Statutory Fishing Rights (SFRs) in the Australian sub-Antarctic fisheries and waters under the jurisdiction of Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). Mr Exel also declared that he is Director of the Institute of Marine and Antarctic Studies, Member of the Commonwealth Fisheries Association (CFA), member of the South East Trawl Fishing Industry Association (SETFIA), Member of the Great Australian Bight Industry Association, Member of Coral Sea Fishers Association and Chair of COLTO. Mr Exel further advised that he has recently been appointed as a member of the "National Benefit Assessment Panel" for the Marine National Facility (the RV Investigator). This appointment is for three years, reviewing applications for research work on the Investigator in various waters around Australia and Internationally. He was not aware of any investigation or prosecution action by AFMA against his Company or of any legal action taken by his Company against AFMA.

Dr Welsford advised that he is employed by the Australian Antarctic Division (AAD) and was responsible for monitoring and assessing the Heard Island and McDonald Islands Fishery (HIMIF) and other CCAMLR fisheries and also data collection for the MITF. Dr Welsford advised that AAD get core funding but also seek grants from Fisheries Research and Development Corporation (FRDC) and AFMA. However, members noted that Dr Welsford salary was not connected to the FRDC grants. Dr Welsford advised he had also recently been appointed on the Torres Strait Scientific Advisory Committee.

Dr Ziegler advised that he is employed by AAD and is involved in 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 co-investigator on a FRDC project.

Ms Fisher advised she is employed by the Australian Fisheries Management Authority (AFMA) as the Manager for sub-Antarctic fisheries at AFMA. Ms Fisher advised she has no pecuniary interests in the sub-Antarctic fisheries.

Ms Kirkcaldie advised she is employed by AFMA and advised that she is also the Executive Officer for Sub-Antarctic Management Advisory Committee (SouthMAC) and the Southern Bluefin Tuna MAC (SBTMAC). Ms Kirkcaldie advised that she has no pecuniary interests in the sub-Antarctic fisheries.

Mr Timmiss advised he is employed by AFMA as the Senior Manager of the Tuna and Antarctic fisheries and advised that he is a member on SBTMAC and Tropical Tuna MAC. Mr Timmiss advised that he has no pecuniary interests in the sub-Antarctic fisheries.

Dr Patterson advised she is an employee of the Department of Agriculture and Water Resources and is the Editor of the Australian Bureau of Agricultural Resource Economics and Sciences (ABARES) Fishery Status report. Dr Patterson noted that she had no pecuniary interest in the sub-Antarctic fisheries.

Mr Arangio advised that he is an observer to SARAG who is employed by Austral Fisheries P/L that owns Statutory Fishing Rights (SFRs) in the Australian sub-Antarctic fisheries and waters under the jurisdiction of Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). Mr Arangio further advised he is the secretary of COLTO. He was not aware of any investigation or prosecution action by AFMA against his Company or of any legal action taken by his Company against AFMA.



Dr Day advised he is an observer to SARAG and a CSIRO employee and was undertaking work on the MITF stock assessment. Dr Day advised that he has no pecuniary interests in the sub-Antarctic fisheries.

Mr Neville advised that he is the Chair of the SouthMAC and has no pecuniary interest in the sub-Antarctic fisheries.

Ms Carr advised that she is an employee of the AAD. Ms Carr attends international meetings related to Antarctic fisheries and has no pecuniary interest in Antarctic fisheries.

Dr Sporcic advised she is an observer and a CSIRO employee. Dr Sporcic advised that she has no pecuniary interests in the sub-Antarctic fisheries.

Dr Bulman advised she is an observer and a CSIRO employee. Dr Bulman advised that she has no pecuniary interests in the sub-Antarctic fisheries.

1.2 Apologies and observers

Apologies were received from Dr Rich Hillary. Members noted that Dr Patterson would be joining part of SARAG via the phone and that Dr Cathy Bulman and Dr Mirana Sporcic from CSIRO would attend SARAG on 8 September to present agenda item 15 (ERA/ERM review).

1.3 Agenda

Members agreed that agenda items 12b – Grey rockcod and 20 – New and Exploratory fisheries update would be removed from the agenda. The paper on Grey rockcod was not ready for SARAG's consideration and the New and exploratory fisheries update was covered at agenda items 5 and 13. It was also agreed that agenda item 22b – Research Gap Identification form would be discussed before agenda item 22a – Annual Research Statement. The agenda was adopted with the changes (Attachment A).

Agenda item 2 – Adoption of minutes from SARAG 53

SARAG noted that the draft minutes from SARAG 53, held on 9 February 2016, were circulated to members on 10 March 2016. Dr Patterson provided comments on the draft minutes which were incorporated and the revised minutes were adopted as a true and accurate record of the discussions.

Agenda item 3 – Actions arising from SARAG 53

SARAG discussed the status of action arising items from SARAG 53.

Actions arising from SARAG 53

| Item | Action arising | Status |
|------|--|--|
| 1 | Senate submission - Industry to provide their submission to senate enquiry to members | Members noted that industry would provide their submissions to the Executive Officer |



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| | | who would distribute to all SARAG members. (Action arising 1). |
| 2 | RSTS - AAD and Industry to discuss the future requirements of the RSTS | Members noted that AAD and industry had discussed this item and it was agreed that the RSTS was still required on an annual basis to maintain the current time series of data until there is more confidence in the tagging data. |
| 3 | MITF spatial information - CSIRO to confirm with Industry if they are happy for spatial information to be shown at a future SARAG meeting. | CSIRO agreed to provide the spatial maps to industry for clearance prior to distribution to SARAG. |
| 4 | MITF stock assessment - CSIRO to provide AFMA with an updated MITF stock assessment, for circulation to members. | SARAG noted that this action item was completed. An updated stock assessment was provided on 9 February 2016. |
| 5 | Toothfish model - CSIRO and AAD to discuss a develop a scoping paper of the cost/benefits of developing a new Toothfish stock assessment model. | Member noted that this action will be discussed at SARAG 55 (Action arising 2). |
| 6 | MITF FAP - AFMA to circulate final MITF FAP to members. | SARAG noted that this action item was completed. The final MITF FAP was circulated to members on 26 April 2016 |
| 7 | MITF benthic impact - AAD to provide a summary of findings of the benthic impacts at MITF. | Members noted that this item would be discussed under agenda item 7 |



