

Sub-Antarctic Resource Assessment Group Meeting 23
25 May 2005
Hobart Function and Conference Centre

MINUTES

Attendance

Members

Dr Malcolm Haddon – Chair
Mr Peter Neave – AFMA (also Executive Officer)
Mr Martin Exel, Industry
Mr Les Scott, Industry
Mr Stuart Richey, Industry
Dr Geoff Tuck, CSIRO
Dr Andrew Constable, AAD
Dr Graham Robertson, AAD
Ms Dana Hanna, ABARE
Dr Rosemary Gales, DPIWE

Apologies

Mr Barry Baker, AAD
Dr Nick Gales, AAD
Mr Stuart Richey, Industry

Observers

Mr Andrew McNee, AFMA
Ms Nicole Flint, AFMA
Dr Fred Pribac, CSIRO

Introduction

Agenda item 1 - Preliminaries

The 23rd meeting of the Sub-Antarctic Resource Assessment Group (SARAG 23) was opened by the Chair Dr Malcolm Haddon at 10.10 am. Members noted the Group's name had changed from SAFAG (Sub-Antarctic Fisheries Assessment Group) to SARAG to reflect AFMA policy.

1.1 Apologies

Apologies were received from Dr Nick Gales. Mr Stuart Richey and Mr Barry Baker. Dr Graham Robertson and Dr Rosemary Gales attended the meeting from 12.15 pm.

SARAG discussed the attendance of Members and agreed it was desirable for Members to attend for the entire meeting. It was recognised that there were a range of issues for discussion and it was important that the views of all Members were obtained on all issues, not just on a specific area of expertise. A possible exception to such a rule was raised with reference to Dr Nick Gales whose expertise with marine mammals is only rarely required in the fisheries.

1.2 Adoption of agenda

The agenda for SARAG 23 was adopted, with the order in which agenda items were considered being altered to accommodate Members availability. The items are reported on as they appeared in the agenda.

1.3 Adoption of Minutes from SARAG 22

The draft minutes from SARAG 22 were circulated to Members on 17 January 2005. Comments were received from Dr Tuck and Dr Haddon and incorporated into the Minutes. The Minutes from SARAG 22 were then accepted as a true and accurate record of the meeting.

1.4 Action arising from SARAG 22

SARAG discussed the status of action arising items from SARAG 22. Items are reported on as they appeared in the SARAG 22 Minutes. Mr Neave reported that an update of actioned items had been provided to Members on 1 February 2005.

Dr Constable advised that the following action arising items would be progressed by the research scientist who will be employed to replace Dr Campbell Davies at AAD.

- determine the number of otolith samples required to be collected in each fishery
- provide a summary of tagging activity at HIMI and in the CCAMLR region
- amend the *Catch histories and fishing vulnerabilities (selectivities) for Patagonian Toothfish, D. eleginoides, in Division 58.5.2 from 1995/96-2003/04* in the stock assessment paper to separate out the TACs and illegal catch of toothfish for all years from 1995/96 to present and that the different methodologies used to estimate these IUU figures be reflected.

Mr Neave advised that AFMA held copies of logbooks ceased from illegal vessels operating in Australian waters. Messrs Exel and Scott are seeking access to the data. Mr Neave undertook to investigate whether there were any impediments to releasing the data.

Action arising

All other action arising items from SARAG 22 were discussed under specific agenda items and reported under those items.

1.5 Correspondence

SARAG noted that no correspondence had been received since the last meeting.

Management update

Agenda item 2 – Report from SouthMAC 21

Mr Neave provided SARAG with an outline of the outcomes of SouthMAC 21 which was held on 18 November 2004. He advised that SouthMAC had endorsed the toothfish and icefish TACs for the HIMI Fishery, and that the TACs had been determined by the AFMA prior to the start of the season.

Mr Neave advised that the AFMA Board would be considering proposed changes to the HIMI Fishery Management Plan following receipt of the 'Effects of longlining' report being prepared by AFMA.

Macquarie Island

Agenda item 3 – Toothfish assessment and TAC setting

Dr Tuck presented his paper entitled 'Abundance estimation and TAC setting for Patagonian toothfish (*Dissostichus eleginoides*) at Macquarie Island: 2005' (SARAG.23/1) The paper presents summary results from an assessment of the harvested population of Patagonian toothfish at Macquarie Island to 2005.

