



**Australian Government**

**Australian Fisheries Management Authority**

**Small Pelagic Fishery  
Scientific Panel (the Panel)  
Meeting 11**

**Meeting Minutes**

**Date: 17 January 2019**

**Teleconference**

**2:00pm – 4:00pm**

## Attendees

Name	Membership
Max Kitchell	Chair
Dr Jeremy Lyle	Scientific member
Associate Professor Tim Ward	Scientific member
Andrew Penney	Scientific member
Sally Weekes	AFMA member
Natalie Rivero	Executive Officer
Dr Sean Pascoe	Economic member
Professor Caleb Gardner	Invited expert

## Agenda Item 1.1 Welcome and apologies

The Chair opened the meeting at 2:00 pm and welcomed participants. There were no apologies.

## Agenda Item 1.2 Declaration of interests

The Panel members reviewed the table of members' and invited participants' declarations of interest as required in *Fisheries Administration Paper 12*, and all confirmed the table to be accurate.

The Chair asked participants to declare any conflicts of interest with items on the agenda. Tim Ward and Sean Pascoe confirmed potential conflicts with discussions on research proposals under item 4. As per the approach from recent meetings, the Panel agreed that the input of all members on research discussion was necessary and agreed that all members were able to participate in both the discussion and recommendations on research proposals under this item.

### Declarations of Interest

Participant & Membership	Interest declared
Max Kitchell, Chair	No interest, pecuniary or otherwise, in the Small Pelagic Fishery (SPF). Chair of the Southern Bluefin Tuna Management Advisory Committee and AFMA's Ecological Risk Management Technical Working Group.
Dr Jeremy Lyle, scientific member	Senior Research Scientist, Institute for Marine and Antarctic Studies (IMAS) which undertakes research in relation to the SPF from time to time. Has led several research projects relevant to the SPF and is involved in the assessment of Tasmania's scalefish fishery.
Mr Andrew Penney, scientific member	Director of Pisces Australis (Pty) Ltd which has a potential interest in research in relation to the SPF.
Associate Professor Tim Ward, scientific member	Leader of the finfish fisheries group in South Australian Research and Development Institute (SARDI) which undertakes research in the relation to the SPF including Daily Egg Production Method (DEPM) surveys. Conducts research for State fisheries and other jurisdictions. Member of South

	Australia Sardine Fishery Industry research/management committee. Advisor to Northern Territory on small pelagic fish and squid.
Dr Sean Pascoe, economic member	No interest, pecuniary or otherwise, in the SPF. Employee of CSIRO which undertakes research in relation to the SPF from time to time.
Professor Caleb Gardner, invited expert	No interest, pecuniary or otherwise, in the SPF. Employee of Institute for Marine and Antarctic Studies (IMAS), which conducts research on a range of fisheries issues including at times the SPF.
Ms Sally Weekes, AFMA member	Employee of AFMA, no interest, pecuniary or otherwise, in the SPF.
Ms Natalie Rivero, Executive Officer	Employee of AFMA, no interest, pecuniary or otherwise, in the SPF.

## **Agenda Item 1.3 Adoption of agenda**

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The agenda circulated on 9 January 2019 was adopted with no changes.

## **Agenda Item 1.4 Adoption of minutes**

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The Panel noted no out of session comments were received on the draft minutes for the SPF Scientific Panel meeting held on 26 November 2018 that were circulated to members and invited participants on 20 December 2018.

**The Panel adopted the minutes of the SPF Scientific Panel 10 as a true and accurate account of discussions at the meeting.**

## **Agenda Item 1.5 Actions arising from previous meetings**

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The Panel noted there were no outstanding action items from previous meetings.

## **Agenda Item 2 Response to key issues raised at the stakeholder teleconference**

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One submission was received (**Attachment A**) for the Panel's consideration following the informal stakeholder teleconference on 10 December 2018 from Mr Phil Bolton (NSW DPI). Mr Mark Nicolai (TARFish) wrote to AFMA conveying his support for the matters raised in Mr Bolton's submission.

