

**Southern Squid Jig Fishery Resource Assessment Group  
(SquidRAG) Meeting 25**

**Meeting minutes**

**Teleconference**

**23 June 2020**

**11:12-13:50**

The Chair opened the meeting at 11.12 am

## Agenda item 1 Preliminaries

### 1.1 Welcome and apologise

Dr Lianos Triantafillos, the Chair, welcomed members and observers to the meeting and made an Acknowledgement of Country statement recognising the Traditional Owners of the many lands in which we met and payed respect to Elders past, present and emerging.

| Attendees              | Membership        |
|------------------------|-------------------|
| Lianos Triantafillos   | Chair             |
| Shijie Zhou            | Scientific member |
| Robert Curtotti        | Economic member   |
| Debbie Wisby           | Industry member   |
| Terry Romaro           | Industry member   |
| Daniel Corrie          | AFMA Member       |
| Heather Johnston       | Executive Officer |
| James Woodhams         | Observer, ABARES  |
| Rocio Tronloso Noriega | Observer, ABARES  |

### 1.2 Declarations of interest

SquidRAG (the RAG) members followed the conflict of interest declarations as outlined in [Fisheries Administration Paper 12](#). Members and participants reviewed and updated the Declarations of Interest included at [Attachment A](#)

### 1.3 Adoption of agenda

The agenda at [Attachment B](#) was adopted by the RAG as final.

### 1.4 Actions arising from previous meetings

The RAG noted the action items from previous meetings and the updates provided by the Executive Officer at [Attachment C](#).

The RAG noted that the Fishwell Consulting project “*Improving the location and targeting of economically viable aggregations of squid available to the squid jigging method and the fleet’s ability to catch squid*” was not yet available and noted industries ongoing requests to have it finalised.

## Agenda item 2 – Harvest Strategy Review

AFMA introduced the agenda item and asked the RAG to consider and provide advice on proposed amendments to the current [Southern Squid Jig Fishery \(SSJF\) Harvest Strategy](#) (the current Harvest Strategy) as detailed in the discussion paper provided with meeting papers.

The RAG considered the background of the review of the Harvest Strategy, noting:

- there has been no formal review of the current Harvest Strategy since it was implemented in 2007;
- the intent of the review is not to change the form and function of the current Harvest Strategy, but to ensure that triggers and management responses are appropriate for the current state of the fishery; and that it meets the requirements of the [Commonwealth Fisheries Harvest Strategy Policy 2018](#) (HSP) and [Guidelines for the Implementation of the HSP](#) (the Guidelines);
- an appropriate amount of time will be allocated to the review process, to ensure due process and allow for consideration of issues raised during the consultation process; and
- a key component of the review process will be considering what data is required to support the revised Harvest Strategy.

In providing its advice, the RAG focused on proposed amendments to the key components of the Harvest Strategy outlined in the discussion paper, a summary of which is provided below.

### **Objectives**

The RAG considered the review of objectives in the Harvest Strategy noting:

- the HSP provides a framework for applying evidence-based, precautionary and transparent approach to implementing harvest strategies in Commonwealth fisheries;
- the objective of the HSP is the ecologically sustainable and profitable use of Australia's Commonwealth commercial fisheries resources (where ecological sustainability takes priority) – through implementation of harvest strategies;
- the HSP defines biological and economic objectives for Commonwealth fisheries<sup>1</sup> and identifies reference points against which the success of achieving objectives can be measured; and
- the HSP Guidelines provide guidance on the development of fishery-specific harvest strategies in Commonwealth-managed fisheries that meet the intent of the HSP.

The RAG made the following key points:

- The revised Harvest Strategy should explicitly and clearly identify objectives and ensure that they are consistent with the requirements and intent of the HSP and the Guidelines.
- Strategies for pursuing each objective within the Harvest Strategy should also be clearly specified.
- Management of the fishery, and strategies implemented to pursue the objectives of the revised Harvest Strategy, should be proportionate to the size of the fishery, i.e. consider the principles of risk-catch-cost.
- While the economic objective of maximising net economic returns to the Australian community are difficult to measure in such a small scale fishery, AFMA can still pursue this objective by ensuring cost-effective management arrangements are in place, which are scalable to the size and economics of the fishery.