The assessment of Macquarie Island toothfish is based on data from a tag-recapture experiment initiated during the 1995/96 fishing season. The tag-recapture assessments use population

models that include the dynamics of tagged and untagged fish, daily releases and recaptures of tags, commercial catches, natural mortality, and estimates the annual net population increase to assess the populations of the main fishing regions: the Aurora Trough and the area outside the Aurora Trough.

A decision rule has been developed for the Fishery based on the estimated available biomass. The current decision rule is:

If the estimated biomass available to the fishery is greater than 66.5% of estimated pre-fishing levels then allocate 10% to a commercial fishery. If available biomass levels are below 66.5% of estimated pre-fishing levels then allocate a research TAC of 60 tonnes.

Aurora Trough

During March 2005, the sole operator in the Fishery caught the research TAC of 60 tonnes which was set for the 2004/05 season for the Aurora Trough. The data from the trip was used to update the stock assessment for 2005/06. SARAG noted that the 60 tonnes had been taken in 4 days, 547 fish had been tagged and that 47 tagged fish (including 16 of the 547 tagged) had been recaptured.

Dr Constable advised that a spatial analysis over time of the Aurora Trough would be worthwhile to provide a test of whether the assumptions of how the stock and stock assessment operates are correct. There was the possibility of a transient population moving in and out of the Trough with a movement of fish along the Macquarie Ridge. He advised that fish of a similar size taken at HIMI were mobile.

Based on the March 2005 survey results the Aurora Trough stock was considered to be above the minimum threshold of biomass that has been set to permit fishing. The estimated available biomass was 2551 tonnes and using the precautionary approach of harvesting 10% of the estimated available biomass adopted in previous years this would equate to an annual TAC of 255 tonnes.

<p>Recommendation: SARAG recommended that the TAC of 255 tonnes be adopted for the Aurora Trough.</p>
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Area outside the Aurora Trough

The area outside the Aurora Trough has not experienced a significant catch since 1997. Less than one tonne of toothfish had been taken on 2004/05. As only one tagged fish was recaptured in the 2004/05 season, so a valid update of the stock's abundance was not possible with the tag-recapture model. This was attributed to the transient part of the toothfish population not being present in the Fishery.

The TAC represents a constant annual yield of 10% of the initial (unfished) available biomass of the resident stock. This estimate has been reduced annually to take account of removals by the fishery in the presence of natural mortality and no recruitment.

<p>Recommendation: SARAG recommended that the toothfish TAC for the area outside the Aurora Trough for the 2005/06 season be set at 125 tonnes. To allow the transient stock to be fished, if it becomes available, SARAG recommended that a revised TAC of 319 tonnes be triggered if catch rates reach a threshold of an average catch rate of 10 tonnes per km² over three consecutive fishing days. If catch rates fall below this rate the TAC would revert back to 125 tonnes, or if more than 125 tonnes had been taken the Fishery would be closed.</p>

The higher TAC of 319 tonnes is based on a conservative TAC for the combined transient and resident stocks set at 10% of the lower 95% confidence interval of the abundance estimated to be initially present in 1996.

It was noted that the ‘trigger’ mechanism for the area outside the Aurora Trough only applied to trawl fishing and should other fishing methods be used in future the TAC setting process would need to be revisited.

Mr Exel questioned why the ‘trigger’ TAC kept reducing relative to the actual TAC. SARAG agreed to consider this issue in future.

Action arising

Dr Tuck presented two additional papers:

- An application of an integrated assessment to Patagonian toothfish (*Dissostichus eleginoides*) in the Aurora Trough region of Macquarie Island: Discussion paper and preliminary results (SARAG 23/2); and
- A simulation approach to the evaluation of management strategies for Patagonian toothfish (*Dissostichus eleginoides*) of Macquarie Island: Discussion paper and preliminary results (SARAG 23/3).

SARAG 23/2 updated the application of an integrated assessment to the Aurora Trough stock carried out in 2004 using data collected up to March 2005. The assessment is based on an age-structured model of fish population dynamics and uses a maximum likelihood framework to fit to tag-recapture data and catch length-frequencies. The model estimates virgin year-class strength and annual recruitment residuals relative to an estimate of average recruitment (providing estimates of annual cohort strength).