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| 8 | HIMI FAP - AFMA to circulate final HIMI FAP to members. | SARAG noted that this action item was completed. The final HIMIF FAP was circulated to members on 26 April 2016 |
| 9 | Whale depredation - AAD to present whale depredation paper to the next SARAG meeting | Members noted that this item would be discussed under agenda item 18 |
| 10 | Offal discharge - Members to provide Industry with ideas/papers on offal discharge in other fisheries. | Members noted that this item would be discussed under agenda item 19 |
| 11 | Les Scott - SARAG Chair to write to Mr Les Scott thanking him for 19 years on SARAG | Members noted that this action was completed. The Chair wrote to Mr Scott thanking him for his significant contribution to SARAG |

Agenda item 4 – Correspondence

SARAG noted the following correspondence which had been received out-of-session since the last meeting:

- An email dated 4 February 2016 from Sarah Kirkcaldie regarding the call for members on various MACs and RAGs;
- An email dated 25 February 2016 from Sarah Kirkcaldie reminding SARAG that AFMA is seeking members on various MACs and RAGs including SARAG;
- An email dated 10 March 2016 from Sarah Kirkcaldie seeking comments on the draft SARAG 53 minutes;
- An email dated 16 March 2016 from Sarah Kirkcaldie attaching media releases regarding Austral becoming the first carbon neutral seafood operator in Australia;
- An email dated 23 March 2016 from Sarah Kirkcaldie attaching a letter from the Hon. Norman Moore AM, to Peter Neville regarding the outcomes of the Commission's consideration of the MITF TAC for 2016/17 and 2017/18 fishing years;
- An email dated 26 May 2016 from Sarah Kirkcaldie seeking comments on whether an economist is required on SARAG;



- An email dated 15 June 2016 from Sarah Kirkcaldie seeking any SARAG claim forms before the end of the financial year;
- An email dated 28 July 2016 from Sarah Kirkcaldie seeking availability of members for a 2 day meeting for SARAG 54;
- An email dated 10 August 2016 from Sarah Kirkcaldie seeking comments on the draft agenda for SARAG 54;
- An email dated 17 August 2016 from Kerrie Bennetts, AFMA, inviting members to attend the RAG and MAC workshop in September 2016; and
- An email dated 22 August 2016 from Sarah Kirkcaldie informing members that there is a new online collaboration site that is going to be used for future meeting.

Members noted that an economist was not appointed to SARAG as it was not deemed necessary at this time. It was noted that if a specialist economist was required one could be appointed in the future on an as needs basis.

Members further noted that on 5 September 2016 a document was emailed from the Executive Officer seeking individual member comments on a draft Ecological Risk Management Guide. Members noted this would be discussed further under agenda item 14.

Agenda item 5 - Fishing operations update

Mr McNeill, Mr Arangio and Mr Exel provided SARAG with verbal updates on fishing operations in the HIMIF and MITF.

Mr Arangio stated that in the HIMIF the Austral Fisheries P/L vessel the *Atlas Cove* had caught all the Mackerel Icefish total allowable catch and was over quota by less than 10 tonnes. The vessel also completed the Random Stratified Trawl Survey over 18-19 days. All 3 Austral Fisheries Pty Ltd vessels have been long-lining in the HIMIF with catch rates significantly below expectations. Members noted that the vessel *Corinthian Bay* also had to return to port for an injured crewman and more recently for mechanical issues after it had only been fishing for 5 days. Members noted that the *Corinthian Bay* would be completing 4 trips, the *Isla Eden* will be completing 3 trips this season and the *Atlas Cove* still has another 2 trips to complete in the 2015/16 season. Mr Arangio stated that the *Atlas Cove* will fish for Icefish from 1 December 2016. SARAG were advised that the number of whales sighted around the *Isla Eden* was the highest that had been seen although the sightings stopped at the end of May. The *Corinthian Bay* only had one sighting and the *Atlas Cove* had no problems with whales.

Mr Arangio noted that the Company was likely to leave about 650 tonnes of Patagonian Toothfish quota uncaught. Industry explained that they had been examining possible causes for the low catch rates and had noted that it has been the warmest ocean temperatures ever near Heard Island. Mr Arangio presented several slides that, among other things, indicated that the Company had expanded in to new areas so the reduced catch rates were unlikely to be because of localised depletion. Mr Exel agreed to circulate the presentation prepared by Austral Fisheries P/L. SARAG was also advised that in contrast to the above, the catch of toothfish off South Georgia was good. Physical oceanographic imagery produced by NOAA showed that the area to the northeast of the Scotia Arc was experiencing cooler waters than normal.



Mr McNeill noted that Australia Longline Pty Ltd's current catch rates at HIMIF were similar to Austral Fisheries P/L and well below target. Members noted that the Company had spoken to the skipper who had a number of years' experience and he stated that he thinks there may be depletion in the Fishery and was not surprised by the low catch rates. Mr McNeill noted that there had only been one sighting of a whale and the vessel immediately moved away and had not encountered any other whales.

