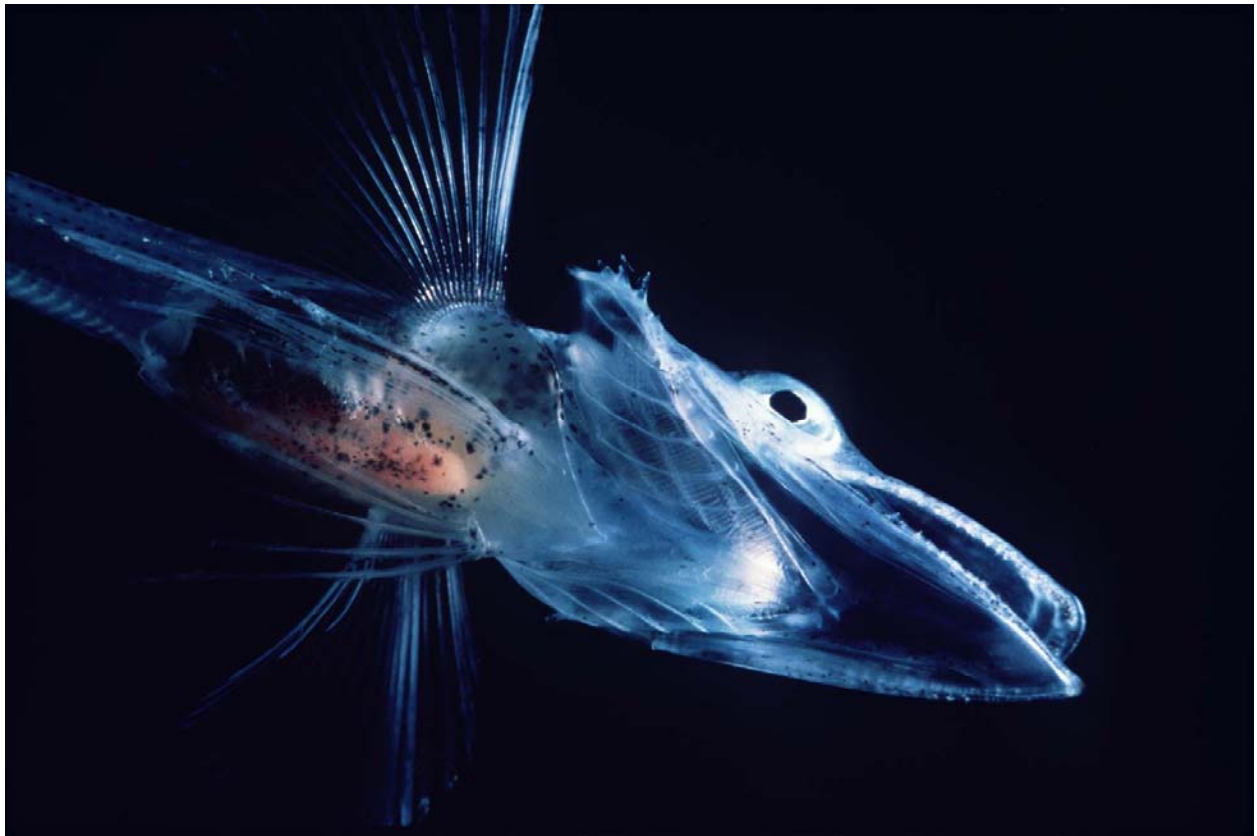


THE AUSTRALIA MACKEREL ICEFISH FISHERY

Heard and McDonald Islands
2009 MSC Surveillance Visit Report

Certificate Number: **SCS-MFCP-F-0016**



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General Information

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Preface

All facts in this report were provided to SCS by Austral Fisheries Pty. Ltd. However, the interpretation, opinions, and assertions made in this report as to the compliance of the fishery with MSC requirements are the sole responsibility of Scientific Certification Systems, Inc.

General background about the fishery

The Heard and Macdonald Island Mackerel Icefish Fishery is a small fishery in Australian Antarctic waters, the subantarctic region around Heard and Macdonald Islands, comprising only 120 km². The fishery uses both midwater and benthic trawling. Trawl nets are limited to a minimum mesh size of 90 mm when targeting mackerel icefish to enable juvenile fish to escape the net. The minimum size for legal fish is 24 centimeters.

The HIMI Mackerel Icefish Fishery is located in waters that are not only in the Australian EEZ, but also fall under the jurisdiction of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). The fishery is therefore managed by Australian Fisheries Management Authority in accordance with the Fisheries Management Act of 1991 and in accordance with the requirements of other domestic legislation, in particular the Environment Protection and Biodiversity Act 1999, in conjunction with the requirements of CCAMLR (Antarctic Marine Living Resources Conservation Act 1981).

Antarctic Marine Living Resources Conservation Act 1981 applies where there is a need to do research sampling work. All aspects of the fishery management system including the research, surveys, stock assessments, harvest strategies, and management controls are controlled by these two organizations.

Scientists of the Australian Antarctic Division (AAD) undertake stock assessments each year as part of their core work. Upon completion of assessments, findings are subject to independent peer review and review by Sub Antarctic Fisheries Assessment Group (SAFAG).

The Australian delegation to CCAMLR then submits assessments to the CCAMLR WG-FSA (CCAMLR Working Group on Fish Stock Assessment), where they are open to international scrutiny and discussion.

WG-FSA then recommends to the Commission, via the CCAMLR Scientific Committee, TACs (Total Allowable Catch) for Statistical Division 58.5.2. Once approved by CCAMLR, TACs and other measures are then set out in Conservation Measures for the coming season.

CCAMLR agreed TACs are further considered by SouthMAC (Sub-Antarctic Fisheries Management Advisory Committee). The AFMA (Australian Fisheries Management Authority) Board then formally endorses the TAC (at or below the TAC set by CCAMLR) before the fishing season commences on 1 December.

Assessment process

General context

The HIMI Mackerel Icefish fishery was originally certified on 31 March 2006 by Scientific Certification Systems, Inc. The requirements of the Marine Stewardship Council (MSC) are that each certified fishery must undergo at a minimum an annual surveillance to ensure the basis of certification is still in place and that the fishery is meeting any conditional requirements from the original certification.

An announcement of the surveillance site visit was published on the MSC website on 26th March 2009 and opportunity was provided to stakeholders to meet with or submit information on the fishery to the assessment team. No stakeholder representation or comments were received.

Methodology

The surveillance audit was carried out in accordance with the Marine Stewardship Council (MSC) Fisheries Certification Methodology (FCM) Version 6. Should a fishery fail the surveillance audit, and cannot address identified deficiencies in a reasonable period of time, then the use of the certificate and the MSC logo can be revoked by the certifier.

The issues for the certifier are whether the fishery has sufficiently acted on the required conditions set forth in the original certification report, and whether a random check on the performance of the fishery verifies continued compliance with the MSC standards.

The annual surveillance audit process is comprised of four general parts:

1. The certification body provides questions around areas of inquiry to determine if the fishery is maintaining the level of management observed during the original certification. In addition, the surveillance team requires that the client provide evidence that the fishery management system has taken the necessary actions to meet all conditions placed on the fishery during the initial certification assessment or any previous surveillance audits.
2. The surveillance/assessment team meets with the client fishery to allow the client to present the information gathered in answer to the questions asked by the surveillance team. The surveillance team can then ask questions about the information provided to ensure its full understanding of how well the fishery management system is functioning and if the fishery management system is continuing to meet the MSC standards.
3. The surveillance team presents its findings to the client fishery at the end of the site visit. The results outline the assessment team's understanding of the information presented and its conclusion regarding the fishery management system's continued compliance with MSC standards. Where indicated, the surveillance team may provide the client fishery with additional time to supplement the information provided if the surveillance team finds that there are still issues requiring clarification.
4. Where appropriate, the client fishery submits final information to the surveillance/assessment team for consideration in the surveillance findings and report. The surveillance team then reviews the final information and submits a final report to the

client fishery and the MSC for posting on the MSC website. If there are continued compliance concerns, these are presented as non-conformances that require further action and audits as specified in the surveillance report.

