



Australian Government
Australian Fisheries Management Authority



Sub-Antarctic Resource Assessment Group (SARAG)

MINUTES
SARAG 44

8 MARCH 2012

SUB- ANTARCTIC RESOURCE ASSESSMENT GROUP (SARAG)

CHAIR: Dr Malcolm Haddon

Date: 8 March 2012

Venue: CSIRO Marine Laboratories, Hobart

Attendance

Members

Dr Malcolm Haddon – Chair
Dr Dirk Welsford, AAD
Dr Phillipe Ziegler, AAD
Mr Ian Hay, AAD
Ms Sally Wayte, CSIRO
Dr Richard Hillary, CSIRO
Mr Martin Exel, Industry Member
Mr Peter Neave, AFMA

Observers

Dr Heather Patterson, ABARES
Mr Mike Tudman, Australian Longline Pty Ltd

Apologies

Mr Les Scott, Industry Member
Dr Graham Robertson, AAD

Introduction

Agenda item 1 - Preliminaries

The forty-fourth meeting of the Sub-Antarctic Resource Assessment Group (SARAG 44) was opened at 9.20 am on 8 March 2012 by the Chair, Dr Malcolm Haddon.

1.1 Declaration of interests

Mr Exel declared his interest in all agenda items. He advised that his Company owns Statutory Fishing Rights (SFRs) in the Heard Island and McDonald Islands (HIMI) Fishery and the Macquarie Island Toothfish Fishery (MITF). 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. He advised that his Company is being investigated by the Tasmanian State Government in relation to Macquarie Island.

1.2 Apologies

Apologies were received from Mr Les Scott (Industry) and Dr Graham Robertson (AAD).

1.3 Agenda

The agenda was adopted without change. A number of items were discussed under 'Other business' and are reported on under that agenda item.

Agenda item 2 – Adoption of minutes from SARAG 43

SARAG noted that the minutes from SARAG 43, held in a phone discussion on 13 December 2011, had been adopted out-of-session as a true and accurate record of the discussions.



Agenda item 3 - Action arising from SARAG 43

SARAG discussed the status of action arising items from SARAG 43.

Item	Status
<p>Macquarie Island tagging - SARAG recommended that the tagging rates be in the order of 2 tags per tonne of toothfish caught in the Aurora Trough and 3 tags per tonne of toothfish caught in the Macquarie Ridge sector. SARAG requested that CSIRO undertake an analysis to determine the appropriate tagging level for the future.</p>	<p>This was discussed and reported on under agenda item 6</p>
<p>MITF stock assessment - SARAG requested that CSIRO prepare a short document on the stock assessment history for the fishery, which would be of assistance to the new modellers and SARAG.</p>	<p>Ongoing</p>
<p>Engagement with New Zealand - Messrs Scott and Exel advised that one of the actions that is likely to arise from the Marine Stewardship Council (MSC) report on the MITF is the issue of a straddling toothfish stock with New Zealand. Industry is looking to have the Australian Government engage with the New Zealand Government on management arrangements.</p>	<p>Ongoing – AFMA undertook to seek further details of the tagging program and any tag recaptures made in New Zealand waters. Action arising</p>
<p>HIMI Fishery research – Mr Neave advised that consideration within AFMA is being given to whether there is a public good component for the trawl survey project and a decision is expected shortly.</p>	<p>This was discussed and reported on under agenda item 9</p>
<p>HIMI Fishery research - Mr Neave advised that another project, ‘Developing robust assessment methods for spatially complex, multi-jurisdictional toothfish fisheries in the Southern Ocean’, has been prepared by AAD and had been reconsidered for FRDC funding from 2012/13. ComFRAB gave the project a high priority, but raised a number of issues which were being addressed. An update on the status of the project will be provided at the next SARAG meeting.</p>	<p>This was discussed and reported on under agenda item 9</p>
<p>5 year Antarctic Fisheries Research Plan - SARAG noted the draft five-year Antarctic fisheries strategic research plan for 2011 – 2015, noting that it updated the plan from the previous year. Members were requested to provide out-of-session comments to AFMA on the document.</p>	<p>This was discussed and reported on under agenda item 9</p>

Agenda item 4 – Correspondence

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

- a letter dated 23 February 2012 from the AFMA CEO, James Findlay, to all RAG members on travel expenses.



Macquarie Island Toothfish Fishery

Agenda item 5 – Stock Assessment and TAC recommendations

Ms Wayte presented a paper entitled; ‘Stock Assessment of the Macquarie Island fishery for Patagonian Toothfish (*Dissostichus eleginoides*) using data up to and including August 2011’.