The Panel noted that no other submissions were received during the public consultation period and that none of the matters raised in the submission or during the informal stakeholder teleconference directly related to the Panel's draft advice.

The three matters raised in the submission, all of which related to the SPF's potential impact on the recreational fishery in NSW, were:

- 1. Improving understanding of the concerns of recreational fishers:** the key concern being the potential impact on game fishing hot spots by disturbing bait schools when fish are harvested from a relatively small area.
- 2. Furthering our knowledge of the interaction between the SPF and the recreational fishery:** by workshopping ideas on suitable studies and using the spatial and temporal distribution of the harvest in the SPF, to better understand how SPF catch may influence recreational catches.
- 3. Advice regarding the spatial management move-on rule:** particularly why the proposal to reduce the spatial management trigger in the SPF to below 10 per cent was not supported by the AFMA commission and that the Panel request the AFMA commission reconsider.

The Panel considered issues one and two together with key discussion points being:

- The Panel's previous advice outlining that experimental research would be required to understand the impact of trawling on pelagic bait schools which would be costly, logistically complex and possibly inconclusive.
- This area of research is not a current priority for the ongoing management of the SPF.
- The interaction between the SPF and the recreational fishery continues to be a priority for the recreational sector, therefore the Panel can provide further advice on how such a project could be pursued.
- The Panel agreed that a potential first step for the NSW DPI could be to use the game fishing tournament data they collect to explore any potential correlations between game fish catch and trawling activity. While this wouldn't necessarily demonstrate causation, there is a data set available that could potential aid them in exploring their research question.
- With respect to SPF data, a request for fine scale catch and effort would need to be directed to AFMA rather than the SPF Scientific Panel.
- If a project were to be put forward there are potential sources of funding, such as the NSW Recreational Fishing Trust, which may be interested in supporting such a project.

With respect to the third matter raised in the submission, the Panel noted that the justification of the AFMA Commission's decision regarding the 10 per cent trigger was explained at the informal stakeholder teleconference by the AFMA representative, i.e., that the risk of localised depletion remains low with no new information and consequently no reason to change the existing rule.

The Panel determined that it would be inappropriate for it to ask the AFMA Commission to reconsider its decision.

**Action: The Chair to draft a response to Mr Phil Bolton's letter and circulate to members for comment.**

## Agenda Item 3 Finalisation of Panel advice following the stakeholder teleconference

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The Panel noted that no issues had been raised during the informal stakeholder teleconference or throughout the public consultation period regarding the Panel's draft advice.

**The Panel endorsed its draft advice (Attachment B) from the SPF Scientific Panel meeting 10 on November 2018, as final.**

## Agenda Item 4 Research

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Under this item the Panel considered the full proposals for the three projects to be submitted to the AFMA Research Committee (ARC) for funding in 2019/20 and one project for potential FRDC funding. The key discussion points and Panel recommendations were:

(1) *DEPM Jack Mackerel East 2019; laboratory work, statistical analysis and write-up (~\$200K).*

- This is a very high priority for industry to the extent that they directly funded the field component of the Jack mackerel east survey in 2018-19 to ensure the field work is completed in early 2019 with a view to preventing the stock dropping from a tier 1 to a tier 2 stock and the consequential halving of the TAC. in 2020-21. The proposal to be submitted to the ARC is to fund the remaining laboratory work, statistical analysis and write-up of the DEPM survey.
- The project methodology is well established and no issues were identified with the proposal.

**The Panel considered the proposal and reconfirmed its support for the project being funded.**

(2) *DEPM Blue Mackerel East 2019; survey and report (~\$500 K over two years)*

- The SPF Panel identified this survey as a high priority for funding in the SPF 2019-20 Annual Research Statement as has the Small Pelagic Fishery Industry Association (SPFIA).
- If this survey is not undertaken in 2019-20 the stock will drop from a tier 1 to a tier 2 stock and consequentially a halving of the TAC in 2021-22.
- The project methodology is well established and no issues were identified with the proposal.