Surveillance Meeting

The surveillance audit for 2009 comprised:

1. An exchange of information indicating to the client the areas of inquiry by SCS for the surveillance audit. SCS provided a list of questions to the client.
2. Several meetings were scheduled between the 24th and 26th of March 2009 in Hobart, Tasmania, Australia. Meetings involved Mr. Martin Exel from Austral Fisheries Pty. Ltd, Les Scott from Petuna Sealord, Dr Dirk Welsford and Mr. Ian Hay from the Australian Antarctic Division (AAD), Mr. Peter Neave from Australian Fisheries Management Authority (AFMA), Dr Katrina Phillips from the Bureau of Resource Sciences (BRS), Dr Geoff Tuck, Dr Gavin Fay and Dr Malcolm Haddon from the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Dr Haddon is also the Chairman of SubAntarctic Research Assessment Group (SARAG). The discussions focused on the ongoing activities associated with the “Conditions” placed on the fishery.
3. Necessary documents were sent by the client to SCS prior and after the meeting in March 2009.

Results

General discussion

This is the 3rd Annual Surveillance Report (2009) prepared by SCS to meet the requirements of the MSC for annual audits of certified fisheries.

It is SCS’s view that Australia’s Heard and McDonald Island (HIMI) fishery for Mackerel Icefish continues to meet the standards of the MSC to comply with the ‘Requirements for Continued Certification’. SCS recommends the continued use of the MSC certificate through to the next annual surveillance audit with no additional corrective action requests other than those from the original assessment.

The section below provides the general information about the status of the stock and the ecosystem impacts from fishing for this reporting period.

Following in tabulated format the original assessment scoring guideposts and scoring commentary are provided for each condition. The score and requirements for each original condition are sets out below. The conditions identify the areas in which the fishery was determined to perform below the level required by the MSC standard during the initial assessment. The Action Plan produced by the client, outlining the stages involved in addressing the conditions raised, follows below for each original condition.

According to the terms of the Action Plan, the client has provided the following information on the work undertaken since the last Surveillance Audit in 2008:

- Cruise Report for the Trawler Southern Champion (Cruise #50; 19 May – 08 August 2008; Heard and MacDonal Island – Area 58.5.2), AFMA, Canberra, Australia 2008.
- Agenda for the meeting of the project advisory committee on Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: an assessment of the vulnerability of benthic habitats to damage by demersal gears.
- Welsford, D.C. (2008a): Preliminary assessment of Mackerel Icefish, *Champscephalus gunnari*, in the vicinity of Heard Island and McDonald Island (Division 38.5.2), based on a survey in July 2008, using the Generalized Yield Model. Australian Antarctic Division, Kingston, Tasmania, Australia
- Manuscript: Kock K.-H., Agnew D.J., Barrera-Oro E., Belchier M., Collins M.A., Hanchet S., Pshenichnov L., Shust K.V., Welsford D., Williams R. (2008): The role of fish as predators of krill (*Euphausia superba*) and other pelagic resources in the Southern Ocean.
- Nowara G., Welsford D. (2009): Update of commercial fishing activity and catches in 2008 from the Heard Island and Mc Donald Island Conservation Zone. Australian Antarctic Division, Kingston, Tasmania, Australia
- Hibberd T., Moore K., Doust S., Welsford D. (2008): Scientific assessment of the conservation values of benthic fauna in the Conservation Zone of the Heard Island and McDonald Islands Region. Australian Antarctic Division, Kingston, Tasmania, Australia

This progress has been evaluated by SCS in terms of the intent of the original condition and the original scoring indicator, guideposts and commentary as well as the commitments made in the Action Plan.

When the Condition has been judged to have been met, a re-evaluation of the scoring allocated to the relevant Performance Indicator(s) in the original MSC assessment will be included within the recertification report.

Summary of Conditions/Non-Conformances

| Condition | Indicator | Status of Condition/Non-Conformance |
|-----------|-----------|-------------------------------------|
| 1.1 | 1.1.1.3 | Open – On Target |
| 1.2 | 1.1.2.8 | Open – On Target |
| 1.3 | 1.1.3.1 | Open – On Target |
| 1.4 | 1.1.3.2 | Open – On Target |
| 1.5 | 1.1.4.2 | Open – On Target |
| 1.6 | 1.1.5.1 | Open – On Target |
| 1.7 | 1.1.5.2 | Open – On Target |
| 1.8 | 1.1.6.1 | Open – On Target |
| 1.9 | 1.2.1 | Open – On Target |

| | | |
|------|---------|--|
| 1.10 | 1.3.2 | Open – On Target |
| 2.1 | 2.1.3.1 | Open – generally on target (ERA behind target) |
| 2.2 | 2.1.3.1 | Open – generally on target (ERA behind target) |
| 2.3 | 2.2.2.3 | Open – On Target |
| 2.4 | 2.1.5.1 | Open – On Target |
| 2.5 | 2.2.1.2 | Open – On Target |
| 2.6 | 2.2.3.1 | Open – On Target |
| 3.1 | 3.2.1.4 | Open – On Target |
| 3.2 | 3.2.1.7 | Open – On Target |

Stock Status

The monitoring and assessment to determine the status of the stock are still being conducted consistent to what was provided to the assessment team in the original assessment and the status of the stock was still consistent with pre-determined reference points.

The indicators in the original assessment that cover monitoring were 1.1.2.1, and 1.1.2.2, 1.1.2.3, 1.1.2.4, 1.1.2.6, 1.1.2.8, and 1.3.1. The performance indicators associated with understanding the status of the stock were 1.1.3.1, 1.1.3.2, 1.1.4.1, 1.1.4.2, 1.1.5.1, and 1.1.5.2. The performance indicator associated with assessing the harvest strategy was 1.1.6.1 (see below).

The catch limit for mackerel icefish in Division 58.5.2 was reassessed, and a TAC of 102 tonnes was agreed for recommendation for the 2008/09 fishing season (Table 1). In their 2007 report the Scientific Committee noted a large 1+ year class in the survey undertaken in June - July 2007 (Nowara and Lamb, 2007). There was no evidence of any substantial 1+ recruitment with very low densities of fish below 20cm during the surveys undertaken in July 2008 and a lower estimated icefish biomass during the 2008 survey (661 tonnes compared to 1617 t in 2007 (Welsford, 2008a). However the population and the fishery are now dominated by the fully recruited 2+ cohort, anticipating a large catch during the next season. Sub-Antarctic Resource Assessment Group (SARAG) noted exceptional poor weather and strong tides, which may have been a contributing factor to the low biomass estimates (Minutes of meeting #33, SARAG 2008).