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<sup>1</sup> The objective of the Harvest Strategy Policy is the ecologically sustainable and profitable use of Australia's Commonwealth commercial fisheries resources (where ecological sustainability takes priority)—through implementation of harvest strategies.

## Indicators, performance measures and reference points

The RAG considered the review of indicators, performance measures and reference points in the Harvest Strategy, noting:

- indicators and performance measures are key components of a harvest strategy and will differ depending on the level of knowledge of the stock and nature of the assessments undertaken;
- the HSP Guidelines recognise that low effort and low value fisheries may take a low cost and precautionary approach (consistent with the principles of risk-cost-catch) when designing a harvest strategy; and
- a system of reference points (performance measures) and decision rules which are scalable in response to changes in catch and effort (performance indicators) provides flexibility for operators to respond to changes in stock status or increased market demand, whilst ensuring the biological and economic objectives of the HSP are met.

## Triggers and Decision Rules

The RAG considered the review of triggers and decision rules in the Harvest Strategy, noting:

- triggers are typically scalable and prompt a series of increasing management responses to a particular performance indicator, such as catch or CPUE, allowing for controlled expansion of the fishery whilst continually evaluating the fishery impact on stock status;
- consistent with the requirements of the HSP, harvest strategies should include decision rules to adjust the level of fishing in response to the level of a performance indicator relative to a reference point;
- the current Harvest Strategy implements triggers, which have decision rules and associated management responses based on changes in catch and effort in the SSJF, Commonwealth Trawl Sector (CTS) and the Great Australian Bight Trawl Sector (GABT);
- triggers included in the current Harvest Strategy are based on historic annual catch by foreign squid fishing vessels off southern Australia (late 1970s –early 1980s) and Australian trawl vessels in the CTS and GABT (1990s);
- a revised depletion analysis may provide an updated understanding of the status of the stock and provide the basis for updating triggers, but it also comes at a cost and requires data which has not been routinely collected; and
- the SSJF Data Plan needs to be updated to ensure that data is available to support such analyses. In the interim, more conservative or intermediate triggers may be considered based on recent catch in the fishery.

The RAG made the following key points:

- In the last decade, the size of the squid fishery has contracted to less than 10 vessels and catch has declined. No triggers have been reached since the current Harvest Strategy was implemented.
- A key element of the HSP is the requirement to demonstrate that a harvest strategy keeps the stock above a limit reference point (LRP). There needs to be a clear link that the triggers, either the current or revised, protect the stock from going below the LRP.
- Triggers and decision rules should be reviewed to ensure that they are appropriate for the current state of the fishery and meet the objectives of the HSP and the Guidelines.
- The current decision rules and associated management responses at each trigger level do not escalate as fishing increases (i.e. management responses at each trigger are very similar), and even at the level 1 trigger, require a detailed analysis of fishery data. The initial

response is to run a depletion analysis, and only occurs after a period of significant catch. There are no 'intermediate' decision rules in response to smaller changes in catch or effort.

- Triggers should be more sensitive to increases in catch, and decision rules and management responses should be revised to implement a scalable approach, with the following provided as an example:

**Level 1:** Catch trigger based on more recent catches.

Response: Monitor nominal CPUE

**Level 2:** CPUE trigger based on nominal CPUE.

Response: Analyse standardised CPUE and:

- (a) if reference point exceeded, undertake depletion analysis, or
- (b) if reference point not exceeded, progress to Level 3 trigger and continue monitoring CPUE.

**Level 3:** Catch Trigger base on more recent catches:

Response: Cease fishing and:

- (a) roll over triggers to next season, or
- (b) undertake depletion analysis and revise triggers.