**The Panel considered the proposal and reconfirmed its support for the project being funded.**

(3) *Monitoring and assessment of SPF quota species under the SPF Harvest Strategy.*

- This project supports the SPF Harvest Strategy and is a high priority for funding as outlined in the SPF 2019-20 Annual Research Statement. The current contract expires mid-2019. The submitted proposal is to fund the subsequent three year period.

- At its November 2018 meeting, the draft Panel advice in relation to this project was for it to remain an ongoing priority noting that the project could be simplified in light of the revised sampling requirements and an abbreviated report.
- The Panel noted the full project proposal includes a simplified report structure and considers the Panel's advice on reduced sampling requirements for the project which has resulted in a cost reduction of \$40,000 over the three year period.
- The benefits of including Sardines as a target species in the project were discussed given the relatively low catch of the species (~100 tonnes per season). The Panel agreed that targeted sample collection and analysis for sardines is not required until catch significantly increases and consequently recommended they be removed from the current proposal. This would reduce the project cost by ~\$13,000 per year.

**The Panel confirmed its support for the project being funded on the basis that the targeted data collection and analysis of Sardines be removed from the proposal.**

*(4) DNA metabarcoding to harvest data from routine broad-scale egg and larval surveys*

- The aim of the project is to provide a snap shot of species composition over time and could be used to inform future surveys in the SPF while providing valuable information for a range of other species relevant to both state and commonwealth fisheries.
- The Panel agreed that such a project could be used to improve the level of information regarding the distribution of small pelagic species to the west of Kangaroo Island, in the western sub-area that would assist in addressing the gap in knowledge of this stock it had previously identified.
- The Panel noted that the project will benefit the SPF by potentially providing a cost reduction in DEPM surveys and providing information on SPF target species in areas of the fishery where DEPMs have not been conducted.

**The Panel considered the proposal and reconfirmed its support for the project being funded.**

## **Agenda Item 5 Other business**

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No items were raised under other business.

## **Agenda Item 8 Next meeting**

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The Panel noted there are no further meetings scheduled for the SPF Scientific Panel which will be transitioning back to a RAG by 30 June 2019.

The Chair thanked SPF Scientific Panel members for their contributions during the meeting and throughout their appointment and closed the meeting at 3:12 pm.

**Signed (Chairperson):**

**Date:**

# ATTACHMENT A

## **Submission from Mr Phil Bolton (NSW DPI) following the SPF Stakeholder teleconference in December 2018**

Thanks for including me in the teleconference on 10/12/18, it was useful to get an update of the SPF as it is clearly a significant fishery in NSW and will likely have impacts on our recreational fishery. I would like to clarify a few points that I think are important to the NSW recreational sector.

### **1. Improving understanding of the concerns of recreational fishers**

As previously advised it is not just the take of important bait fish and the sustainability of the fishery that is the concern to the recreational sector as it currently appears that the overall harvest from the stock remains relatively low. The key concern is the impacts caused by the fishery on a local scale, the take of fish from a relatively small area but also the disturbance of the bait schools and the impact this may have on game fishing hotspot areas.

Year on year we get hot spots for marlin along the east coast that is associated with formation of bait schools and this in turn attracts numbers of marlin that stay associated with the bait until the bait departs (naturally due to environmental variables but could also occur unnaturally due to fishing disturbance and capture of the bait). This can result in fishing hotspots that last for a number of days or for a number of weeks and drives considerable positive social and economic activity for the NSW gamefishery. The key point here is that it's not just about fill time and re-aggregation of bait - it's about disturbance of that bait preventing fishing hotspots from forming or hot spots being disturbed to such a degree that the predators move on thus impacting on our seasonal gamefishery and all that benefit from that activity.