Table 1: Total allowable catch (TAC) for Hear and MacDonal Island 2007/2008 and 2008/2009.

| Target species | 2008/2009 TAC (tonnes) | 2007/2008 TAC (tonnes) |
|-------------------------|---------------------------|---------------------------|
| Patagonian toothfish | 2,500 | 2,500 |
| Mackerel icefish | 102 | 220 |
| By-catch species | | |
| Skates and Rays | 120 | 120 |
| <i>Macrourus</i> spp. | 360 | 360 |

| | | |
|--------------------|-----|-----|
| Unicorn icefish | 150 | 150 |
| Grey rockcod | 80 | 80 |
| Each other species | 50 | 50 |

Data obtained from the Australian Fisheries Management Authority website <http://www.afma.gov.au/>

The approach used to set TACs for Mackerel Icefish satisfies the agreed decision rules keeping the biomass of the stock greater than or equal to 75% of that which would have been present in the absence of fishing.

Based on the evidence presented, SCS is satisfied that the same level of work, or greater, is still occurring with regard to understanding the status of the stock and setting appropriate harvest limits.

Ecosystem Impacts from Fishing

The fishery management system is still functioning to keep ecosystem based impacts from fishing at acceptable levels.

The indicators in the original assessment that cover ecosystem impacts were 2.1.1.1, 2.1.1.2, 2.1.2.1, 2.1.2.2, 2.1.3.1, 2.1.3.2, 2.1.3.3, 2.1.5.1, 2.1.5.2, 2.1.5.3, 2.2.1.1, 2.2.1.2, 2.2.2.1, 2.2.3.1, 2.2.5.1, and 2.2.5.2 (see below).

Based on the evidence presented, SCS is satisfied that the same level of work, or greater, is still occurring with regard to understanding and managing for acceptable levels of impact in the Australian Mackerel Icefish fishery.

Ecological Risk Assessments were undertaken for the HIMI fishery and a draft report was finalized. SARAG considered the level 2 ERA results and the preliminary residual risk assessment for each sub-fishery. A rapid level three residual risk assessment is scheduled to be completed for the sub Antarctic fisheries by CSIRO (SARAG meeting #34, SARAG 2008). SouthMAC will consider the results in deliberations about ecological risk management requirements. The final reports have not been received yet but are anticipated for the review in 2010. The client advised SCS that the ERA is behind target because of the decision made by the management authority (AFMA) to develop an Ecological Risk Management (ERM) before the ERA can be completed.

Seal and Seabird Interactions

One seabird interaction was observed during the trawls, a Cape petrel was seen to collide with the trawl warp and appeared uninjured. There were no other negative wildlife interactions observed (Southern Champion Cruise Report, Cruise #50, AFMA 2008).

Bycatch

Bycatch limits are still in effect in the icefish fishery. The Statutory Fishing Rights requires specific bycatch limits be enforced for all gear types combined (see Table 1).

Benthic Impacts

The FRDC (Fisheries Research and Development Corporation) funded project on ‘Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: an assessment of the vulnerability of benthic habitats to damage by demersal gears’ is progressing on schedule and all milestones have been met. The FRDC milestone report 4 was provided to SCS and includes estimates of the swept area of demersal longlines based on *in-situ* video footage, a preliminary scientific assessment of the benthic fauna in the Heard Island and McDonald Islands Region and a field identification guide to Heard Island and McDonald Island (HIMI) benthic invertebrates.

Food web interactions

Studies are underway by CCAMLR and AFMA/AAD investigating food web interactions in the fishery. A manuscript was provided to SCS on the role of fish as predators of krill (*Euphausia superba*) and other pelagic resources in the Southern Ocean was provided to SCS (Kock et al. 2008).

Conclusions and recommendations

Overall, SCS finds that the HIMI Mackerel Icefish fishery management system is still in general compliance with the MSC standard.

SCS also finds that the progress being made on meeting conditions in the HIMI Mackerel Icefish fishery are adequate and moving towards completion.

Status of previously raised conditions

| | | |
|---|--|--|
| 1.1.1.3 | | |
| The stock units are well defined for the purposes of conservation, fisheries management and stock assessment. | | |
| SG 60 | SG 80 | SG 100 |
| Stock units have been defined. | The stock units are well defined. Stock units have been shown to be precautionary for the purposes of conservation, fisheries management and stock assessment. | There is an unambiguous description of each stock unit, including its geographic location. |

Score: 79

Condition 1.1: The client should provide evidence to the certification body contracted for surveillance reports that the current stock designations used for the icefish assessments are the best choice for conservation and more precautionary than alternative stock designations. One approach might be a re-assessment under the alternative assumption that there is a single stock for the Indian Ocean region. This

could be used to demonstrate that the management strategies that are currently used under the assumption of separate stocks are robust and ultimately more precautionary than alternative assumptions regarding stock structure. Other approaches may also be used, such as evidence from studies designed to further elucidate stock structure/distribution.

Client Action Plan: Austral, on behalf of the HIMI industry, to provide copies of papers, and organize meeting/communication between the certification body for surveillance reports and AAD scientists, to demonstrate that current stock designations for icefish are both more precautionary than alternative designations, and are the best choice for conservation and management of the stocks.

Deadline: December 2007

Progress on Condition 1.1: Progress is sufficient; the client provided a paper for the 2008 surveillance report with an overview of the icefish stocks and the relationship between the stock being fished and the stock once fished in the Kerguelen area (Welsford 2008b). According to the author, the information suggests a very weak link, between the stocks, indicating that the current management arrangements are correct and precautionary. However an additional paper is to be published before the next surveillance audit, which is expected to provide more insight into the matter (Duhamel and Hautecoeur, in press). Therefore SCS has decided to leave this condition open until the additional publication is available, with the intent to close the condition during the next surveillance audit.

Status of Condition 1.1: Open – on target

| 1.1.2.8 | | |
|---|---|--|
| There is knowledge of environmental influences on stock dynamics. | | |
| SG 60 | SG 80 | SG 100 |
| Impacts of inter-annual variability in environmental conditions on distribution and availability of fish have been studied. | Impacts of inter-annual variability on stock abundance have been studied and are taken into account in the assessment. Impacts on distribution and availability of fish have been studied and inform the stock assessment process. | Impacts of regime shifts and inter-annual variability in environmental conditions are well understood and incorporated in the assessments. |

Score: 79

Condition 1.2: The client should provide evidence that the fishery assessments meet the first bullet point under the 80 scoring guidepost – “Impacts of inter-annual variability on stock abundance have been studied and are taken into account in the assessment”. For example, analyses could be provided that show how the fishery

assessments factor in uncertainty in growth, mortality, size at first maturity and fecundity, and the influence of the environment on these variables.

Client Action Plan: A variety of activities by the managing authorities, and with participation by the client, are underway that specifically address this condition. Specifically, the client will provide to the certification body the finalized ecosystem model currently under development as part of the HIMI Marine ecosystem study undertaken by AAD in 2004.

This model will be used to explore the dynamics of mackerel icefish and its role in the foodwebs of the region. It will also be used to evaluate management strategies for icefish with the aim being to determine an alternative, ecologically sustainable, management strategy.

Such a strategy will identify reference points, assessment methods (including indicators) and harvest rules based on outcomes.

Deadline: A number of relevant reports will be provided along the way to a final completion date of December 2010.

The progress reports are:

1. Annual reports of the AFMA Sub-Antarctic Resources Assessment Group (SARAG)
2. CCAMLR paper (estimated to be available November 2008)
3. SARAG final report estimated to be available by September 2009

The client will provide copies of each study within 30 days of its completion.

If further clarification is requested by the certification body, the client will facilitate a meeting between the certification body, the client, and the management authorities to discuss the outcomes and implications of these studies.

Also, if the planned studies are not going to be completed on time, the client will advise the certification body as to any additional time required. The client notes that it does not have control over the estimated timeframes for completion of the identified work, and can only be responsible for submitting the work upon its completion.