SARAG agreed that the new model will be developed and peer reviewed over the next year. Dr Haddon advised the new model was an improvement on the existing model. Dr Tuck, Dr Haddon and Dr Constable agreed to undertake this work, with an aim of using the new model as the basis for setting future TACs if its performance matched the promise it was showing.

Action arising

SARAG 23/3 updated the initial application of the management strategy evaluation (MSE) to the toothfish population using data collected up to March 2005. Many of the uncertainties about the dynamics of the population are incorporated into the simulation framework, and management strategies that are robust across these uncertainties are explored. The components of a management strategy are the sampling program, the assessment and a decision rule that translates the data from the sampling program and information from the assessment into a TAC.

SARAG agreed Dr Tuck, Dr Haddon, Dr Constable and Dr Pribac would further investigate the SARAG 23/3 paper and report back to SARAG at the same time the integrated model was to be discussed. Mr Exel requested he be involved in the discussion on the parameters used.

Action arising

Agenda item 4 – Issues for the Management Plan

SARAG discussed the development and latest draft of the Macquarie Island Toothfish Fishery Management Plan. The draft, prepared by the Office of Legislative drafting, included allocation provisions to reflect the AFMA Board’s agreement to allocate the 50% of SFRs which will not be granted to the current operator through a competitive tender process.

The number of boats which may operate in the Macquarie Island Toothfish Fishery under the Management Plan was a key outstanding issue. It was agreed that a key desired outcome was to protect the high environmental values of Macquarie Island and its surrounds. It was

recognised that the stringent environmental requirements on fishing authorisations and the standard of operations on fishing vessels were fundamental to this issue, particularly given that the fishing rights would be tradeable.

Dr Gales raised concerns about the potential impacts on bird and stated that the foraging grounds for seabirds and seals were outside the grounds of the Marine Park. She advised that if trigger mechanisms on a per vessel basis was to be contemplated then the vessel number in that circumstance would be a major issue.

Mr McNee advised that a range of tools could be used in managing the Fishery including spatial and temporal measures. He advised it was difficult to quantify an actual number and that this may change over time but was of the view that the Management Plan needed to include a mechanism to determine the number of boats.

Mr Neave advised that the draft Management Plan was based on the HIMI Fishery Management Plan, and it was envisaged the strict environmental standards that applied at HIMI would be mirrored in the Macquarie Island Toothfish Fishery Management Plan.

Mr Neave advised that AFMA propose to develop, consult and have the Management Plan determined by 1 December 2005 to meet the Strategic Assessment requirements and for continuity of approval to export product from the Fishery. The aim, also, is to have Statutory Fishing Rights (SFRs) granted in the Fishery by the end of the 2005/06 season on 30 June 2006.

Agenda item 5 – Strategic Assessment Report for Macquarie Island

SARAG noted the latest draft of the Strategic Assessment Report for the ‘Macquarie Island Toothfish Fishery’ which had been prepared by AFMA. Members were requested to provide any comments to AFMA by 3 June 2005.

Action arising

SARAG noted that AFMA proposed to finalise the draft and seek approval from AFMA’s Environment Committee to release the report for public comment. The aim is to finalise the Strategic Assessment reports by 1 December 2005 to continue to enable product from the fisheries to be exported. The Macquarie Island report will be released for public comment at the same time as the draft Macquarie Island Toothfish Fishery Management Plan.

Heard Island and McDonald Islands Fishery

Agenda item 6 – Amendments to the HIMI Fishery Management Plan

Ms Flint from AFMA discussed her commercial-in-confidence report on the ‘Effects of longlining’ to SARAG. SouthMAC noted the report was confidential to SARAG, SouthMAC, AFMA and DEH as it contained commercially sensitive information on catch and location taken during the longline trial. A generic report will be prepared for public release.

The preparation of the report is the first step in considering whether longlining should become a prescribed method under the *Heard Island and McDonald Islands Fishery Management Plan 2002*.

SARAG noted that no seabirds had been killed during the longline trial and that the mitigation measures adopted, which included no offal discharge and the use of integrated weight lines, had worked extremely well.

Ms Flint advised that the report discusses the bycatch mitigation measures used, the results of the trial longline operations carried out by fishing vessel *Janas* in 2002/03 and 2003/04, and the impacts of longlining on target and non-target species.