Ms Wayte advised that the assessment made use of Stock Synthesis assessment software and fits to data obtained from the tag-recapture program since 1995, to length composition information for the years 1994 – 2011, and to age-at-length data obtained from aged otoliths (1997 – 2010). It is an update of the 2011 assessment. The following information on the base case model structure and assumptions, which remained unchanged from the two area assessment presented in 2011, was considered by SARAG:

1. a single reproductive stock of toothfish, with spatial structuring of the population within the region;
2. a two area spatial model, considering a northern and southern area, with movement of fish between areas, and recruitment to both areas;
3. fitted to data from the entire fishery: 2011/12 catch, length composition and tag recapture data added, as well as a considerable amount of new age data up to 2010;
4. five fleets to account for differing selectivity. Southern area: Aurora Trough trawl, Aurora Trough longline, and southern Macquarie Ridge longline. Northern area: Northern Valleys trawl, and northern Macquarie Ridge longline;
5. logistic selectivity for the Macquarie Ridge fleets, dome-shaped for the others;
6. steepness = 0.75, recruitments estimated from 1985 - 2004;
7. natural mortality, $M=0.13$;
8. growth curve parameters estimated within the model, except female L_{max} fixed at 165 centimetres; and
9. length at 50% maturity fixed at 139 centimetres.

The assessment estimates that 2012/13 spawning stock biomass is 70% of pre-fishery biomass.

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) decision rule, which is also applied to Patagonian Toothfish in the HIMI Fishery, was applied to the MITF. The TAC should be the constant catch such that:

- that the probability that spawning biomass will fall below 20% of the pre-exploitation level over the 35 year projection period must not exceed 0.1; and
- the median escapement for the Fishery of the spawning biomass shall not be less than 50% over a 35 year projection.

SARAG also noted following the recent amendment to the Macquarie Island Toothfish Fishery Management Plan that a single TAC will apply to the whole fishery, rather than separate TACs for the Aurora Trough and Macquarie Ridge sectors, which had applied in previous seasons.



SARAG agreed to slightly modify the base case assessment and requested that CSIRO run the model without the 2005 recruitment estimate (which appears anomalous to the previous years given limited data), in line with the decision rule generate a yield estimate with the spawning biomass at 50% (rather than 51% as in the paper) and have a 60:40 catch split between the southern and northern Macquarie Ridge fleets (rather than 70:30 and 50:50 as in the paper). The other assumptions that future catches would be taken by longlining and the catch from the area of the Aurora Trough be fixed at 150 tonnes remained unchanged.

Note: on 15 March CSIRO provided SARAG with the results from the modified assessment. Applying the CCAMLR harvest control rule and using the fishing strategy assumptions outlined above, the two area model gave a projected catch level of 455 tonnes for the fishery as a whole.

Ms Wayte reported that this projected catch was less than the previous projected catch of 510 tonnes (as presented at the meeting under 70:30 South:North ratio), as the large estimated recruitment in 2005 had been replaced with average recruitment from the stock-recruitment relationship. Removing the large recruitment in 2005 reduced the unexpected 'hump' in the stock biomass predicted to occur in a few years. She advised that it was this flattening of the trajectory which had reduced the projected constant catch. The 2005 recruitment had a very large standard error and was likely a result of the model attempting to fit to sparse data at the end of the time series, and thus it was appropriate that it not be estimated. Stopping the model estimating the 2005 recruitment caused it to estimate a very large recruitment (with large standard error) in 2004. The revised base-case estimated recruitments to 2003 and replaced those for 2004 and 2005 by the average expected recruitment.

SARAG noted in applying the CCAMLR decision rule that there was a 0 probability that the stock would fall below the 20% limit reference point.

SARAG recommended that a TAC of 455 tonnes be adopted for the 2012/13 season, which starts on 15 April 2012. Mr Neave advised that the recommendation would be considered by the Sub-Antarctic Fisheries Management Advisory Committee (SouthMAC) before being considered by the AFMA Commission.

SARAG noted that future work would include an investigation of natural mortality (M) which is currently set at 0.13. Recent analysis by AAD and CCAMLR determined an M value of 0.155 for toothfish in the HIMI Fishery and SARAG recommended that the appropriateness, or otherwise, of this figure be investigated for the MITF.