- Introducing lower level catch triggers, with decision rules to monitor/analyse in season trends (i.e. CPUE) would allow fishing impacts to be assessed without prompting costly management strategies (e.g. depletion analysis) before they are necessary.
- The RAG supported this type of approach but recognised that the fundamental next steps are to:
  - determine whether CPUE (nominal or standardised) is a useful index of relative abundance; and
  - whether an updated depletion analysis is a cost effective approach and could be used to revise catch triggers; and if so, identify additional data requirements.
- Any change in the current trigger levels should be justified and use catch and effort data and any other information required to support such an analysis.
- Currently, data collected within the SSJF would not support a more informative depletion analysis to that undertaken in the RUSS project and the RAG agreed that additional data should be collected. A crew collected data program (similar to that operating in the GABT) would be a cost effective approach for collecting length data for inclusion in future depletion analyses.
- Length data may not be appropriate because there relationship between length and age is notoriously poor for squid.
- Industry members raised concerns that reducing the catch triggers may impede the economics of the fishery.

### **Testing the revised Harvest Strategy**

The RAG considered testing the Harvest Strategy, noting:

- the HSP requires that Harvest Strategies be formally tested to demonstrate that they are highly likely to meet the objectives of the HSP;

- Management Strategy Evaluation (MSE) testing provides an evaluation of a harvest strategy using simulations of stock and fishery dynamic;
- where this is not feasible because of data deficiency or cost/benefit considerations, the HSP allows for suitable alternative testing to be conducted using risk-based methods, provided they have been calibrated against more quantitative methods; and
- alternative MSE testing should be considered for the SSJF due to it being low value and relatively data poor.

The RAG made the following key points:

- As the SSJF currently does not have the data to support the simulations required for MSE testing, the RAG agreed that alternative, potentially more qualitative, methods of testing need to be investigated later in the review process.

## Recommendations

The RAG supported the approach of establishing revised triggers and decision rules which escalate as catch and effort increase subject to Action Item 1 (below) being completed. As a next step, the RAG recommended AFMA liaise with relevant scientists/agencies to establish a detailed set of triggers and decision rules for consideration at the next SquidRAG meeting. Specifically, the RAG made the following recommendations, which have been drafted as an action item.

**Action Item 1.** AFMA to:

- a) investigate methods and data requirements for evaluating whether the current harvest strategy catch triggers remain appropriate, including whether an updated depletion analysis is a cost-effective approach;
- b) determine whether nominal and/or standardised CPUE is an appropriate performance measure against which triggers can be set; and
- c) subject to the outcomes of (a) and (b), AFMA to draft a revised set of triggers and decision rules for consideration at the next SquidRAG meeting.

## Agenda item 4 – Bycatch and Discard Workplan Review

AFMA introduced the agenda item and asked the RAG to review the progress against the action items outlined in the 2004 Southern Squid Jig Fishery (SSJF) Bycatch and Discarding Workplan (the current Workplan) and provide advice on issues to be considered when updating the draft 2020 SSJF Bycatch and Discarding Workplan (the revised Workplan).

The RAG considered the background of the review of the current Workplan, noting:

- the [Commonwealth Fisheries Bycatch Policy](#) (the Bycatch Policy) and the [Guidelines for the Implementation of the Commonwealth Fisheries Bycatch Policy](#) (the Guidelines) were updated in 2018;
- the Bycatch Policy provides a transparent and systematic approach to assessing, managing, monitoring and reporting fisheries bycatch in Commonwealth fisheries based on the precautionary principle;
- AFMA is responsible for implementing the Bycatch Policy through its operational policies and supporting fisheries management strategies (bycatch strategies);
- consistent with the requirements of the Bycatch Policy, and as required under the [Southern Squid Jig Fishery Management Plan 2005](#) (the Management Plan), AFMA implements Bycatch and Discarding Workplans for each fishery to ensure that:
  - information is gathered about the impact of the fishery on bycatch species;