### **2. Furthering our knowledge of the interactions between the SPF and the rec fishery**

It is important that we get an understanding of the interactions between the SPF and the recreational fishery and what the impact of the SPF has on the NSW recreational fishery. This should be considered as an important area of investigation and should not be disregarded simply because it may prove challenging to undertake. NSW DPI would be happy to provide the commitment to workshop ideas with AFMA to consider suitable studies that may improve our knowledge of interactions between the SPF and NSW recreational fisheries.

It would also be very useful to get a spatial and temporal distribution of the harvest in the SPF, this would provide us with better data on how the catch may have influenced recreational catches over the year.

### **3. Advice regarding the spatial management move-on rule**

It was very disappointing to hear from the panel that the proposal (raised by the scientific panel and supported by the recreational representatives in January 2018) to reduce the spatial management trigger to below 10% TAC was not supported by the AFMA Commission. It is requested that the panel advise the Commission of the disappointment from the recreational fishing representatives and to ask the Commission to provide their justification for not making the change and ask them to reconsider the request. Until we have evidence to suggest that operations of the SPF do not impact on the NSW recreational fishery, it is suggested that the precautionary principle applies and the operation and harvest of the fishery remains conservative. The recreational sector has recently been accepted as a legitimate stakeholder in the management of commonwealth fisheries and this ruling does little to support this.

# ATTACHMENT B

## SPF Scientific Panel draft advice November 2018

The Small Pelagic Fishery (SPF) Scientific Panel met on 26 November in Melbourne. The key items for discussion were:

- Redbait West Daily Egg Production Method survey results
- Annual assessment of SPF stocks and RBCs advice
- Research Priorities for 2020-2021 and upcoming DEPM schedule
- Data and monitoring strategy for the SPF
- Accounting for discards in the TACs

The Panel's draft recommendations / advice on these items is provided below. Further information on each of these items will be presented at the Stakeholder Forum meeting.

### Redbait West Daily Egg Production Method survey results

A daily egg production method (DEPM) survey was undertaken during 2017 for the western Redbait stock for the first time. DEPM surveys underpin the SPF Harvest Strategy which is used to set the annual total allowable catches for the fishery. The survey area was from Kangaroo Island to the west coast of Tasmania.

Key outcomes from the survey and points of discussion by the Panel were:

- The survey collected 3,280 live eggs from 113 sites and provided a preliminary DEPM spawning biomass estimate for Redbait West.
- There were no obvious breaks in distribution observed in the survey and no eggs collected in Bass Strait. These results differ from the recent Jack Mackerel survey where a stock separation was observed. From the survey, Redbait West appear to have a more continuous spawning distribution over a larger area.
- The resulting spawning biomass estimates were largely driven by model selection and overall they provided conservative estimates of biomass.
- The most plausible model biomass estimate ranged between 51,765 tonnes and 102,867 tonnes. With no solid reason to reject either estimate and for consistency with the approach taken with other stocks, the median biomass estimate of 66,787 tonnes was used as the basis for the Panel's recommended biological catch level.

**The Panel recommended the spawning biomass estimate of 66 787 tonnes be used as the basis for the recommended biological catch (RBC). This tonnage is based on the weight of evidence provided by the DEPM survey.**



## **Annual assessment of SPF stocks and RBCs advice to inform the 2019-20 TAC setting process**

The SPF Harvest Strategy applies harvest control rules to the available biomass estimates from DEPM surveys to determine a Recommended Biological Catch (RBC) for each SPF quota species. Other sources of mortality are then applied to the RBCs to derive the total allowable catch (TAC) recommendations by AFMA Management.