Action arising

Agenda item 6 – Fishery Assessment Plan

SARAG discussed the Fishery Assessment Plan (FAP) which is a requirement of the *Macquarie Island Toothfish Fishery Management Plan 2006*. The FAP stipulates:

- (1) AFMA must develop and implement a fishery assessment plan to ensure that an adequate program of monitoring takes place in the fishery.
- (2) The fishery assessment plan must provide for:
 - (a) an adequate program of monitoring to ensure that reliable fisheries stock estimates can be for Patagonian toothfish; and
 - (b) adequate monitoring of the direct impact of the fishery on species other than Patagonian toothfish and the ecosystem in the fishery area; and
 - (c) the allocation, before the beginning of each fishing year, of monitoring responsibilities to statutory fishing right holders in proportion to the numbers of statutory fishing rights they are likely to hold at the beginning of that fishing year.



- (3) In developing and implementing a fishery assessment plan, AFMA must:
- (a) consult, and have regard to the views of, SouthMAC, SARAG and the holders of statutory fishing rights; and
 - (b) have regard to the 5-year strategic research plan mentioned in paragraph 6(i).

SARAG recognised the importance for the stock assessment of the toothfish tagging program which began in 1995/96, and that it was the integral component of the FAP. SARAG agreed that tagging toothfish at a rate of 2 tags per tonne caught was appropriate across the fishery as it continued to deploy large numbers of tags while simplifying instructions to observers doing the tagging. It was agreed that the tagging rate and strategy will be reviewed prior to the start of the 2013/14 season.

Action arising

Agenda item 7 – Fishing operations - update

SARAG noted the industry timetable for fishing operations in the MITF and HIMI Fishery for the coming seasons.

Mr Tudman reported that his Company, Australian Longline Pty Ltd, planned to operate the longline vessel 'Janas' in the MITF from 1 May 2012 and the longline vessel 'Antarctic Chieftain' in the HIMI Fishery from around 21 April 2012.

Mr Exel reported that his Company, Austral Fisheries Pty Ltd, was planning to operate the longline vessel 'Austral Leader II' in the HIMI Fishery from mid April 2012. He advised the trawler 'Southern Champion' was currently operating in the HIMI Fishery and it would be undertaking the annual random stratified trawl survey towards the end of the current trip.

Messrs Exel and Tudman raised an issue with the current season start date of 15 April, and sought an alignment with the start date of the longline season, 1 May. The change would provide industry with the opportunity to take any toothfish (by methods other than longlining) that remain uncaught after the longline season.

Mr Tudman advised that this issue became apparent in the current 2011/12 season where approximately 160 tonnes (of the 360 tonnes Macquarie Ridge TAC) of toothfish remained uncaught. He advised his Company was contemplating trialing pot fishing to catch some or all of the 160 tonnes. However, the catch would need to have been taken before the end of the season (15 April) and the vessel 'Janas' would then not be able to start longlining in the 2012/13 season until 1 May, leaving a 2 week gap. He advised that operationally it would be desirable to be able to fish continuously in these circumstances, by non-longline methods prior to the start of the new season and then by longline from 1 May in the new season.

SARAG recognised that this was an issue that should be discussed by SouthMAC. Mr Neave undertook to include it on the agenda when SouthMAC would be discussing the MITF TAC recommendation from SARAG in mid March.

Action arising

Heard Island and McDonald Islands Fishery

Agenda item 8 – Observer coverage and duties

SARAG noted that AFMA had written to AAD requesting a review of the data collection strategies by observers for boats operating in the HIMI Fishery. Mr Neave advised that AFMA is of the view that the HIMI Fishery is well established and a comprehensive data set has been collected by the two observers and researchers aboard each vessel since fishing operations began in the mid 1990s, and that it was timely to review the data collection requirements and strategies used for collecting that data.



AFMA has requested an analysis of each of the data components, the quantum of data being collected and the usefulness, or otherwise, of the data for stock assessment and research purposes.

SARAG noted that in 2001, as part of the original strategic assessment for the HIMI Fishery a 'process for review of observer coverage' was developed which outlined the process for variation of observer coverage. A copy is provided at Attachment A.

Mr Neave advised that AFMA is looking to investigate the feasibility of having one observer on board each vessel and examine the required duties and data that would be best collected during a 12 hour shift each day. It was anticipated that two observers would be required when a vessel is undertaking the annual random stratified trawl survey.