- all reasonable steps are taken to avoid incidental interactions with Threatened, Endangered and Protected (TEP) species;
- ecological impacts of fishing habitats are minimised; and
- bycatch is reduced to, or kept at, a minimum and below a level that might threaten bycatch species.
- the current Workplan has not been formally reviewed since it was implemented in 2004;
- an Ecological Risk Assessment (ERA) was last undertaken in the SSJF in 2007; with an Ecological Risk Management (ERM) developed for the SSJF in 2009;
- the SSJF was assessed at Level 1 of the ERA as not requiring any further level of assessment;
- the ERA identified 216 TEP species (3 chondrichthyans, 83 marine birds, 50 marine mammals, 13 marine reptile and 67 teleosts) which occur in the area of the fishery. None of these 216 species were assessed as being at high risk from the effects of commercial fishing operations; and
- unless a high priority issue, requiring immediate action is addressed, the SSJF ERA will not be reassessed until after February 2021.

### **Review of current workplan and actions**

The RAG considered the review of the current Workplan, noting:

- the objective of the current Workplan is to ensure that the impacts of the fishery's bycatch on the ecosystem are sustainable and consistent with legislative requirements;
- to meet this objective, the current Workplan identifies fishery specific issues (risks) and strategies (actions) that should be implemented to mitigate each issue ([Attachment D](#)); and
- the current Workplan needs to be reviewed to ensure that bycatch management arrangements align with and support the revised Harvest Strategy and Data Plan; and that it remains consistent with the updated Bycatch Policy and Guidelines.

The RAG made the following key points regarding the review of the bycatch and discarding workplan:

- Bycatch is very minimal in the fishery however it needs to be determined if the logbook reporting of bycatch is accurate in the fishery.
- The RAG has previously requested that AFMA write to industry to remind them of their obligation to report bycatch and discards in the fishery to inform the ERA.

AFMA will consider the feedback provided by the RAG and provide a draft 2020 Bycatch and Discarding workplan for feedback at SquidRAG 26.

**Action item 2.** RAG industry members and AFMA to write to operators to remind them of their obligation to report bycatch and discards in the fishery and highlight the importance of this to inform the ERA.

### **Agenda item 3 – Data Plan Review**

AFMA introduced the agenda item, asking the RAG to provide advice on the data needs for the SSJF to inform the review of the 2005 SSJF Strategic Ecosystem Data Plan (the current Data Plan).

The RAG considered the background of the data plan review, noting:

- the review of the Harvest Strategy has promoted the review of both the SSJF Data Plan and SSJF Bycatch and Discarding Workplan;
- the Management Plan requires that AFMA develop and implement a strategy to collect, monitor and assess data that is related to the management of the fishery;
- the current Data Plan was developed in 2005 to ensure the collection of data from the SSJF (and other sources as appropriate) to support AFMA's pursuit of its legislative objectives in the fishery and there has been no formal review since it was implemented;
- more specifically, it was developed to:
  - support the harvest strategy and management of key commercial species (Gould's squid);
  - define data needs and data collection methods to support the ERA and management responses;
  - define the data needed to monitor compliance by the fishing industry with management arrangements for commercial and bycatch species;
  - ensure the collection of any additional data required to meet AFMA's data provision and reporting obligations under fishery policies and guidelines;
  - ensure that data collection processes are cost effective and efficient;
  - ensure that data collected supports the research needs of the fishery;
  - ensure data processes (collection, storage, dissemination, use) are consistent with data related requirements of AFMA's policies.
- The current Data Plan includes a list of actions to address data gaps for the fishery (Table 4 & 5); and
- In recent years, the importance and need for collection of additional data within the SSJF has been highlighted through research projects and discussions by SquidRAG.

The RAG made the following key points:

- The RAG supported AFMA's approach to rationalise the data plan and to incorporate the feedback provided at agenda item 2 and 4 into a revised data plan.
- The metric used to measure effort needs to be reviewed, with a particular focus on capturing start and end depth, this would assist with providing a more informed estimate of effort and as a result would provide a more informed estimate of CPUE.
- Anything that may impact on catch rate, such as fishing gear, should be captured in detail in the fishing logbook. This may need to be reviewed to ensure it captures the different efficiencies with different fishing gear.
- The findings from the Fishwell Consulting project "*Improving the location and targeting of economically viable aggregations of squid available to the squid jigging method and the fleet's ability to catch squid*" should be incorporated into the review of the data plan.