Members noted that Australian Longline Pty Ltd had completed a trip to east Antarctica and a report was being prepared by AAD. Members noted that the company caught larger fish (35-40kgs) but not in high numbers. The east Antarctica catch rate was similar to what is currently being experienced at HIMIF but the Company was still keen to do another trip there in the upcoming season even though currently it is not profitable. Mr McNeill stated that they will probably do a shorter trip to east Antarctica so that they can stay in the HIMIF for as long as possible. Dr Welsford stated that a paper was being presented to the Working Group on Statistics, Assessments and Modelling (WG-SAM) for CCAMLR statistical area 58.4.1. Members noted that there was a narrow depth range where the vessel got decent catch rates with by-catch also high in both shallow and deeper water. The plan is to focus on intermediate depths in the 2016/17 season. Members noted that Australian Longline Pty Ltd collected CTD (connectivity, temperature and depth) data and camera information and all the data would be compiled with the data from other countries that fished in that statistical area. The CTD data showed that the coldest water is about 90m below the surface and it is also very salty. Members noted that this may be an issue for tagged fish and post tag survival as fish need to move through this very cold water to return to their normal depths.

Mr McNeill stated that Australian Longline Pty Ltd had one vessel (*Antarctic Discovery*) operating in the MITF but that it had been a good season with high catch rates early in the season but these had dropped off towards the end. Members noted that Australian Longline Pty Ltd would be taking about 435 tonnes of the 450 Patagonian Toothfish TAC.

Agenda item 6 – Proposed meeting schedule for SARAG & SouthMAC

Members noted that in March 2015, the AFMA Commission agreed the MITF stock assessment would move to a two yearly assessment. In the past, due to limited staff availability at CSIRO, the delivery of the stock assessment has provided industry with limited time to plan and prepare for the upcoming season. In February 2016, SARAG and SouthMAC discussed the timing of the next MITF stock assessment. SARAG agreed that the next stock assessment could be completed by 1 June 2017, using data up to the end of fishing in 2016. The 2017 assessment would deliver TAC scenarios for the 2018/19 and 2019/20 fishing seasons.

SARAG noted that AFMA management has expressed concern that, with this arrangement, the fishery is moving very rapidly from a yearly assessment that uses data from the previous fishing season, to a situation where the most recent data used in the assessment is two and then three years away from the fishing year. AFMA management considered that a more staged approach may be prudent.

SARAG agreed that AFMA and CSIRO would discuss how the stock assessment can be delivered in time for adequate consideration ahead of the 2018/19 fishing season start noting CSIRO's limited resources between August and February each year. Members also acknowledged that industry need the assessment well in advance of the start of the season to assist with planning. SARAG will be notified of the outcomes of this discussion by the end of October 2016 (**Action arising 3**).



Macquarie Island Toothfish Fishery

Mr Exel, Mr McNeill and Mr Arangio declared their interest under agenda item 7-9 and left the room. The group then discussed whether the Industry members and observer needed to leave the room for the agenda items; it was agreed that as their input was essential to the agenda items that they should remain in the meeting room for all discussions but not any recommendations.

Agenda item 7 – Benthic impacts project

SARAG noted that there had been no changes to the update presented at SARAG 53 on applying the results of the AAD research project '*Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: an assessment of the vulnerability of benthic habitats to impact by demersal gears*' to assess benthic impacts at Macquarie Island.

Members noted that at SARAG 53, AAD presented the findings from the current research, which showed that the Macquarie Island Marine Reserve protects about 40% of taxa and that the benthic impacts from fishing at MITF are similar to that at HIMIF. It was noted that the MITF findings could be routinely updated using HIMI methodology. Members agreed that using cameras on MITF vessels would also be beneficial.

The AAD member noted that the results of this project had been submitted to a peer reviewed journal but there had been some confusion from the reviewers so some clarification was required. Industry members noted that the project needs to be finalised for Marine Stewardship Council certification. It was agreed that AAD would re-submit the paper and if it wasn't accepted the final report will be presented at SARAG 55 (**Action arising 4**).

Agenda item 8 - MSC review

SARAG noted the update from Industry on the MITF Marine Stewardship Council (MSC) annual review that was conducted in August 2016.

Members noted that unfortunately due to the timing and illness a large number of members were not available when the review was conducted. The member from Austral Fisheries P/L provided the Executive Officer with a list of question that need to be addressed. It was agreed that if AFMA respond to any of the questions they should copy industry in to these responses so that all parties are aware what questions have been addressed. It was noted that AFMA was planning on establishing a research library on to the AFMA website.

Members noted that there were no outstanding MSC conditions for the Macquarie Island Toothfish Fishery apart from the requirement to finalise the benthic impact report discussed in agenda item 7.

Agenda item 9 – ERA/ERM timetable

SARAG noted that the MITF ERA/ERM review was expected to occur in 2017/18. It was noted that the HIMIF ERA/ERM review was given priority because of concerns regarding removing the 3 trawler limit and benthic impact.



Industry members expressed concerns regarding doubling up on projects (for example, benthic impacts project v's ERA). The AFMA observer noted that the process is structured such that issues will get ruled out as low risk if information is available to show that it is a low risk. This issue was discussed further at Agenda Item 14.

Heard Island and McDonalds Islands Toothfish Fishery

Mr Exel, Mr McNeill and Mr Arangio declared their interest under agenda items 10-19 and left the room. The group then discussed whether the Industry members and observer needed to leave the room for the agenda items; it was agreed that as their input was essential to the agenda items that they should remain in the meeting room for all discussions but not any recommendations.

Agenda item 10 – 2015/16 Toothfish catch rates

SARAG noted that at its 2015 meeting, CCAMLR set the catch limit for area 58.5.2 for both the 2015/16 and the 2016/17 seasons. This decision did not have any 'breakout rules' to review the catch limits in the event of exceptional circumstances.

SARAG noted that the Patagonian Toothfish TAC was set by the AFMA Commission for 2015/16 but not for 2016/17 as it was done in conjunction with the Mackerel Icefish TAC which could only be set for one year.

Industry members stated that catch rates during the current HIMI season have been substantially lower than previous seasons, across all boats and months fished so far.