Uncertainty about the impacts of longlining on the benthos and potential impacts on some bycatch species, particularly skates and rays, were raised as issues of concern that require further consideration.

Dr Constable stated the benthic impacts from longlining had not been investigated and this was the case with other demersal longline fisheries worldwide. The types of habitats, particularly in deeper waters (>1000 metres) was an issue requiring some work. It was agreed to include a program of research and observation in the future work program for the HIMI fishery.

Action arising

Mr Scott advised that the longline operations had all occurred in deeper waters, and that longlines had been set in waters deeper than 550 metres. He pointed out that in Prydz Bay CCAMLR had imposed benthic protection measures by not allowing longline operations in waters shallower than 550 metres.

Mr Scott advised that the area set aside in the HIMI Marine Reserve had ground suitable for longlining. He advised that longlining was limited by season and subject to a range of mitigation measures including the use of integrated weight lines. Dr Robertson stated that information from the use of integrated weight lines in longline trial was used to build a case to amend Conservation Measures (to allow day setting) at CCAMLR.

SARAG noted that observers had been tasked with monitoring the life status of skates and rays. Live skates are being released and in some cases tagged. These are not counted against the catch limit set for the HIMI Fishery. It was also noted that if the catch limit of 120 tonnes for skates and rays was reached the Fishery would close for the remainder of the season. SARAG noted that, if a greater proportion of the TAC was to be taken by longlining, there was a high likelihood of the skates and rays bycatch limit being reached.

SARAG noted the need for further consideration of measures to reduce such bycatch and reiterated its previous recommendation that the stock assessment for skates and rays planned for this year proceed as a high priority.

Recommendation: SARAG recommended that the Board adopt the report (with some suggested changes as a result of SARAG discussions) and seek the necessary approval from the Minister for the Environment and Heritage to allow longlining to become a prescribed fishing method under the *Heard Island and McDonald Islands Fishery Management Plan 2002*.

The report will be provided to the AFMA Board at its August 2005 meeting.

Action arising

SARAG considered a commercial-in-confidence proposal from industry Member Martin Exel for his Company, Austral Fisheries Pty Ltd, to trial trap fishing in the HIMI Fishery in 2005/06. SARAG endorsed the proposal and agreed that the trial should operate under a Scientific Permit, similar to the arrangements used to trial longline fishing in the HIMI Fishery.

A formal proposal will be prepared by the Company and approval sought from the Board. It was noted that it would be necessary to give CCAMLR three months advance notice of this proposal.

Action arising

A report similar to that prepared following the longline fishing trial in the HIMI Fishery would be prepared at the conclusion of the trapping trial.

SARAG noted a range of proposed amendments to the HIMI Fishery Management Plan or associated legislation. The proposed amendments seek to:

- make longlining a prescribed fishing method;
- amend the overcatch provisions to bring it into line with the proposed procedure in the Macquarie Island Toothfish Fishery Management Plan;
- allow for transshipping at sea;
- specify the total number of SFRs; and
- amend the date for finalising the Fisheries Assessment Plan.

Agenda item 7 - Bycatch management arrangements

SARAG discussed the proposed assessment for skates and rays in the HIMI Fishery. Dr Constable advised that the use of data from the random stratified trawl survey and the longline transects from this season could be used to update the assessment. Dr Constable undertook to assemble the available data and provide Members with an update of the situation.

Action arising

Mr Scott undertook to provide AAD with any available data and could provide details of depth, weight, species and number by area from each small scale research unit (SSRU). He reported that from the longline fishing so far this season that skates seem to be more uniformly distributed with skates being taken from the 3 SSRUs fished to date. Live skates are being released and in some cases tagged. These are not counted against the catch limit set for the Fishery.

Mr Exel advised that the potential catch of skates and rays was the biggest impediment for his Company seeking to bring in a longliner to operate in the HIMI Fishery.

Agenda item 8 – Toothfish shared stock issues

Dr Constable updated Members on developments to investigate whether the HIMI toothfish stocks are shared with adjacent areas. He advised progress was expected now the scientific annex of the Australian/French Cooperation Treaty had been signed.

Agenda item 9 – Summary of tagging activities

Dr Constable advised that two returns from distant water areas had been received since the last meeting. A tagging summary would be provided by Dr Davies replacement at AAD.