Progress on Condition 1.2: SCS's determination is that the client is currently satisfying the Action Plan approved by SCS and is making acceptable progress to meeting the Condition for this performance indicator.

All studies are progressing as expected. CCAMLR stock assessment reports are provided annually. Reports provided to date to the assessment team include the SARAG reports for 2007/08 meetings, which illustrate how the management of the fishery is currently dealing with stock variability.

Status of Condition 1.2: Open – on target

| 1.1.3.1 | | |
|---|---|--|
| Limit Reference Points (LRPs) or operational equivalents have been set. | | |
| SG 60 | SG 80 | SG 100 |
| LRPs for target stocks have been chosen and are justified based on standard international practice. | LRPs for target stocks are justified based on stock biology and take into account available knowledge of fishery impacts on non-target species and the ecosystem. | LRPs for target stocks are justified based on biology, uncertainty, variability, data limitations, knowledge of ecosystem impacts, and statistical simulations of these factors. |

Score: 75

Condition 1.3: The client should provide evidence that a comprehensive review has been or is being undertaken regarding appropriate Limit Reference Points for the icefish fishery. Evidence should be provided that the LRPs used meet the AFMA requirements (are appropriate for maintaining both ecologically viable stocks of the target species and an ecologically sustainable fishery), are appropriate for the biology of the icefish stock and takes into account available knowledge of fishery impacts on non-target species and the ecosystem, and ensure with high probability that the spawning biomass of the icefish stock does not fall below a specified minimum level and that fishing mortality does not exceed a specified maximum level. The results of this review should be published.

Client Action Plan: The client will, as under Condition 1.2, deliver to the certification body the results of work being conducted by the managing authorities to develop a new model that incorporates ecosystem functions more fully into the assessment of icefish. In addition, the client will provide the results of the Management Strategy Evaluation work that will result from using the model to demonstrate the applicability of the chosen Limit Reference Points being used for ecologically sustainable management of the icefish fishery in the HIMI region.

Deadline: Same as for Condition 1.2

Progress on Condition 1.3: As indicated in the previous Condition for 1.1.2.8, the work being conducted by AAD scientists in conjunction with CCAMLR and AFMA is set to review stock dynamics, including food web interactions, and then review and where necessary revise harvest control rules. This should quite directly address the 80 scoring guidepost as the LRP will be directly reviewed by this work.

The client reviewed with SCS the progress being made to date on the promised reports from CCAMLR and AAD, and it shows that adequate progress is being made on the Action Plan toward the goal of providing finalized information by 2010.

Status of Condition 1.3: Open – on target

| 1.1.3.2 | | |
|---|---|--|
| Target Reference Points (TRPs) or operational equivalents have been set. | | |
| SG 60 | SG 80 | SG 100 |
| TRPs for target stocks have been chosen and are justified based on standard international practice. | TRPs for target stocks are justified based on stock biology and take into account available knowledge of fishery impacts on non-target species and the ecosystem. | TRPs for target stocks are justified based on biology, uncertainty, variability, data limitations, knowledge of ecosystem impacts, and statistical simulations of these factors. |

Score: 75

Condition 1.4:

1. A review should be provided about what target reference points, which are based on the biology of the icefish stock and take into account available knowledge of fishery impacts on non-target species and the ecosystem, should be specified for the icefish fishery. The analysis should examine how target reference points considered are more precautionary than the corresponding limit reference points and how they ensure with high probability that the spawning biomass of the icefish stock does not fall below a specified minimum level and that fishing mortality does not exceed a specified maximum level.
2. The review provided should discuss how the target reference points used or proposed for use by AFMA for the icefish fishery compare with those specified or applied by CCAMLR.

Client Action Plan:

1. The review required will be provided through the MSE work being undertaken, as outlined in Conditions 1.2 and 1.3 above.

In addition, the client will provide evidence to the certification body that the Target Reference Points are and will continue to be more precautionary than the Limit Reference Points.

2. The AFMA reference points currently used for the icefish fishery are those reference points specified and used by CCAMLR, as shown in all CCAMLR documentation including WGFSR reports, Scientific Committee recommendations, and Commission Conservation Measures adopted.

The client will also provide details on how any changes to these reference points will be incorporated by CCAMLR and AFMA in future.

Deadline: Same as for Condition 1.2

Progress on Condition 1.4: Again, the stipulation for this Condition is to review the TRP for icefish and then discuss how the AFMA reference point relates to the CCAMLR proposed TRP

As provided by the client, existing documentation provides that AFMA is currently using the CCAMLR Reference points for both LRP and TRP. This answers in part the second part of the Condition. However, it does not answer how well these account for the stock biology, including food web dynamics.

The studies in progress by AAD, AFMA, and CCAMLR (as previously described) are designed to fully review the stock dynamics of icefish as well as review the harvest control rules – and all of this to include food web dynamics.

When completed, it is anticipated by the client that these reports will answer the Condition directly. These studies are all on track to be completed as designated in the Action Plan, and there is no evidence to suggest otherwise. Therefore, SCS believes that satisfactory progress is still being made on meeting this Condition by 2010.

Status of Condition 1.4: Open – on target

| 1.1.4.2 | | |
|--|--|--|
| Stock assessment methods are statistically rigorous, major uncertainties have been considered and assumptions have been evaluated. | | |
| SG 60 | SG 80 | SG 100 |
| Sensitivity analyses have been conducted. | The assessment uses parameter estimation procedures that take account of observation and process uncertainty and are recognized to comply with accepted standards of statistical analysis. The assessment takes into account major uncertainties in the data and functional relationships. The robustness of the management advice to sensitivities in the assessment has been investigated. | The assessment method has been simulation tested and the results show that major outputs of management interest meet required levels of precision and accuracy. The assessment addresses all statistically significant uncertainties in the data and functional relationships and evaluates the assumptions in terms of scope, direction and bias relative to management-related quantities. There is a comprehensive evaluation of sensitivities to assumptions, parameters and data for key outputs of interest such as stock abundance. |

Score: 79

Condition 1.5: The approach that is used in determining the recommended TAC should be investigated relative to uncertainty in the estimate of natural mortality, the imprecision in the estimates of the parameters of the mixture of components of the length composition data and the uncertainty in the parameters of the growth curve, and alternative stock structures. There should be an explicit report demonstrating the precautionary nature of the approach and how additional information on these parameters is being incorporated.

Client Action Plan: The client will provide the certification body with the same information as in Condition 1.2 and 1.3. In addition, the client will ensure that the information includes a review of the methods for setting the TAC. The finalization of the report on Management Strategy Evaluation will explicitly deal with the precautionary nature of the approach and how additional information on the parameters is being incorporated.

Deadline: December 2010

Progress on Condition 1.5: The Condition for this indicator requires a review of the TAC setting process to see how sensitive it is to the known uncertainties in stock dynamics.

As indicated earlier, the studies underway by AAD, AFMA, and CCAMLR will fully review stock dynamics, food web interactions, and the harvest control rules that utilizes this information. Progress on completing these studies appears adequate to meet the 2010 deadline for submission to the assessment team.

A review of the TAC setting process cannot be completed until these studies are finished, so there is nothing to review at this time.

SCS has determined that, as with previous Conditions, the progress made toward this Condition is adequate at this time.