The SPF Harvest Strategy also requires an Annual Fishery Assessment for the RBC processes under Tier 1 and Tier 2. At Tier 3, a review of available catch and effort data is undertaken. These are used to inform the Panel's advice as to whether there is a need to apply lower than maximum harvest rates. The Annual Fishery Assessment must include:

- length–frequency and age information from catches for each stock fished. Guidelines have been developed on the quantity of length–frequency data and otolith information required on an ongoing basis;
- updated catch and effort data; and
- information on changes in spatial and temporal patterns of effort and catch.

The Annual Fishery Assessment also aims to provide evidence suitable for detecting stock depletion, localised depletion or changes in the size and age structure of the catch that cannot be adequately explained by reasons other than a decline in abundance.

A summary of the Panel's advice regarding any key points that arose out of the Annual Fishery Assessment for each stock, along with the RBC advice, is provided in Table 1.

To set the TAC, AFMA deducts other sources of mortality from the RBC.

Table 1: Draft Panel Advice on the annual assessment and 2019-20 recommended biological catches for SPF stocks

Species	Assessment results	Panel Advice	Recommendation for 2019/20
Jack mackerel east	<p>Annual Fishery Assessment.</p> <p>DEPM survey for jack mackerel conducted in 2014.</p> <p>Results published in March 2015 with a best estimate of biomass of 157 805 tonnes.</p>	<p>The Panel was provided with an overview presentation for Jack Mackerel east. There was an increase in catches in 2015/16 to 6,321 t, which has since been decreasing with a total catch of 2,751 t in 2017/18, well below the historical peaks of ~40,000 t in the 1986/87. Trawl effort in 2016/17 and 2017/18 was located off NSW. The 2017/18 catches were 1.74 per cent of the DEPM biomass estimate and 14.5% of the TAC. There is no discernible trend in CPUE.</p> <p>The species is now at the fifth season and Tier 1 and the Panel noted that industry have expressed they would like a new survey to be conducted in January 2019 to keep the species at the Tier 1 level.</p> <p>The Panel's advice for Jack Mackerel East was:</p> <p><b>The DEPM and associated adult sampling provided robust estimates of key parameters. Results published in March 2015 with a best estimate of biomass of 157 805 tonnes.</b></p> <p><b>The annual assessment provided no basis to change the Panel's previous advice for this species. The Panel agreed that the DEPM survey results were appropriate for setting jack mackerel RBCs under the Harvest Strategy for the 2019-20 season.</b></p>	<p>Fifth season at Tier 1</p> <p>RBC</p> <p>= 157 805 x 12%</p> <p>= 18 937 tonnes</p>
Jack mackerel west	<p>Annual Fishery Assessment.</p> <p>DEPM survey for jack mackerel conducted in 2017</p>	<p>The Panel was provided with an overview presentation for Jack Mackerel west. The Panel noted that there is continued low effort in the western area with 2017/18 catch &lt;1 t despite the increase in catches to 634 t in 2015/16 and 686 t in 2016/17 (the previous peak was 365 t). A majority of the recent fishing effort was around Kangaroo Island.</p> <p>The CPUE is low but is reflective of the very low effort in the area. There is no discernible trend in CPUE.</p> <p>The Panel agreed that due to this variability in the data and sporadic fishing effort in the fishery over recent years that there is no reason for concern with the stock.</p>	<p>Second season at Tier 1</p> <p>RBC</p> <p>= 34 978 x 12%</p> <p>= 4 197 tonnes</p>