Agenda item 10 – HIMI Marine Reserve Management Plan

Dr Constable advised that a stakeholder group had met at AAD on 24 May 2005 to discuss the conservation values and fishing potential of the Conservation Zones. He advised that a report from the meeting, including a research plan, will be prepared and circulated to Members of SouthMAC, SARAG and other stakeholders.

Dr Constable also advised that AAD would be seeking to extend the period of time required to assess the value of the Conservation Zones, and expected a discussion paper would be considered by SARAG around this time next year.

Action arising

Environmental issues

Agenda item 11 – Review of environmental interactions and gear loss

SARAG considered the tables provided by AFMA on seabird interactions, mammal interactions and gear loss. Mr Neave advised that the seabird and mammal interaction data is now in the format discussed at SAFAG 17 and includes fish species targeted, fishing method, depth and shot/trawl number by season. This format was not able to be matched with some of the early historical data. All future interactions will be reported in this format.

Dr Robertson requested that AFMA provide AAD with the seabird abundance data collected by observers. Mr Neave undertook to follow up the issue and provide the data.

Action arising

Mr Exel outlined the circumstances which led to 12 seabirds* (7 black-browed albatross and 5 white chinned petrels) being killed in midwater trawl operations in the HIMI icefish fishery this season. He advised all the birds had been taken in daylight hours when using midwater trawl gear. When the trawlers reverted to setting demersal gear during daylight hours no seabird interactions were reported. No seabird interactions have occurred in subsequent trips to the HIMI icefish fishery, where demersal gear has been used during daylight hours.

* The SARAG agenda paper reported 7 seabirds (5 black-browed albatross and 2 white chinned petrels) and this was rectified after the meeting when it was found that one report had been sent to the wrong e-mail address in AFMA and not included in the data.

Dr Robertson advised there were an estimated 600 breeding pairs of black-browed albatross at HIMI and they are listed as endangered.

Dr Gales and Dr Robertson advised there was a need to establish a seabird catch limit for trawlers, as was the case in the HIMI longline fishery. They requested that any limit should include specific numbers for albatrosses and giant petrels. They were also of the view that seabird limits should apply in the Macquarie Island Toothfish Fishery.

SARAG agreed that a sub-group be convened to address the issue. The sub-group would comprise Andrew McNee, Peter Neave, Graham Robertson, Rosemary Gales, Barry Baker, Martin Exel and Les Scott. The sub-group would look at the issues including potential biological removals and develop approaches for dealing with incidents of this nature should they occur in future.

Action arising

Agenda item 12 – Ecological risk assessment

SARAG Members expressed their dissatisfaction with the ecological risk assessment process to date and Members indicated a reluctance to set aside additional time at the November SARAG meeting to attend a workshop. Members stated they would be prepared to provide half

a day to a workshop provided it was incorporated into the scheduled 1½ day meeting, which focussed on CCAMLR outcomes.

SARAG emphasised the need for the CSIRO project team to meet with the relevant AAD staff to progress the report and ensure the most up to date information was being used.

Agenda item 13 – Review of 5 Year Strategic Research Plan

SARAG discussed a draft Antarctic Fisheries 5 Year Strategic Research Plan for 2005/06 to 2009/10. As a result of discussions at SARAG 23 it was agreed that a number of issues, including research in the HIMI Marine Reserve Conservation Zones, benthic impacts of longlining, an assessment of skates and rays and experimental trap fishing needed to be incorporated into the research plan.

Mr Neave undertook to incorporate the suggested changes and circulate a draft Strategic Research Plan to Members for consideration out-of-session.

Action arising

Other

Agenda item 14 – Use of video technology

Mr Scott updated SARAG on the use of video cameras on his Company's longline vessel 'Avro Chieftain'. He advised that a camera had been placed above the 'moonpool' to monitor all hauling activity. Another camera has been mounted to observe the setting operation.

Agenda item 15 - Other business

Mr Exel thanked SARAG Members for their assistance in providing information and comment to the Marine Stewardship Council panel looking at certifying the HIMI mackerel icefish fishery.

Agenda item 16 - Next meeting

The next meeting of SARAG was scheduled for September 2005 and would focus on stock assessments being taken to the annual CCAMLR meeting. The actual date would be set in mid July following the mid-term CCAMLR stock assessment meeting in Japan.

The meeting closed at 6.25pm.