Status of Condition 1.5: Open – on target

| | | |
|---|--|---|
| 1.1.5.1 | | |
| Current stock sizes are above associated limit reference points. | | |
| SG 60 | SG 80 | SG 100 |
| Stock assessments show that there is a reasonable chance that the stock is at or above the LRP. | Stock assessments show that there is a greater than 80% probability that the stock is above the LRP. | Stock assessments show the stock to be above the LRP with greater than 90% probability. |

Score: 75

Condition 1.6: Meet Condition 1.3. In meeting Condition 1.3, ensure that there is an assessment that shows the probability that the current spawning biomass lies above the chosen limit reference point for the icefish stocks at HIMI. This report should be reviewed by AFMA, AAD, and CCAMLR.

Client Action Plan: The client will provide the same information as submitted under Conditions 1.2, 1.3, 1.4 and 1.5. Again, it is anticipated that the MSE report in 2008/09 will specifically address the relationship between survey indicators of Spawning Stock Biomass, and the actual (modeled) level of SSB, and how well the management strategies perform against the survey results and indicators.

Deadline: December 2010

Progress on Condition 1.6: The Condition for this indicator requires a review of the stock status.

As indicated earlier, the studies underway by AAD, AFMA, and CCAMLR will fully review stock dynamics, food web interactions, and the harvest control rules that utilize this information. Progress on completing these studies appears adequate to meet the 2010 deadline for submission to the assessment team.

SCS has determined that, as with previous Conditions, the progress made toward this Condition is adequate at this time.

Status of Condition 1.6: Open – on target

| | | |
|---|--|---|
| 1.1.5.2 | | |
| Current exploitation rates are below associated limit reference points. | | |
| SG 60 | SG 80 | SG 100 |
| Stock assessments show that there is a reasonable chance that the current exploitation rate is at or below the LRP. | Stock assessments show that there is a greater than 80% probability that the current exploitation rate is below the LRP. | Stock assessments show the current exploitation rate to be below the LRP with greater than 90% probability. |

Score: 79

Condition 1.7: Meet Condition 1.3. In addition, show with what probability subsequent survey estimates of the biomass of the residual spawning stock exceeded the levels predicted over recent years.

Client Action Plan: Meet condition 1.3, as outlined above. Include the feedback mechanisms described in review of the management measures being evaluated under the MSE outlined above. Determine if the assessment needs to encompass a time series of surveys as part of the MSE work.

Deadline: December 2010

Progress on Condition 1.7: The Condition for this indicator requires a review of the stock status as in 1.1.5.1.

The studies underway by AAD, AFMA, and CCAMLR are addressing this issue by reviewing the status of the stock and the applicability of the harvest control rules.

In addition, a study of age specific mortality rates is being conducted and will be delivered to the assessment team once completed.

SCS has determined that adequate progress is being made to provide a full review of the stock dynamics in the fishery and the harvest control rules that are applied.

Status of Condition 1.7: Open – on target

| 1.1.6.1 | | |
|--|---|---|
| Clear, well-tested, precautionary harvest control rules have been established and tested and shown to be effective in meeting management objectives. | | |
| SG 60 | SG 80 | SG 100 |
| There is an explicit, well-documented control rule that is effective in achieving the objectives with respect to limit reference points. The control rule is being applied. Decisions about catch limits generally follow the agreed strategy. | The harvest control rule has been simulation tested and shown to be effective with respect to the uncertainty concerning the biology of the stock and the uncertainties associated with stock assessment. Decisions about catch limits follow the agreed strategy. | The harvest control rule has been thoroughly simulation tested and shown to be effective when taking into account ecological interactions, predator-prey relationships, and regime shifts. The agreed harvest strategy is applied without exception. |

Score: 79

Condition 1.8: Carry out appropriate simulation testing to consider the harvest strategy in relation to the characteristics of the icefish stock to evaluate the robustness of the reference points and the fishery management model.

Client Action Plan: The client will provide the same information as required under Conditions 1.2 and 1.3 as it will answer the question about the appropriate management strategy, under the MSE approach being taken for condition 1.2 above.

Deadline: December 2010

Progress on Condition 1.8: The Condition for this indicator requires simulation testing of the harvest strategy to evaluate the robustness of the reference points.

The studies underway by AAD, AFMA, and CCAMLR are addressing this issue by reviewing the status of the stock and the applicability of the harvest control rules. The outcomes of these studies will be made available to SCS as completed.

SCS has determined that adequate progress is being made to provide a full review of the stock dynamics in the fishery and the harvest control rules that are applied.

Status of Condition 1.8: Open – on target

| 1.2.1 | | |
|---|--|---|
| There is a well-defined and effective strategy, and a specific recovery plan in place, to promote recovery of the target stock within a reasonable time frame. | | |
| SG 60 | SG 80 | SG 100 |
| A recovery plan exists that clearly identifies the conditions under which it will be invoked, identifies a time frame for recovery that is appropriate to the biology of the species, and specifies appropriate controls on the level of exploitation that, at face value, are likely to achieve recovery within the specified time period. | There is a well-defined precautionary trigger that initiates the recovery strategy. If the recovery strategy allows the fishery to continue operating, but with a reduced level of allowable catch, the fishery-dependent data will be used to monitor the response of the stock. There are comprehensive and pre-agreed management responses to ensure recovery of the depleted stock within a specified and appropriate time frame. Through simulation testing, it has been demonstrated that the recovery plan has a high probability of achieving successful recovery. | The strategy requires that regular fishery independent monitoring of stock is implemented to monitor progress of the recovery plan. The strategy requires that the management response is modified if monitoring demonstrates significant departure of the stock from the expected recovery trajectory. |

Score: 79

Condition 1.9: The client only needs to develop and abide by a condition for this indicator if it plans to begin fishing in areas previously described as depleted (i.e. Pike, Discovery, and Shell Banks). Before commercial harvesting is permitted to recommence on these populations/stocks, the fishery management system would have to:

1. Provide an explicit specification of the conditions that require that the recovery strategy is invoked.
2. Specify precisely how the harvest is to be controlled as the stock recovers, the time period expected for recovery, and the conditions that signal that the stock has recovered.
3. Provide a simulation study that demonstrates that there is a high probability that the stock will recover if the recovery strategy is invoked.

Client Action Plan: The client will submit to the certification body information that shows how assessments will be done before areas now closed to fishing are opened for future fishing. The specific information to be submitted includes:

Completion of food web model to determine likelihood of food depletion in recovery phase given natural variation in stock abundances
 Where stock depletion is evident, maintain commercial harvest levels at zero, and maintain annual surveys of population(s) for assessment purposes
 MSE work to be completed to derive appropriate indicators for recovery and options for harvesting regimes, where applicable.

Deadline: Annual reports to SARAG (September each year)
 - CCAMLR paper November 2008
 - SARAG final report by September 2009

Progress on Condition 1.9: The Condition for this indicator is only applicable if fishing is to begin in areas now closed to fishing. There are currently no plans to fish in currently closed areas. However, in compliance with the MSC requirements, the client has agreed to provide the background necessary to meet the Condition.

The client is providing the annual SARAG reports to SCS so the assessment team can see what management measures are considered and adopted, as well as what scientific advice is being brought to bear on the fishery. No new fishing areas are under consideration.

The client has agreed to provide all the studies now currently underway to review the stock dynamics of icefish as well as the harvest control rules. The studies are underway and progress appears to be appropriate to deliver the final reports on the timeline suggested by the Action Plan submitted by the client.

Given no new fishing area openings, SCS is satisfied that the client is continuing to meet the progress agreed toward fulfilling this Condition.