AFMA stated that the Commission paper setting the HIMIF TAC for the 2016/17 season will need to acknowledge the low catch rates in 2015/16. Members noted that commercial catch rate data is not incorporated into the stock assessment which is unique compared to other Commonwealth fisheries. AFMA also noted that SARAG had made a recommendation to not include tagging data in the 2015/16 stock assessment and then that decision was reviewed and reversed at CCAMLR in 2014 and the reasons why needs to be carefully articulated to the Commission. SARAG agreed that stock assessment used the best available science given resources available whilst considering AFMA's legislative objectives.

Members noted that there had been dips in catch rates in the past but not for such a duration. SARAG discussed the short medium and long term research needs of the Fishery to investigate what is currently happening. SARAG acknowledged that there are 3 possible scenarios for the lower catch rates:

- the fish are on the fishing grounds but not taking the bait;
- the fish have moved off fishing grounds; and/or
- the stock has been depleted.

The following issues were identified as possible areas for exploration to assist in identifying why catch rates could be lower:

- Size age distribution of 2015-16 longline catches*



- Length-weight of 2015-16 catches compared with previous years*
- “Green” fish – an Industry member noted that some fish are hauled with a green tinge, and that these fish had been more prevalent this year
- Tag induced mortality, including disease
- Acoustic data
- Behaviour of fish
- Changes in fleet behaviour (unlikely as fleet behaviour has not changed)
- Spawning
- French catch rates compared with Australian catches
- Stock collapse
- “mature” Fishery – ie. that the fishery had reached its capacity as there were no new areas and local populations to be explored
- Frontal position – ie changes in weather fronts
- Predators
- Weather
- Presence of gelatinous zooplankton/RSTS*
- Seismic activity eg volcanoes in the area
- IUU (unlikely as no vessels have been sighted)
- Environmental/temperature
- Lice prevalence (unlikely as no more iced fish observed)
- Soak time changes*
- Localised depletion and comparisons with other regions*
- Tagging*

It was agreed that size-age distribution, Length-weight comparison, gelatinous zooplankton, soak time, localised depletion and tagging (*) would all be looked at as soon as possible.

Members acknowledged that there is currently not sufficient data available to conclude if this is a one off or longer term issue and agreed that the a review of the CCAMLR Management Strategy Evaluation was also required.



SARAG agreed that AAD would compile a document that briefly summarises the issue, what has been looked, any outcomes and what is going to be looked at. This document will be circulate it to all members as soon as possible (**Action arising 5**).

Agenda item 11 – CCAMLR Fisheries Review Meetings and science workplan

SARAG noted AAD was still committed to holding CCAMLR fisheries review meetings but due to a number of factors there has not been one since April 2016. Members noted that AAD and Industry were currently resolving issues regarding funding of some of the research but noted that the work associated with the science workplan was mostly on track to be completed as scheduled.

AAD noted that work was being conducted on the Natural mortality estimate (M) and a decision would be made regarding whether to include it in the next assessment. Members noted that it is important for the assessment to be stable but also include new information such as M. AFMA noted that the stock assessment should include the best available science. It was agreed that the outcome of the work on M will be presented to SARAG with a bridging analysis before it goes to next year's WG-SAM meeting.

Members noted that there would be no assessment for Patagonian Toothfish presented at CCAMLR this year as it is the second year of the two yearly cycle. AAD noted that the Working Group on Fish Stock Assessment (WG-FSA) agenda had also been shortened with the priorities being Mackerel Icefish assessment, Exploratory fishing and research proposals and bycatch (particularly skates and rays).

Members noted that AAD were attempting to organise a joint workshop between Australia and France. A workshop was last held in 2010 where all current research was presented. A number of issues have arisen in the attempt to organise the another workshop including difficulty in travelling overseas, limited funding in France, time to organise and the need to commit around \$100,000 to fund the workshop. It was agreed that AAD and Industry would discuss options for funding the workshop and AAD would attempt to discuss with the French in the margins at CCAMLR 2016 (**Action arising 6**).

Agenda item 12 – Stock assessments

12a Mackerel Icefish

Dr Welsford presented the preliminary 2016 HIMIF Mackerel Icefish assessment. The paper provided a preliminary assessment of Mackerel Icefish population structure, abundance and yield for the area of Division 58.5.2 to the west of 79° 20' E using standard CCAMLR methods.

The RSTS is conducted to estimate the biomass of the standing stock. The year classes present in that standing stock are then projected forward two years to estimate the TAC. The CCAMLR decision rule requires a TAC that allows 75% escapement of biomass that would have been there in the absence of fishing. Uncertainty is incorporated by using the lower 95 percentile of the biomass estimate in the projection which leads to a conservative approach.



SARAG noted that the population of Mackerel Icefish in Division 58.5.2 generally shows that a single 2+ cohort is dominating the population. The assessment indicates a TAC of 308 tonnes in the 2016/17 season satisfy the CCAMLR decision rules.

Industry members left the room due to conflict of interest and the remaining SARAG members recommended that the paper that had been presented to SARAG should be presented to CCAMLR's WG-FSA.

Members noted that the French may be setting a very high Mackerel Icefish TAC however noted that this was a different stock. SARAG noted that Australia had been asked to review the French stock assessment.

12b. Grey rockcod

AAD was intending to prepare a paper on Grey rockcod (*Lepidonotethen squamifrons*), however due to issues with the assessment this was not finalised. Members noted that this paper would not be presented to WG-FSA 2016.

12c. 2016 HIMI RSTS

In 2016, the annual HIMI random stratified trawl survey (RSTS) was conducted during April (10-29 April 2016), with the completion of 163 stations. The survey was conducted for the second year on the *Atlas Cove*. Sampling protocols such as the design and the duration of the hauls were similar to last year's survey, but with a new set of randomly selected station points.