AFMA will consider the feedback provided by the RAG and provide a draft 2020 SSJF Data Plan for feedback at SquidRAG 26.

## **Agenda item 5 – Research priorities**

AFMA introduced the agenda item and asked the RAG to provide advice on research priorities for the 2021-22 financial year to be included in the 2021-22 SSJF Annual Research Statement.

The RAG noted the following background on research priorities:

- There are currently no research priorities identified and no Strategic Research Plan for the SSJF.



- Each year, the RAG are asked to provide advice on upcoming research needs for the fishery.
- As a part of this process, the RAG are asked to prepare an Annual Research Statement and complete a research Gap ID form for each new priority.
- The Annual Research Statement includes consideration of the cost-effectiveness, priority and timeframes for achieving identified priorities.

The RAG provided the following advice on research priorities for the 2021- 22 financial year:

- In order to assist the review of catch triggers a depletion analysis of SSJF stocks should be put forward for ARC consideration.
- Once a revised SSJF Harvest Strategy has been developed it will need to be formally tested to demonstrate that it is highly likely to meet the objectives of the Commonwealth Fisheries Harvest Strategy 2018, in order for this to be done MSE testing of the revised Harvest Strategy should be put forward for ARC consideration.

The RAG agreed that AFMA would distribute a draft research plan, including priority rankings, out of session for finalisation before the AMFA Research Committee meet in August 2020.

## **Close of meeting**

The Chair thanked the RAG and observers for their contributions throughout the meeting.

The meeting was closed at 1.50 pm

## Attachment A- register of interest

| Name                  | Membership        | Declared interests  |
|-----------------------|-------------------|---|
| Lianos Triantafillos  | Chair             | No interests declared, pecuniary or otherwise. Involved in broad research projects though none specifically squid related.  |
| Debbie Wisby          | Industry Member   | CEO of a fishing Company in Tasmania - scallops, squid and shark.<br>SSJF gear SFR holder<br>Partner owns Tasmania State Scallop Units and Entitlements.<br>Commonwealth Fish Receiver.<br>Local Government Councillor.<br>Tasmania Scallop Fishery Advisory Committee member.  |
| Shijie Zhou           | Scientific Member | CSIRO undertakes research on a range of fishery related matters<br>No interest declared, pecuniary or otherwise.  |
| Robert Curtotti       | Economics Member  | ABARES undertakes research on a range of commonwealth fisheries related matters. No interests declared, pecuniary or otherwise.   |
| Terry Romaro          | Industry Member   | Director of a company that owns ETBF boat SFR's, minor line SFR's, ETBF longline SFR's, WTBF boat SFR's, WTBF longline SFR's, Coral Sea Trawl permit, Western Skipjack purse seine permit, SPF purse seine, mid-water trawl SFR's, SPF quota SFR's and SSJF gear SFR's. Shareholder of a company that owns shares in a proposal to fish with foreign long liners in the WTBF. Invited participant on SBTMAC, SquidRag and industry representative at the Commission for the Conservation of Southern Bluefin Tuna & IOTC. |
| Dan Corrie            | AFMA Member       | No interests declared, pecuniary or otherwise.  |
| Heather Johnston      | Executive Officer | No interests declared, pecuniary or otherwise.  |
| Kehani Manson         | Observer, AFMA    | No interests declared, pecuniary or otherwise.  |
| James Woodhams        | Observer, ABARES  | No interests declared, pecuniary or otherwise.  |
| Rocio Tronoso Noriega | Observer, ABARES  | No interests declared, pecuniary or otherwise.  |