Status of Condition 1.9: Open – on target

| | | |
|--|--|--|
| 1.3.2 | | |
| Data and stock assessment indicate no changes in structure that would alter reproductive capacity. | | |
| SG 60 | SG 80 | SG 100 |
| Trends in age, sex, genetic structure, recruitment, and spawning stock are examined and found to be consistent with those trends that would be the expected response of the population to the levels of exploitation experienced by the stock. | The extent to which trends in age, sex, genetic structure, recruitment and spawning stock might deviate from the expected trends, allowing for both natural variability and uncertainty, has been specified. The values of the variables remain within these specified, acceptable ranges. | Data and assessments indicate that recruitment and spawning stocks are at robust levels for all genetically identified stocks of the target species. |

Score: 79

Condition 1.10: Estimate the expected changes in size and age at maturity, age composition, and fecundity and establish a routine comparison of observed data with these expected values to ensure that unexpected changes might be detected.

Client Action Plan: Identify suitable indicators and estimate changes in parameters identified, as part of the MSE program identified in Condition 1.2

Deadline: Same as for Condition 1.2

Progress on Condition 1.10: Studies on food web dynamics are underway by AFMA, AAD, and CCAMLR. These studies will be made available as soon as possible. According to the client, there is good progress on getting these studies completed. The client has already engaged in discussions with AAD and AFMA regarding the need for better data on age composition, age at maturity, and fecundity.

Although this Condition is not due to be closed until 2010, SCS is satisfied that the client has made acceptable progress toward meeting this Condition by engaging with the scientists and managers in the icefish fishery about collecting and analysing better data on a number of life history parameters.

Status of Condition 1.10: Open – on target

| 2.1.3.1 | | |
|--|--|---|
| The ecological risks and potential ecological impacts of the fishery. | | |
| SG 60 | SG 80 | SG 100 |
| <p>The potential effects of the fishery have been determined by internal fishery analysis</p> <p>The potential impacts of the fishery are established in consultation with a limited range of stakeholders and experts, and based on literature data from other fisheries or regions</p> | <p>The potential effects of the fishery have been determined by detailed, scientifically defensible and peer reviewed analysis of risks using existing data, and based on comparative studies between fished and non-fished but otherwise comparable ecosystems, considering space and time scales that are relevant to the scale of the fishery</p> <p>The potential impacts of the fishery are established in consultation with stakeholders and a range of relevant experts</p> <p>Causes and effects in the fishery are broadly known and include the range of habitats in the fishery</p> | <p>The potential effects of the fishery have been determined by detailed, comprehensive, scientific and peer reviewed analysis of risks based on comparative studies between fished and non-fished but otherwise comparable ecosystems, across large space and time scales, and using precautionary threshold levels of effect of the fishery for a broad range of ecological attributes/indicators.</p> <p>The potential impacts of the fishery are established in consultation with stakeholders and a range of relevant experts</p> <p>Causes and effects in the fishery are well known, comprehensive across habitats and regions and use ecologically relevant attributes and statistically robust designs.</p> <p>There are ongoing research programs</p> |

| | | |
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| | <p>and use ecologically relevant attributes and statistically robust designs. A program of research targeting the main ecological risks posed by the fishery is underway</p> | <p>designed to assess impacts, and include space and time across a range of scales up to the scale of the fishery. The impact-detection designs include and control for the effects of factors outside the fishery in determining fishery impacts.</p> |
|--|--|--|

Score: 75

Condition 2.1: The fishery must complete a comprehensive scientifically robust assessment of the ecological risks of the fishery (such as the one started by CSIRO), including potential impacts on benthic systems, key land-based marine predators, and sharks, skates and rays, that is already underway. The report should be sure to include the range of stakeholder views/inputs and meet peer review standards for scientific assessments.

Client Action Plan for Condition 2.1:

1. Upon completion of Ecological Risk Assessment (ERA) project by CSIRO for AFMA, identifying potential impacts of the fishery on the ecosystem and ecologically related species, the client will submit this to the certification body within 30 days of its completion, along with any peer reviews or commentaries on this report.
2. Seek funding for benthic habitat impact study from FRDC and other research providers.
3. Conclude report on benthic habitat impacts of the icefish fishery.

Deadline: Completion dates are:

1. ERA report due for completion and presentation to SARAG meetings in 2007.
2. Initial funding approval July 2006
3. Milestone reports on benthic study annually at SARAG; final report Sept 2010.

Again, if the planned studies are not going to be completed on time, the client will advise the certification body as to any additional time required. The client notes it does not have control over the estimated timelines for completion of the identified work, and can only be responsible for providing the work upon its completion.

Progress on Condition 2.1: To meet the 80 scoring guideposts, the fishery must complete the ERA identified during the assessment process. An ERA draft report was provided in November 2006. The final report has not been received yet but is anticipated for the annual surveillance audit in 2010.

In addition, the client has provided the recent milestone report to demonstrate the progress on the FRDC funded study ‘Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: an assessment of the vulnerability of benthic habitats to damage by demersal gears’. The report demonstrates that the study is progressing on schedule and all milestones have been met.

SCS is satisfied that adequate progress is being made on meeting this Condition.

Status of Condition 2.1: Open – generally on target (ERA behind target)

Condition 2.2 (Also for Indicator 2.1.3.1): Should any risks identified under the risk assessment be rated as moderate or high, the fishery would have to provide data and/or information showing what measures are being taken to mitigate the risks and analyses of why the measures are sufficient.

Client Action Plan:

1. Participate fully with AFMA and other government agencies to achieve appropriate management responses to identified risks, and mitigation measures required (or to be developed).
2. Submit to the certification body evidence showing what measures are being taken by the managing authorities.

Deadline: Timelines for submission of information are:

- Strategic review of HIMI fishery due for completion in 2010
- Annual reports of SARAG and SouthMAC
- ERA report final Sept 2007

Again, if the planned studies are not going to be completed on time, the client will advise the certification body as to any additional time required. The client notes it does not have control over the estimated timelines for completion of the identified work, and can only be responsible for providing the work upon its completion.

Progress on Condition 2.2: As under Condition 2.1 above, once all scientific analyses are completed, SCS will seek evidence that the management authorities are taking the results of the analyses into consideration in reformulating management processes.

SCS is satisfied that adequate progress is being made to date on meeting this Condition under Indicator 2.1.3.1.

Status of Condition 2.2: Open – generally on target (ERA behind target)

| 2.1.3.3 | | |
|---|---|--|
| The potential for ecosystems, habitats and species that may be affected by the fishery to recover from any fishery impacts, or to have impacts mitigated. | | |
| SG 60 | SG 80 | SG 100 |
| resilience to fishery impacts and recovery potential have been estimated for the main bycatch | adequate estimates of resilience to fishery impacts and recovery potential have been determined for the main bycatch species and habitats research projects, including modelling and field measurements, are underway | robust estimates of resilience to fishery impacts and recovery potential have been determined for all the documented bycatch and major potentially affected dependent species by removal of the target species, bycatch or habitat impacts |

| | | |
|--|--|--|
| <p>species and habitats research projects are underway to improve estimates of impacts and the recovery potential for bycatch species, dependent species or habitats</p> | <p>to improve estimates of impacts and the recovery potential for dependent species that may be potentially affected by the fishery, either through removal of target species, bycatch or habitat impacts models and estimates of resilience and recovery potential take account of important aspects of ecosystem dynamics, environmental uncertainty and other factors external to the fishery areas closed to fishing are used to provide support for addressing the fishery impacts.</p> | <p>research projects, including modelling and field measurements, are underway to improve estimates of impacts and the recovery potential for the most important impacts models and estimates of resilience and recovery potential take full account of ecosystem dynamics, environmental uncertainty and other factors external to the fishery closed areas (permanent no-take reserves) are used to provide adequate offset for otherwise unavoidable impacts of the fisher.</p> |
|--|--|--|

Score: 75

Condition 2.3: Conditions 2.1 and 2.2 apply.