The RSTS calculated the density of Patagonian Toothfish was half that of 2015 but similar to that of the long-term average for the survey. The Mackerel Icefish density was five times that of 2015 and nearly three times the average. Catch rates were lower than the average for macrourids, close to average for Unicorn Icefish and only one-third the average for Grey rockcod. Conversely, the density of aggregated skates was higher than both 2015 and the long term average. The catch of invertebrates in the 2016 survey was two times higher than average, due in part to the greater abundance of jellyfish, which was almost five times higher than average.

Members noted that the RSTS was conducted prior to the drop in longline catch rates.

Industry agreed to complete another RSTS in Evitas (25 shots over 3 days) in the next couple of weeks to see if there is any indication of what could be causing the low catch rates (**Action arising 7**). Members noted that in September 2011 an RSTS was also conducted in Evitas and the results from that survey would be useful as a comparison. Industry noted that it is too rough to set longline gear but that they would attempt to do a few longline shots near Evitas, to provide a comparison between RSTS and longline catches.

SARAG acknowledged and congratulation the AFMA observer, Tamre Sarhan, for the significant amount of work conducted during the April 2016 RSTS



Agenda item 13 – Papers to WG-FSA

SARAG noted that AAD have advised that they will be submitting the following papers to WG-FSA 2016:

1. Results of the 2016 HIMI RSTS, as presented at SARAG
2. Stock assessment of HIMI Mackerel Icefish, as presented at SARAG
3. Report on HIMI seabird season extension
4. Joint research proposal for 58.4.1 and 58.4.2 (including a proposal for research catch allocation)
5. Joint research results for 58.4.1 and 58.4.2
6. Joint research proposal for 88.2A and B

Members noted that the seabird season extension paper would be an information paper explaining what had happened as there was currently no agreement on what was a successful trial or not. AAD agreed to circulate a draft to industry and AFMA to ensure the content is correct. It was noted that next year a paper would be submitted to SARAG and then CCAMLR seeking a review of the season extension periods.

Industry raised concerns regarding the death of the seabird in the Tori line during the season extension period. Industry stated that they would like to see a review of the Conservation Measure (CM) so that a bird killed as a result of interaction with mitigation gear does not count towards the three bird limit.

Members noted that Mr Exel and Mr Arangio left the room so the remaining members could discuss the CCAMLR research proposals for 58.4.1, 58.4.2, 88.2 A and 88.2 B. Members noted that Australia had submitted proposals for Australian Longline Pty Ltd to participate in research fishing in these four areas. SARAG supported the proposals.

Agenda item 14 – Ecological Risk Management Framework

AFMA gave a presentation on the guide to AFMA's Ecological Risk management. The draft guide was circulated to members on 5 September 2016 for individual comments. Members noted that the purpose of the document was to provide an overview of the revised Ecological Risk Assessment for the Effects of Fishing (ERAEF) methodology that AFMA and CSIRO intend to implement to support AFMA's updated Ecological risk management (ERM) framework. In 2007, to pursue ecological sustainability, AFMA developed an ERM framework, supported by an assessment process called ERAEF plus other processes including the Commonwealth Harvest Strategies. ERAEF provides a hierarchical framework for a comprehensive assessment of the ecological risks arising from fishing, with impacts assessed against five ecological components – target species; by-product and by-catch species; threatened, endangered and protected (TEP) species; habitats; and (ecological) communities. Members noted that AFMA had established an ERA Technical Working Group to assist with the review.

SARAG noted that several changes had been made to the process and that these were outlined in the document that had been circulated to members on 5 September 2016.

SARAG noted that the role of AFMA RAGs will be to:



- Provide review of individual fishery ERA re-assessments.
- Provide scientific/technical advice to assist in development of management options to mitigate risk for species.
- Provide review and scientific advice on the development of FMS.
- Identify data and research gaps and priorities.

Members noted that comments on the guide are due by 30 September 2016 to AFMA. AFMA will then consider the comments from the ERA Technical Working Group, MACs and RAGs and provide advice to AFMA Commission at its 26 October 2016 meeting. AFMA will seek Commission approval at its February 2017 meeting, with a view to commence individual fishery reviews in early 2017.

Industry expressed concern that they have already collected an extensive amount of information on the Fishery and did not want to do it again. AFMA noted that the ERAEF can state that a comprehensive review has already been undertaken and therefore eliminate the risk at Level 1. Members agreed that, to avoid duplication, the benthic habitats work that AAD had completed for MITF and HIMI should be used to assess impacts of trawling and longlining to benthic habitats, rather than conducting ERA review on these components.

Agenda item 15 – ERA/ERM review

CSIRO presented the draft Ecological Risk Assessments for the HIMI longline, HIMI demersal trawl and HIMI mid-water trawl fisheries

HIMI longline

Members noted that the assessment of the ecological impacts of the Heard and McDonald Islands Demersal Longline Fishery was undertaken using the ERAEF method version 9.2.

ERAEF proceeds through four stages of analysis: scoping; an expert judgement based Level 1 analysis (SICA – Scale Intensity Consequence Analysis); an empirically based Level 2 analysis (PSA – Productivity Susceptibility Analysis); and a model based Level 3 analysis.

| Components | 2016 | 2006 |
|-------------------------------|------|------|
| Key commercial species | 1 | 1 |
| By-product/bycatch species | 6/40 | 17/1 |
| Protected species | 36 | 84 |
| Habitats (benthic/pelagic) | - | - |
| Communities (benthic/pelagic) | 8/3 | 6/3 |



SARAG members noted that even though the fishing effort in the longline fishery has increased and it is now the major method for capture of Patagonian toothfish, assessment of the status of the Fishery is similar to or better than the previous assessment. More research has provided better stock assessments of both the key commercial species as well as the minor species. Ongoing stringent mitigation measures to reduce incidental by-catch of birds have also resulted in maintaining low mortality rates compared to global longline fisheries. Only communities was identified as a moderate risk and this was due to a lack of information.