## Attachment B



Australian Government  
Australian Fisheries Management Authority

# Southern Squid Jig Fishery Resource Assessment Group (SquidRAG)

## Meeting #25 – 23 June 2020- teleconference

### Agenda

Time (AEST): 11.00-14.00

| Approximate time | Item   |
|------------------|--|
| 11.00            | <b>Agenda item 1. Preliminaries</b><br>1.1 Welcome and apologies<br>1.2 Declaration of interests<br>1.3 Adoption of agenda<br>1.4 Actions arising from previous meetings                       |
| 11.30            | <b>Agenda item 2. Harvest Strategy Review</b><br><i>SquidRAG to consider the discussion paper and provide advice regarding the review of the SSJF Harvest Strategy</i>                         |
| 12.30            | <b>Agenda item 4. Bycatch and Discard workplan Review</b><br><i>SquidRAG to consider the discussion paper and provide advice regarding the review of the SSJF Bycatch and Discard workplan</i> |
| 13.15            | <b>Agenda item 4. Data Plan Review</b><br><i>SquidRAG to consider the discussion paper and provide advice regarding the review of the SSJF Data Plan</i>                                       |
| 13.45            | <b>Agenda item 5. Research prioritise</b><br><i>SquidRAG to identify research priorities for funding in 2021-22</i>  |
| 14.00            | Close  |

## Attachment C- Status of actions

### Previous action items

| RAG meeting # | Agenda Item | Action item # | Action Item   | Agency/ person      | Timeframe                           | Progress  |
|---------------|-------------|---------------|---|---------------------|-------------------------------------|---|
| 23            | 3.2         | 1             | A non- technical summary of the key findings of the project to be circulated to industry  | Fishwell Consulting | Out of session prior to SquidRAG 25 | Fishwell are currently working on this action item as requested by SquidRAG in October 2018. AFMA to follow up with Fishwell as a priority                    |
| 23            | 3.2         | 2             | SquidRAG to provide any comments on the Fishwell project report on 'Locating and targeting of squid' prior to it being made publically available          | SquidRAG            | Out of session prior to SquidRAG 25 | Comments to be sought once Fishwell have completed other action items as requested by SquidRAG in October 2018. AFMA to follow up with Fishwell as a priority |
| 23            | 3.2         | 3             | AFMA to liaise with Fishwell Consulting regarding the feasibility of corroborating this seasons (2018) data with the findings outlined in the report      | AFMA                | Out of session prior to SquidRAG 25 | Fishwell are currently working on this action item as requested by SquidRAG in October 2018. AFMA to follow up with Fishwell as a priority                    |
| 23            | 3.3         | 4             | A draft data strategy for the SSJF to be developed by AFMA that incorporates suggestions made by the SquidRAG with respect to collect data in the fishery | AFMA                | SquidRAG 25                         | To be considered at Agenda Item 3   |
| 24            | 4           | 1             | AFMA to contact operators to remind them of their obligation to report bycatch  | AFMA                | Prior to 2020 season start          | Completed   |

### New action items

| RAG meeting # | Agenda Item | Action item # | Action Item   | Agency/ person | Timeframe |
|---------------|-------------|---------------|---|----------------|-----------|
| 25            | 2           | 1a            | investigate methods and data requirements for evaluating whether the current harvest strategy catch triggers remain appropriate, including whether an updated depletion analysis is a cost-effective approach | AFMA           |           |
| 25            | 2           | 1b            | determine whether nominal and/or standardised CPUE is an appropriate performance measure against which triggers can be set  | AFMA           |           |

| RAG meeting # | Agenda Item | Action item # | Action Item  | Agency/ person                | Timeframe |
|---------------|-------------|---------------|--|-------------------------------|-----------|
| 25            | 2           | 1c            | subject to the outcomes of (a) and (b), AFMA to draft a revised set of triggers and decision rules for consideration at the next SquidRAG meeting          | AFMA                          |           |
| 25            | 4           | 2             | write to operators to remind them of their obligation to report bycatch and discards in the fishery and highlight the importance of this to inform the ERA | RAG industry members and AFMA |           |