Client Action Plan: Same as for Conditions 2.1 and 2.2 above.

Progress on Condition 2.3: Same as for Conditions 2.1 and 2.2 above.

Status of Condition 2.3: Open – on target

| <p>2.1.5.1</p> | | |
|---|--|---|
| <p>The impact of the removal of the target species or other direct fishery activities on ecosystems, habitats, associated or dependent species, or on biological productivity of the region.</p> | | |
| <p>SG 60</p> | <p>SG 80</p> | <p>SG 100</p> |
| <ul style="list-style-type: none"> • some direct impacts of the fishery through removal of the target species have been identified • existing evidence does not suggest that impacts are exceeding limits • there is a fishery-independent monitoring program of some impacts • an ongoing program of research is designed to model and | <ul style="list-style-type: none"> • the important direct impacts of the fishery resulting from removal of the target species have been identified • the main impacts on ecosystems, habitats, productivity and ecologically associated or dependent species are generally within the agreed limits, and other existing evidence does not suggest other impacts are exceeding limits • there is a fishery-independent monitoring program that provides robust data on the levels of the main impacts, with frequent reporting to fishery managers | <ul style="list-style-type: none"> • all the likely impacts of the fishery resulting from removal of the target species are identified and quantified • the ecological impacts on ecosystems, habitats, productivity and ecologically associated or dependent species are always maintained within the agreed limits • there is a fishery-independent monitoring program that provides robust data on the levels of all the important impacts, with high intensity reporting to fishery managers • an ongoing program of research |

| | | |
|---|--|--|
| <p>evaluate a range of the potential impacts and to explore mitigation measures</p> | <ul style="list-style-type: none"> • an ongoing program of research is designed to model and evaluate a range of the potential impacts and to further develop mitigation measures • key impacts of the fishery that may be unavoidable through gear or deployment modifications are mitigated on a precautionary basis through the use of closed areas (no-take reserves) on a regional basis. | <p>is designed to model and evaluate all impacts, to develop predictive cause-effect models, and to improve mitigation measures</p> <ul style="list-style-type: none"> • key impacts of the fishery that may be unavoidable through gear or deployment modifications are mitigated on a precautionary basis through the use of closed areas (no-take reserves) on a regional basis. |
|---|--|--|

Score: 75

Condition 2.4: Conditions 2.1 and 2.2 apply.

Client Action Plan: Same as for Conditions 2.1 and 2.2 above.

Progress on Condition 2.4: Same as for Conditions 2.1 and 2.2 above.

Status of Condition 2.4: Open – on target

| 2.2.1.2 | | |
|---|---|--|
| The functional roles and importance of the target species in the trophic network of any threatened, protected, or 'icon' species in the region. | | |
| SG 60 | SG 80 | SG 100 |
| <ul style="list-style-type: none"> • The key prey, predators and competing species are broadly understood • There is a basic knowledge of feeding relationships of some of the main threatened, protected, or 'icon' species • Research is being designed to study foodwebs in the region and trophic requirements of some of the threatened, protected, or 'icon' | <ul style="list-style-type: none"> • The basic structure of the regional foodwebs have been determined • There is a good basic knowledge of the trophic relationships and requirements of the main threatened, protected, or 'icon' species • The trophic role of the target species at each of its main life stages is broadly understood in relation to the trophic requirements of the main threatened, protected, or 'icon' species. • There is an ongoing research program designed to evaluate the natural dynamics and productivity in regional foodwebs, and to model and assess the impacts of the fishery on the trophic requirements of the main threatened, | <ul style="list-style-type: none"> • The structure of the regional foodwebs is well understood • There is a good quantitative knowledge of the trophic relationships and requirements of the threatened, protected, or 'icon' species • The trophic role of the target species is well known at each of its main life stages in relation to the trophic requirements of the threatened, protected, or 'icon' species. • There is a range of ongoing research programs designed to evaluate the natural dynamics and productivity in regional foodwebs, and to model and assess the impacts of the fishery on the trophic requirements of the threatened, |

| | | |
|---------|-------------------------------|-------------------------------|
| species | protected, or 'icon' species. | protected, or 'icon' species. |
|---------|-------------------------------|-------------------------------|

Score: 75

Condition 2.5: The client should provide evidence that AAD research on the trophic role of icefish in predator diets either has been or is being conducted. The AAD research should be properly peer reviewed and published. Once available, this information should be used in Condition 2.1.

Client Action Plan: Trophic interaction research started in 2004 to be completed, with full review by peer-reviewed journals, SARAG and CCAMLR.
Use information for Condition 2.1 above.

Deadline: Timelines for submission of information are:

- Annual reports to SARAG on progress
- CCAMLR paper October 2008
- SARAG final report Sept 2009

Progress on Condition 2.5: SCS was provided with the draft ERA report and the preliminary residual risk assessments. This meets part of the condition.

Studies underway by CCAMLR and AFMA/AAD are looking at the food web interactions in the fishery. A paper on the role of fish as predators of krill (*Euphausia superba*) and other pelagic resources in the Southern Ocean was provided to SCS (Kock et al. 2008).

SCS believes that adequate progress is being made to meeting this Condition based on the ongoing work on the ERA and on food web interactions.

Status of Condition 2.5: Open – on target

| | | |
|--|---|---|
| 2.2.3.1 | | |
| The ecological risks and the range of potential ecological impacts of the fishery on any threatened, protected, or 'icon' species. | | |
| SG 60 | SG 80 | SG 100 |
| <ul style="list-style-type: none"> • The potential effects of the fishery have been determined by internal fishery analysis • The potential impacts of the | <ul style="list-style-type: none"> • The potential effects of the fishery have been determined by detailed, scientifically defensible and peer reviewed analysis of risks based on existing data, using precautionary threshold levels of effect of the fishery on populations of all threatened, protected, or 'icon' | <ul style="list-style-type: none"> • The potential effects of the fishery have been determined by detailed, comprehensive, scientific and peer-reviewed analysis of risks, across large space and time scales, and using precautionary threshold levels of effect of the fishery on populations of all the threatened, protected, or 'icon' species. |

| | | |
|--|--|---|
| <p>fishery are established in consultation with a limited range of stakeholders and experts, and based on literature data from other fisheries or regions</p> <ul style="list-style-type: none"> • Resilience to fishery impacts and recovery potential have been estimated for the main threatened, protected, or 'icon' species | <p>species.</p> <ul style="list-style-type: none"> • Adequate estimates of resilience to fishery impacts and recovery potential have been determined for the main threatened, protected, or 'icon' species • The potential impacts of the fishery are established in consultation with stakeholders and a range of relevant experts • Research projects, including modelling and field measurements, are underway to improve estimates of impacts and recovery potential • Models and estimates of resilience and recovery potential take account of important aspects of environmental uncertainty and other relevant factors external to the fishery • Studies of risks in the fishery are comprehensive across habitats and regions and use statistically robust designs. • Areas closed to fishing are used to provide support for addressing potential fishery impacts on threatened, protected, or 'icon' species. | <ul style="list-style-type: none"> • Robust estimates of resilience to fishery impacts and recovery potential have been determined for the all the threatened, protected, or 'icon' species • The potential impacts of the fishery are established in consultation with stakeholders and a range of relevant experts • Research projects, including modelling and field measurements, are underway to improve estimates of impacts and the recovery potential for the most important impacts on all the threatened, protected, or 'icon' species • Models and estimates of resilience and recovery potential take full account of ecosystem dynamics, environmental uncertainty and other factors external to the fishery • Studies of causes and effects in the fishery are comprehensive across habitats and regions across a range of scales up to the scale of the fishery, and use a range of species-specific attributes and statistically robust designs • Closed areas (permanent no-take reserves) are used to provide adequate offset for otherwise unavoidable potential impacts of the fishery on threatened, protected, or 'icon' species. |
|--|--|---|

Score: 75

Condition 2.6: Same as Condition 2.1

Client Action Plan: Same as for Condition 2.1

Progress on Condition 2.6: Same as for Condition 2.1 above.