Demersal Trawl

| Components | 2016 | 2006 |
|--------------------------------------|-----------------------------|------------------------------|
| Key commercial species | 2 | 2 |
| By-product/by-catch species | 1 by-product; 115 by-catch | 77 by-product; 8 by-catch |
| Protected species | 22 | 82 |
| Habitats (benthic/pelagic) | - | - |
| Communities (benthic/pelagic) | 12 (10 demersal; 2 pelagic) | 12 |

Members noted that Grey rockcod was chosen as the most vulnerable by-catch species, whereas in the previous assessment skates and rays had been chosen as the most vulnerable species. This was based on greater quantities of Grey rockcod been removed from the demersal trawl sub-fishery and the fact that it has not been assessed since 1998. AAD clarified that the Grey rockcod had been assessed and agreed to provide the research to CSIRO.

AAD further informed CSIRO that skates and rays had also been assessed recently and agreed to provide that research to CSIRO as well (**Action arising 8**).

Midwater Trawl

| Components | 2016 | 2006 |
|--------------------------------------|--------------------------|---------------------------|
| Key commercial species | 1 | 2 |
| By-product/bycatch species | 2 by-product;48 by-catch | 21 by-product; 3 by-catch |
| Protected species | 7 | 80 |
| Habitats (benthic/pelagic) | - | - |
| Communities (benthic/pelagic) | 2 (1 demersal;1 pelagic) | 2 (1 demersal;1 pelagic) |



Members noted that all hazards (fishing activities) were eliminated at Level 1 (risk scores 1 or 2).

CSIRO informed members that there were some discrepancies between data provided by CCAMLR, AAD and AFMA. It was agreed that AFMA and AAD would discuss which data sources were the most accurate for catch and effort data, observer data and Threatened, Endangered and Protected (TEP) species interactions and report back to CSIRO as soon as possible (**Action arising 9**). CSIRO will then provide revised ERA's to AFMA and AAD for comment and then the updated ERA's will be circulated to SARAG members.

SARAG thanked CSIRO for the presentations and the significant amount of work that had gone into preparing the revised ERAs.

Agenda item 16 – 3 trawler limit

SARAG noted that prior to 2012, the HIMI Fishery Management Plan restricted the Fishery to three boats through a minimum quota holding of 25.5%. As more catch started to be taken by automatic longline, the three boat limit became restrictive. The Management Plan was amended to remove the limit on the number of longline boats, and a limit of the number of trawlers was retained through a three year Determination, expiring on 30 November 2015. The Determination was intended as an interim measure until the Ecological Risk Assessment (ERA) for the fishery was updated. As the ERA had not been updated, AFMA continued the Determination for further year, ie until 30 November 2016, to allow more time to consider all the implications of removing the 25.5% minimum quota holding.

At the February 2016 meeting of SouthMAC, the AAD member noted that the three boat limit together with the MPA forms the existing package of benthic impact mitigation measures and if the three boat limit was to be removed then a more effective measure would need to be put in place to ensure Australia continued to manage benthic impacts effectively. SouthMAC requested that SARAG examine whether the minimum quota holding is the most efficient method to manage benthic impact.

SARAG noted that currently it is unlikely that trawling has a significant impact on the benthic habitat but this would need to be re-evaluated if the fleet was to change. Members noted that the 3 vessel limit wasn't put in to restrict benthic impact but the decision to retain the limit to trawlers was to restrict benthic impact.

SARAG members noted that general concerns about benthic impacts of trawling had also been raised by NGOs and some CCAMLR members. If AFMA was to remove the 3 trawler limit then it would need to be replaced with another form of regulation and this does not seem cost effective nor will it reduce unnecessary regulation as requested by the Minister.

Members noted that AFMA management will consider SARAG's views further and report back at the next meeting (**Action arising 10**).



Agenda item 17 – MSC review results

SARAG noted that in August 2016 the Marine Stewardship Council (MSC) completed its annual review of the HIMI Patagonian Toothfish Fishery and the HIMI Mackerel Icefish Fishery. Members noted that all conditions for the HIMI Icefish Fishery had been completed and that the HIMI Patagonian Toothfish Fishery was on track to meet all conditions.

Agenda item 18 – Whale depredation paper and ARC grant

SARAG noted that in May, Austral Fisheries P/L and Australian Longline P/L were notified that the depredation project proposal that they had put forward to the Australian Research Council (ARC) had been successful. The project aim was to develop solutions to marine mammal interactions with longline fisheries which include:

- Investigate the **ecological mechanisms leading to prey switching by whales** from sourcing natural prey to depredation, the spatio-temporal patterns of depredation, and the trophic effects of depredation on ecosystems;
- **Identify the operational variables** (behaviour of skippers and specificities of vessels) that can **reduce the levels of interaction** with marine mammals, and minimise depredation events; and
- **Develop the best depredation avoidance/reduction fishing strategy** as mitigation solutions through a full assessment of direct and indirect costs and benefits of a broad range of scenarios, which should maximize the financial margin between the reduction of interactions with marine mammals and the increase of operational costs associated with changes in fishing practice (e.g. additional fishing time and fuel consumption).

Members noted that funding of the project is being provided by Austral Fisheries, Petuna (ALPL) (\$1.5 million (40 sea days at HIMI, 12 for TAS Trevella), University of Tasmania (in kind \$287,000), Deakin University (in kind \$185,000), CNRS-CEBC (French research institute) (in kind \$261,000) and ARC (cash \$388,000). Members noted that AAD will also be collaborative partners in this project and will oversee the day-to-day running of the research which will be conducted for 4 years and is expected to start in October 2016. AFMA observers and management will also help facilitate with parts of the project.