## Attachment D Bycatch and Discarding Workplan actions review

| Issue                              | Strategy   | Action  | Update  |
|------------------------------------|--|---|---|
| Unknown level of bycatch           | Quantify the level of and verify the composition of bycatch taken in the fishery and responding to unacceptable levels of it occurring | <p><b>Data collection</b></p> <ul style="list-style-type: none"> <li>- Logbook program</li> <li>- Communication with operators – importance of collecting bycatch information (circulate Bycatch Action Plan to operators)</li> </ul> <p><b>Data analysis</b></p> <ul style="list-style-type: none"> <li>- SquidRAG annually review bycatch and monitor trends and adequacy of reporting</li> </ul> | <p><b>Data collection</b></p> <ul style="list-style-type: none"> <li>- Logbooks first introduced in 2001</li> <li>- bycatch reported in logbooks is not verified through an additional fisheries monitoring system</li> <li>- In 2005/2006, the National Heritage Trust (NHT) funded 20 days of observer coverage within the SSJF to report on bycatch and wildlife interactions within the fishery. Observer reports confirmed the level of bycatch and wildlife interactions reported in logbooks.</li> </ul>   |
| Interactions with wildlife species | Continue to monitor the level of impacts on wildlife species and responding to unacceptable levels of it occurring                     | <p><b>Management response</b></p> <ul style="list-style-type: none"> <li>- Implement responses as required (based on SquidRAG advice, ERA).</li> <li>- Reporting on bycatch included in annual data summary (including Threatened, Protected and Endangered Species)</li> <li>- Code of Practice for the fishery (SeaNet Victoria)</li> </ul>   | <p><b>Data analysis</b></p> <ul style="list-style-type: none"> <li>- Bycatch levels are discussed annually by SquidRAG as part of the TAE setting process</li> <li>- Only six tonnes of bycatch has been reported in the SSJF since bycatch reporting in logbooks was introduced in 2001, with no bycatch reported between 2006 and 2018.</li> <li>- In 2019, bycatch was reported on one occasion with 528kg of Mackerels (mixed) caught in a single drift.</li> </ul> <p><b>Management response</b></p> <ul style="list-style-type: none"> <li>- Southern Squid Jig Fishery General Concession Conditions 2020' limit the species that can be taken (or carried) by operators within the SSJF, with no more than 100 kg of fish (superclass Pisces) to be taken on any trip.</li> </ul> |

| Issue                                     | Strategy  | Action  | Update   |
|---|---|---|--|
|   |   |   | <ul style="list-style-type: none"> <li>- No management actions have been implemented in response to reported bycatch levels since the implementation of the current Workplan in 2004.</li> </ul>   |
| Limited Research                          | Where appropriate, build an information base and encourage conduct of research into the amount and type of bycatch taken in the fishery | <p><b>Data analysis and management response</b></p> <ul style="list-style-type: none"> <li>- Further information is required on bycatch and wildlife interactions to identify bycatch research requirements</li> <li>- Research priorities will be reviewed and amended as appropriate by SquidRAG and the relevant MAC.</li> </ul>   | <ul style="list-style-type: none"> <li>- Following the release of the ERA results in 2007, the RAG considered bycatch research to be low priority</li> <li>- The SSJF Research Plan was due for review in 2019, however the RAG agreed to defer the review until after the SSJF Harvest Strategy, Data Plan and Bycatch and Discarding Workplan were reviewed in 2020</li> </ul> |
| Review of Bycatch and Discarding Workplan | Review and revise the Bycatch and Discarding Workplan for this fishery every two years  | <ul style="list-style-type: none"> <li>- Every 6 months SquidMAC will report to the AFMA Board and Environment Committee on progress in implementing the Bycatch and Discarding Workplan.</li> <li>- The Bycatch and Discarding Workplan is updated at the end of the two year timeframe, taking into account changing circumstances in the fishery, technological advances, the outcome of the ERA process, any new scientific knowledge, as well as the need for any continuing monitoring of bycatch from this fishery.</li> </ul> | <ul style="list-style-type: none"> <li>- From 2004 to 2008, SquidMAC provided a written report to the AFMA Board and Environment Committee every six months; reporting on the progress of the current Workplan</li> </ul>  |