Status of Condition 2.6: Open – on target

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|---|---------------------|----------------------|
| <p>3.2.1.4</p> | | |
| <p>The provision within the management system for rebuilding and recovery of depleted stocks.</p> | | |
| <p>SG 60</p> | <p>SG 80</p> | <p>SG 100</p> |

| | | |
|---|--|--|
| The management system has targets for rebuilding and recovery of overfished stocks. | The management system has effective provisions for achieving targets for rebuilding and recovery of overfished stocks within a specified time frame. | The management system sets and has demonstrated a trend toward achieving rebuilding and recovery goals of all over-fished stocks. The management system does not allow fishing on any stock impacted by the fishery that has declined below limit reference points until the fishery can be demonstrated to be significantly above the limits imposed. |
|---|--|--|

Score: 70

Condition 3.1: The management system must be improved to contain criteria for assessing when a stock within the fishery is overfished, the strategies to be adopted when the stock is classified as overfished, and the conditions under which an overfished (stock or) fishery is considered to have recovered. This is considered in more detail under Principle 1. To the extent possible, this condition should be informed by or be coincident with conditions in Principle 1.

Client Action Plan: Same as for Condition 2.1

Progress on Condition 3.1: The studies to date on stock dynamics and harvest control rules are on target and are expected to inform management as to any additional measures that may need to be enacted to maintain or recover the icefish stock. This will include an evaluation of when the stock is considered depleted, and what type of recovery plan may be required to rebuild the stock. However, this work is not scheduled to be completed until 2009/2010.

SCS finds the work to date by AAD/AFMA and CCAMLR to be adequate in terms of making progress toward meeting the specific Condition under this performance indicator.

Status of Condition 3.1: Open – on target

| 3.2.1.7 | | |
|---|---|---|
| The program to prevent, mitigate, or minimize adverse impacts on habitat caused by fishing. | | |
| SG 60 | SG 80 | SG 100 |
| Efforts are made to identify, document, and assess the risks to habitat from fishery impacts. | Specific actions have been taken to restrict fishing gear and fishing practices to prevent, mitigate, or minimize actual or potential impacts on habitat caused by fishing. | <ul style="list-style-type: none"> • There is continuing, comprehensive effort to identify, document, and assess the risks to habitat from fishery impacts. • There is a demonstrated a pattern of actions to restrict fishing gear and practices to prevent, mitigate, or minimize adverse impacts on habitat and has achieved a demonstrated trend of reductions in adverse habitat impacts from fishing, or has determined that no impacts on habitat result from fishing. |

Score: 79

Condition 3.2: Meet Conditions 2.1 and 2.2. In addition, provide evidence to the certifier that there is some process in place to provide an ongoing, although periodic, process to identify, document, assess, reduce and ameliorate risks to habitat resulting from fishing practices. This process should meet requirements set out in the Management Plan.

Client Action Plan:

- Finalize benthic habitat impacts study
- Maintain consistent, appropriate, observer coverage on all operations
- Report annually to SARAG on bycatch species, quantities and profiles for evaluation and risk reduction strategies to be developed
- Maintain shot-by-shot recording of fishing operations including benthic bycatch
- Evaluate alternative fishing methods to reduce risks of habitat damage

The client notes that the process of the Ecological Risk Assessment is an ongoing one. The AFMA requirements for ERA reporting have increased dramatically with a series of recent Ministerial Directions to AFMA that outline major changes in the way Australian fisheries are to be managed. Aside from this, there are also direct requirements under the Environment Protection and Biodiversity Convention Act, which require formal review every 5 years, for any Commonwealth fishery, as well as any fishery in Australia that wishes to export product

Deadline: Timelines for completion are:

- FRDC report final due Sept 2010.
- Annual reports to SARAG
- Monitoring and observers on a constant basis
- EPBC Act review due December 2009

Progress on Condition 3.2: To meet this Condition, the client has agreed to maintain all relevant activities that are now in practice such as bycatch reporting, evaluation of gear, and maintenance of observer coverage to assure adequate data collection on bycatch and benthic habitat disturbance.

In addition, the FRDC funded study on the effects of bottom is progressing on schedule and all milestones were met. The draft ERA report has been submitted and the final report is anticipated for the annual surveillance audit in 2010.

Additional actions that have been taken in meeting this Condition have been:

- voluntary measures for bird bycatch mitigation have been implemented including no midwater trawling for icefish during peak seabird foraging months, and no daytime midwater trawling at other times.
- revised permit conditions.

SCS finds that the combined efforts are adequate to show progress toward meeting the required Condition.

Status of Condition 3.2: Open – on target

References

- Agenda for the meeting of the project advisory committee on Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: an assessment of the vulnerability of benthic habitats to damage by demersal gears.
- Cruise Report for the Trawler Southern Champion (Cruise #50; 19 May – 08 August 2008; Heard and MacDonal Island – Area 58.5.2), AFMA, Canberra, Australia 2008.
- Minutes of the Sub-Antarctic Resource Assessment Group (SARAG) meetings # 33, Hobart, Tasmania, Australia 22 September 2008.
- Minutes of the Sub-Antarctic Resource Assessment Group (SARAG) meetings # 34, Hobart, Tasmania, Australia 10 December 2008.
- Report on the Key Outcomes of the Twenty-Seventh Meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR XXVII), CCAMLR, Hobart, Tasmania, Australia 27 October to 7 November 2008.
- Duhamel G., Hautecoeur M. (in press) Biomass abundance and distribution of fish in the Kerguelen Islands zone (Division 58-5-1). CCAMLR Science
- Hibberd T., Moore K., Doust S., Welsford D. (2008): Scientific assessment of the conservation values of benthic fauna in the Conservation Zone of the Heard Island and McDonald Islands Region. Australian Antarctic Division, Kingston, Tasmania, Australia
- Kock K.-H., Agnew D.J., Barrera-Oro E., Belchier M., Collins M.A., Hanchet S., Pshenichnov L., Shust K.V., Welsford D., Williams R. (2008): The role of fish as predators of krill (*Euphausia superba*) and other pelagic resources in the Southern Ocean.
- Nowara G.B., Lamb T. (2007) Report on a random stratified trawl survey to estimate distribution and abundance of *Dissostichus eleginoides* and *Champocephalus gunnari* conducted in the Heard Island region (division 58.5.2), June-July 2007.
- Nowara G., Welsford D. (2009): Update of commercial fishing activity and catches in 2008 from the Heard Island and Mc Donald Island Conservation Zone. Australian Antarctic Division, Kingston, Tasmania, Australia
- Welsford D.C. (2008a): Preliminary assessment of Mackerel Icefish, *Champocephalus gunnari*, in the vicinity of Heard Island and McDonald Island (Division 38.5.2), based on a survey in July 2008, using the Generalized Yield Model. Australian Antarctic Division, Kingston, Tasmania, Australia
- Welsford D.C. (2008b): Kerguelen Plateau, History of fishing for *Champocephalus gunnari* on the Kerguelen Plateau. Australian Antarctic Division, Kingston, Tasmania, Australia