Industry noted that the fisheries that will be used are HIMI, Kerguelen, Crozet toothfish fisheries, and the Tasmanian Trevella fishery.

Members further noted that four COLTO Member fisheries (Chile, Falkland Islands, South Georgia and Prince Edward & Marion Islands) have also committed \$104,000 in total towards a linked project for their own fisheries, utilising the same researcher and administration structure as the above ARC project. This project will run for two 6 month periods across 2016/17 and 2017/18. It will be a desktop study, with 2 major milestones for each fishery:

Milestone 1, Feb 2017: production of a scientific report including the results of the analysis of existing depredation data from each of the fisheries, and then recommendations for standardising protocols of data collection and data analysis.



Milestone 2, Feb 2018: production of a global review on mitigation solutions to reduce depredation locally for each of the 4 fisheries and globally.

Agenda item 19 – Industry proposal for offal discharge trial

Members noted that at SARAG 53 in February 2016, an industry member noted that his company would like to trial releasing offal within the area of the HIMI Fishery. SARAG noted that the HIMI Fishery management plan prohibits offal discharge inside the area of the HIMI Fishery. SARAG also noted that offal is released in other CCAMLR fisheries and the trial, if approved, would only allow discharge at night, only when steaming (not setting or hauling) and not at the extremes of the season when seabirds are more prevalent.

Industry presented a proposal for an offal discharge trial to the April 2016 meeting of the CCAMLR Consultative Forum (CCF). The proposal was discussed again at the recent August 2016 CCF meeting. The CCF raised concern about potential increased wildlife interactions and agreed that any changes to the current offal discharge arrangements at HIMI must be consistent with CCAMLR Conservation Measures. The CCF agreed that, should any trial go ahead, it be led by a senior academic and that publishable results would need to be produced. AFMA raised further concerns that there may be some habitation of seabirds to boats.

Members noted that if SARAG and SouthMAC recommend that a trial go ahead, it could be conducted under an AFMA Scientific Permit and would need to meet the requirements of AFMA's Fisheries Management Paper 11.

Industry members left the room so that the remaining members could discuss the proposal.

The remaining SARAG members discussed the proposal and agreed that the proposal needed more information including no offal dumping in waters less than 2000m (as a proxy for fishing grounds), defining data collection and ensuring input from seabird experts.

SARAG requested that industry provide a more detailed proposal out of session for consideration (**Action arising 11**). Members noted that offal discharge is going to be raised at CCAMLR this year and that any trial would need to be consistent with Conservation Measures.

CCAMLR New and Exploratory fisheries

Agenda item 20 - New and Exploratory Fisheries update

SARAG noted that this agenda item was removed from the agenda as it was discussed under agenda item 13.



Research

Agenda item 21 – Current research

SARAG noted the update on sub-Antarctic fisheries research projects that are not included in the AAD Science Workplan.

SARAG noted that in June 2016, the AFMA Research Committee (ARC) endorsed the above project “*Stock assessment and management strategy evaluation for Macquarie Island Toothfish Fishery 2017-2018*” for funding. The project will deliver a MITF stock assessment in 2017, with TAC options for the 2018/19 and 2019/20 fishing years and a 2018 data analysis and assessment futures.

AAD provided a verbal update on the status of the project titled “*Development of robust assessment methods and harvest strategies for spatially complex, multi-jurisdictional toothfish fisheries in the Southern Ocean (Kerguelen Plateau project)*”. AAD explained that Clara Peron and Emma Woodcock had both recently left AAD and were currently being replaced but that the project was still on track to meet milestones. Industry requested that if there was going to be any delays in meeting milestones could they please be informed as soon as possible.

Agenda item 22 – Research needs for 2017-18 and beyond

a. Annual research statement

Members noted that AFMA’s Research Section has asked all RAGs to prepare an Annual Research Statement for the 2017-18 financial year. SARAG agreed the research needs for the HIMI and CCAMLR New and Exploratory fisheries had been identified in the CCAMLR Fisheries Science Work Plan and this should be attached to the Annual Research Statement. Members updated the 2016-17 Annual Research Statement and agreed that this will be provided to AFMA’s research section as the Annual Research Statement (**Attachment A**).

b. Research Gap Identification form

SARAG noted that AFMA’s Research Section has also asked all RAGs to complete a RAG-MAC Fishery Specific Gap form for each research priority in each fishery, including essential research.

The following research gaps were identified, and where possible, responsibilities were allocated:

- Satellite tag release mortality – AFMA to contact Karen Evans from CSIRO about cost, interest as a project and tag availability.
- Tag induced mortality
- Considering whether soak time has it changed) - AAD



- Localised depletion - AAD
- Size/age distribution - AAD
- Length-weight - AAD
- Gelatinous zooplankton/RSTS - AAD
- RSTS - AAD
- CTD information – this needs to be done as soon as possible and AAD agreed to develop a budget and prepare to train observers at their workshop in December
- Benthic cameras – longer term
- Macroid identification – need to confirm correct identification. SARAG agreed that training at the observer workshop would be beneficial and AFMA was to inform Industry if fish samples were required (**Action arising 12**)
- Stock assessment review
- HIMI stock assessment
- Sex based model – AAD will be completing and it is anticipated that a draft paper will go to WG-SAM in 2018.
- Symposium with France

The following research gaps were identified for CCAMLR New and Exploratory fisheries:

- Genetics
- Close kin for population size estimate – longer term
- Habitat models for Toothfish – AAD to complete in 2017
- Integrated stock assessment for Toothfish in East Antarctic Research Blocks – AAD to complete in 2018
- Otolith aging in East Antarctica and Ross Sea – AAD to start in 2016

c. Future research programs

SARAG considered the paper titled “*Modelling spatial distribution of Patagonian toothfish through life-stages and sex and its implications for the fishery on the Kerguelen Plateau by Peron et al’*”. Industry provided a document highlighting factual errors in the document and also outlining future work recommendations. The future work recommendations supported by SARAG were incorporated into the research gaps identified in Agenda item 22b.