He also advised that the use of electronic monitoring technology offered the prospect of collecting data to complement the data collected by observers. AFMA is pursuing e-monitoring in a number of fisheries and the results of an earlier trial indicate the feasibility of its use in the HIMI Fishery. Wildlife observations and monitoring catch composition are likely uses.

Dr Welsford advised that a detailed articulation of what data is collected, how the data is used and its purpose, domestically and internationally, would be a useful first step in the review process. He advised that the CASAL integrated stock assessment used in the HIMI Fishery was data intensive and required data from several sources.

Dr Welsford also advised that Management Strategy Evaluation tools could be used to determine how much data is needed and the value of that data, but he emphasised that this was a time consuming exercise.

Mr Hay advised that a data stock-take would be useful exercise and there may be opportunities for savings. He noted that the wildlife abundance data collected by observers, which are not mandated by CCAMLR, had been important in getting the longline season extensions through CCAMLR and stopping such collections carried some risk, including for industry. However, it was appropriate to review this and other data collections noting the performance of the fishery in being able to effectively minimise wildlife interactions through a range of mitigation strategies.

Mr Neave undertook to prepare a paper, with input from AAD, on the data that is currently collected, its use and importance, and whether it could be reasonably collected through e-monitoring technologies. SARAG agreed to discuss the issue further at its next meeting.

Action arising

Research

Agenda item 9 – Research issues

SARAG discussed the status of current research projects and possible future research.

SARAG noted that the Commonwealth Fisheries Research Advisory Body (ComFRAB) had supported the following two projects as high priorities for the 2012/13 financial year for funding through the AFMA levy-base:

1. Random Stratified Trawl Survey in the HIMI Fishery (1 December 2012 to 30 November 2015); and
2. Stock assessment and management strategy evaluation for sub-Antarctic fisheries (1 April 2013 to 21 March 2015).



Mr Exel advised that in relation to project 1, industry had decided not to proceed with the project being funded through the AFMA levy base. The decision was taken after AFMA determined a public good component for the project of 10% would be appropriate. He noted that AFMA would be reviewing the public good cost attributions to survey projects and that industry are keen to participate in the review process.

SARAG noted that industry will undertake the survey work independently as a requirement of the Fisheries Assessment Plan, which was how the work was undertaken prior to 2006 (when funding was first incorporated into the levy base).

SARAG noted that another project, 'Developing robust assessment methods for spatially complex, multi-jurisdictional toothfish fisheries in the Southern Ocean', which was put up for Fisheries Research and Development Corporation (FRDC) funding was not supported by the FRDC Board when it met on 13 February 2012. The FRDC Board considered all the ComFRAB applications at the meeting and gave the project a lower priority than the other projects.

SARAG re-iterated its strong support for the Southern Ocean project noting that the project would be a key component of the collaborative work to be undertaken between Australia and France on the future management of the Kerguelen Plateau toothfish stock.

SARAG noted that the project would be a collaboration between Australia and France to develop an assessment model that captures the spatial dynamics of toothfish fisheries on the Kerguelen Plateau. The proposed work would be a new and innovative stock assessment as it would attempt to represent the impact of two different fishing histories, management regimes and data collection strategies on a stock that moves across EEZs and to quantify the relative exploitation rates (illegal fishing and commercial fishing) in the Australian and French EEZs, relative to the distribution of age classes of toothfish across the Plateau.

Dr Welsford reported that the Antarctic Research Advisory Committee, an AAD Committee, had independently reviewed the project proposal and the Committee's advice was that it would address all the knowledge gaps in relation to toothfish on the Kerguelen Plateau.

SARAG supported the Southern Ocean project being re-submitted to FRDC for funding consideration, starting in the 2013/14.

SARAG also considered the draft Antarctic Fisheries Strategic Research Plan 2011 – 2015 which was prepared by AFMA. SARAG agreed that the Kerguelen Plateau research is a key priority for the fishery.

Dr Welsford advised that the report from the spawning dynamics project in the HIMI Fishery which received tactical research funding through FRDC would be released shortly. He advised the project provided very valuable information and that the areas where toothfish spawned were extensive in the HIMI Fishery.

Environment

Agenda item 11 – Review of environmental interactions and gear loss

SARAG noted that one seabird had been killed in the HIMI Fishery as a result of an interaction with the fishing gear in the 2010/11 season.

There was one interaction with a marine mammal in the 2010/11 season in the HIMI trawl fishery where an Antarctic fur seal was released alive after being discovered in net once the net was onboard.



SARAG noted that there had been no wildlife interactions during the 2011/12 season to date. No wildlife interactions occurred in the MITF during the 2011/12 season.