Agenda item 23 – Joint Australia-France industry research action plan

Members noted that in April 2015 Australian and French officials gave in-principle agreement to form a group to develop an Australia-French research plan. The group would contain scientists and officials from both countries. Terms of references (ToR) were discussed and drafted at CCAMLR 2015 and at SARAG 53 members noted that Australia was waiting on feedback from the French government on the ToR. AAD informed members that Australia’s



relationship with the French Scientist was well maintained but there was a need for a better relationship with the French Industry.

Environment

Agenda item 24 – TEP interactions, gear loss & recovery

SARAG noted that there have been ten wildlife interactions resulting in deaths in the HIMI Fishery since the last SARAG meeting in February 2016.

- 4/4/2016 – A White Chinned Petrel was hauled hooked on the vessel *Isla Eden*;
- 4/4/2016 – A White Chinned Petrel was found dead in the trawl net on the vessel *Atlas Cove*;
- 11/4/2016 – A Southern Elephant Seal was hauled tangled with the mainline on the vessel *Isla Eden*;
- 26/4/2016 – A Grey Headed Albatross was tangled and killed in the tori line when setting on the vessel *Isla Eden*;
- 21/5/2016 – A Crabeater Seal was hauled tangled with the mainline on the vessel *Antarctic Chieftain*;
- 30/5/2016 – A female Southern Elephant Seal was hauled to the surface hooked in the mouth and tangled in the backbone on the vessel *Antarctic Chieftain*.
- 8/6/2016 – A Southern Elephant Seal was hauled tangled with the mainline on the vessel *Atlas Cove*;
- 21/7/2016 – A Crabeater seal was hauled to the surface hooked in the mouth on the vessel *Antarctic Chieftain*;
- 21/7/2016 – A Crabeater seal was hauled to the surface hooked in the mouth on the vessel *Isla Eden*; and
- 29/8/2016 – A male Southern Elephant seal was hauled to the surface tangled in the backbone on the vessel *Atlas Cove*.

Members noted that so far in the 2015/16 HIMI Fishery fishing season 5,903,216 hooks have been set with two seabirds killed as a result of interaction with fishing gear. In addition, one bird died as a result of being caught in the tori line and one bird broke its wing and presumably died as a result of hitting the vessel superstructure. Four Southern Elephant seals and three Crabeater seals have also died as a result of becoming entangled in the backbone of or hooked by the fishing line.

Members further noted that in the MITF in the 2016/17 season 998,128 hooks have been set with no wildlife interactions with fishing gear that resulted in a death. One bird hit the vessel superstructure and it most likely died from its injuries.

There has been a significant decrease in the amount of gear lost in the HIMI and increase in the amount of gear recovered. The MITF has lost a similar amount of gear so far in this season compared to last season.

Industry members requested that they be allowed to retrieve lost gear outside of the longline season this year noting that the Sea Shepherd Conservation Society can under the Antarctic



Marine Living Resources Conservation Act. AFMA explained that it would be considered fishing under the definition of fishing in the *Fisheries Management Act 1991*. There is also concern that it would be contrary to CCAMLR Conservation measures. SARAG agreed that AFMA and AAD would consider the request and report back to industry (**Action arising 13**).

Other

Agenda item 25 – Other business

25a. Govdex

SARAG noted that AFMA was using a new secure online collaboration site that will allow members to view and download historic and upcoming meeting papers, committee related forms and policies and provide comments on meeting agendas and minutes.

SARAG noted that members should have received an invite to Govdex SARAG page on 22 August 2016 and that all SARAG 54 papers were available on the site. If members had not received the invitation or had experienced any issue the Executive Officer suggested that members contact AFMA as soon as possible.

Members noted that on 28 September 2016, an overview and training will be delivered at the scheduled MAC and RAG workshop in Canberra. A comprehensive Govdex User Guide is at attachment B.

25b. Marine Mammal By-catch Criteria for US imports

SARAG noted that there were changes to United States import requirements for fisheries that interact with marine mammals. By 1 January 2017 nations exporting fish and fish products to the United States will be held to the same standards as U.S. commercial fishing operations. Members noted that Australia had been granted a 5 year exemption before the rule will be enforced. SARAG discussed that the Antarctic fisheries meet most of the requirements apart from potential biological removals (PBRs). Members noted that AFMA is currently seeking clarification on the import requirements.

SARAG noted that Industry, AFMA and relevant government departments will work closely together to ensure all requirements are met before the 5 year exemption expires. Members further noted that AFMA will be engaging with the Commonwealth Fisheries Association and will also keep SARAG informed.

Members noted that the U.S National Oceanic and Atmospheric Administration would be hosting a webinar on 22 September 2016 to provide information on new import restriction based on marine mammal interactions.

25c. Climate change workshop

SARAG acknowledged that research indicates that the impacts of climate change is a growing issue, in particular within the Antarctic region and noted that AFMA is planning a workshop on fisheries management responses to climate change, expected to be held in late 2016 or early



2017. Members further noted that CCAMLR has established an Intersessional Correspondence Group to consider approaches for better integrating climate change impacts into the work of CCAMLR.

SARAG discussed holding an Australian Antarctic fisheries climate change workshop in conjunction with the Australian/France Symposium in May/June 2017. The focus of the climate change component of the workshop would not be science to date, but rather what do we need to do, if anything, with available science, and identifying knowledge gaps.

Agenda item 26 – Next meeting

SARAG agreed that the next face-to-face meeting would be held on Tuesday 16 May 2017 followed by SouthMAC on Wednesday 17 May 2017.

The meeting closed at 12.30 pm on Thursday 8 September 2016.