Other

Agenda item 12 – Other business

SARAG discussed a number of 'other business' items.

Mr Exel reported that the Marine Stewardship Council (MSC) was expected on 13 March 2012 to announce that Patagonian Toothfish in the HIMI Fishery will become MSC certified, and product from the fishery will be able to display the MSC 'blue tick' logo. He also advised that MSC had recommended MITF toothfish also receive MSC certification, and that MSC would be releasing their report for a period of public comment on 13 March 2012. He thanked SARAG for their considerable assistance in providing time and resources to assist the MSC certifiers.

SARAG discussed the 'Antarctic Waters Fishery' chapter in the ABARES Fishery Status Reports. Mr Exel queried why the chapter was included as it is not an Australian fishery. Given its status in the report as being overfished and subject to overfishing, he stated it was often confused with the HIMI Fishery and MITF which are subject to Australian management and are not overfished nor subject to overfishing. Dr Patterson advised that Australian operators can technically fish in the Antarctic Waters Fishery subject to CCAMLR approval, along with other CCAMLR members and the fishery was subject to export approval under the *Environment Protection and Biodiversity Conservation Act 1999*. She undertook to look at restructuring the report to better distinguish the Antarctic Waters Fishery chapter from the HIMI Fishery and MITF chapters.

Action arising

Mr Hay advised SARAG that the 'Threat Abatement Plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations' (TAP) was being reviewed and that he would be sending a discussion paper to stakeholders, including industry, shortly.

Mr Hay also reported that AAD were looking at the strategic direction of their research program in relation to seabird mitigation. He advised that AAD were likely to move away from developing mitigation devices and strategies which have proved effective in addressing bycatch issues to more a role in providing policy and management advice. He praised the co-operative and concerted efforts that have been made in Antarctic fisheries in effectively eliminating incidental seabird bycatch in fishing operations.

Mr Neave advised that AFMA, in conjunction with AAD, had prepared the 'Guide to CCAMLR New and Exploratory fisheries'. The guide is prepared each year and sets out the requirements and procedures for the nomination of Australian vessels seeking to operate in New and Exploratory fisheries for toothfish in the high seas areas of CCAMLR for the 2012/13 season (starting 1 December 2012). He advised that expressions of interest were being sought by 26 March 2012.

Agenda item 13 – Next meeting

SARAG agreed that it would be appropriate to combine the annual industry consultations and next SARAG meeting, given the HIMI toothfish stock assessment applies to the current (2011/12) and next (2012/13) seasons. The HIMI icefish stock assessment would be discussed at that time. The meeting was tentatively scheduled for 6 September 2012.

The meeting closed at 2.45 pm.



Process for review of observer coverage

The Plan requires 100% observer coverage of all fishing operations. However, under certain circumstances the observer requirement may be reduced from two to one person. SouthMAC have agreed that the circumstances where such a variation would be considered included a demonstrated record of environmental performance by a skipper and vessel combination and time series data which supported the minimal impact of that fishing method. The Plan requires that these standards be set out in Regulations and that permission to carry one observer only be given if AFMA is satisfied that the holder has operated, and will continue to operate, in an environmentally responsible manner.

The approval process for variation of observer coverage under the Management Plan agreed to by SouthMAC is:

- consideration by SAFAG and SouthMAC of an approved level of environmental interaction before observer coverage would be reduced from two to one person; further consideration of the type and degree of monitoring with an observer coverage of one;
- SAFAG and SouthMAC agree to level of environmental and Fishery observer coverage that satisfies statistical requirements;
- environmental operating standards for going to one observer specified in Regulations made for this purpose.
- operation by boat and skipper combination over a defined period which demonstrated, through verified catch information, that the vessel and skipper combination can operate within the approved level of environmental interaction; this would be analogous to an accreditation process;
- accreditation of boat and skipper combination in the HIMI Fishery to carry only one observer by the AFMA Board following advice from SouthMAC and SAFAG;
- requirement to carry two observers will be waived by AFMA, but AFMA will retain the right to increase the number of observers to two if there is the need for research (eg Random Stratified Trawl Surveys) or international exploration etc.
- real time review by AFMA, AAD, SAFAG and SouthMAC of the degree of wildlife interaction and environmental impact by the boat and skipper through interaction reports, logbook data and observer reports;
- if environmental performance dropped below the threshold level stipulated by SAFAG and SouthMAC the permission to carry only one observer would be revoked.