Species	Assessment results	Panel Advice	Recommendation for 2019/20
	<p>Results provide a best estimate of biomass of 34 978 tonnes.</p>	<p>The Panel reiterated its previous advice that:</p> <p><b>A DEPM survey for jack mackerel conducted in 2017 provided a best estimate of biomass of 34 978 tonnes (which is the 31, 069 plus the Bass Strait estimate) which was considered to be conservative given that the stock extends west of Kangaroo Island and a large amount of spawning activity was detected in Bass Strait which was not extensively sampled (and therefore the biomass estimate is an underestimate).</b></p> <p><b>On the basis of the information provided, the Panel agreed that the DEPM survey results were appropriate for setting jack mackerel RBCs under the Harvest Strategy for the 2019/20 season.</b></p> <p>The Tier 1 exploitation for this stock is 12%.</p> <p><b>Considering the limited information on jack mackerel to the west of Kangaroo Island and the spatial separation of the two key spawning areas (Kangaroo Island and western Bass Strait) which may be evidence of a stock structuring, the Panel recommended that, until more is known about the biomass and / or stock structure of jack mackerel west, the catch taken to the west of the Bonney coast should be restricted to 20 per cent of the RBC. This is equivalent to the proportion of the total spawning area found during the DEPM survey that was represented by this area.</b></p>	
Blue mackerel east	<p>Annual Fishery Assessment.</p> <p>DEPM survey conducted for blue mackerel in 2014.</p>	<p>The Panel was provided with an overview presentation for blue mackerel east. The catches peaked in 2017/18 at 3,119 t (previous peak of 2,368 t in 2015/16). The 2017/18 catches were 3.74% of the DEPM biomass estimate and 24.9% of the TAC with effort in 2016/17 and 2017/18 concentrated off NSW.</p> <p>The Panel noted that it remains difficult to draw conclusions from the length frequency and ageing data due to the variability in effort and fleets which would result in different sizes of fish being caught each year. There is no discernible trend in CPUE.</p> <p>Samples collected by the fishing vessel operating between 2015 and 2016 have been analysed and did not provide any further clarity around adult parameters consequently</p>	<p>Fourth season at Tier 1</p> <p>RBC</p> <p>= 83 300 x 15%</p> <p>= 12 495 tonnes</p>

Species	Assessment results	Panel Advice	Recommendation for 2019/20
	Estimated biomass 83 300 tonnes	<p>uncertainty around the adult parameters used in the calculation of biomass estimate remain. The Panel noted that the more precautionary exploitation rate adopted in the harvest strategy than the original MSE work suggested could be applied, accounts for the uncertainties in the DEPM biomass estimate.</p> <p><b>The annual assessment provided no basis to change the Panel's previous advice for this species. The Panel confirmed that the uncertainty associated with the adult parameters used in the DEPM remain however the DEPM survey biomass estimate of 83 300 tonnes is appropriate to be used as the basis for providing RBC advice.</b></p> <p><b>The current exploitation rate of 15 per cent is considered to be precautionary (as shown by the MSE testing by Smith et al 2015) and accounts for uncertainties in the assessment.</b></p>	
Blue mackerel west	<p>Annual Fishery Assessment.</p> <p>Estimated biomass 86 500 tonnes</p>	<p>The Panel was provided with an overview presentation for blue mackerel west. Recent catches of this species have been very low with 2017/18 catch &lt;1 t (previous peaks were ~2,000 t in 2006 and 2008). The Panel noted that the size structures for this species with much larger fish in the west that don't appear in the east.</p> <p>There are no discernible trends in the CPUE data (given very low effort).</p> <p><b>The Panel noted that the most recent DEPM survey for this stock had been undertaken in 2005 and 2006. The Panel confirmed its previous support of the SPFRAG approach which adopted a biomass estimate for blue mackerel of 86 500 tonne based on the results of the two surveys that covered most of the western spawning area.</b></p>	<p>Third season at Tier 3</p> <p>RBC = 86 500 x 3.75% = 3 243 tonnes</p>
Australian sardines east	<p>DEPM survey conducted in 2015.</p> <p>Estimated biomass</p>	<p>The Panel was provided with an overview presentation for Australian sardine east. Catches of this species peaked at 7,392 tonnes in 2016-17 due to a significant increase in Victorian State catches (previous peak of 4,690 tonnes in 2007-08). For 2017/18, total catch is 429 t (excludes Victorian catch data). Excluding the increase in 2016/17, catches were relatively stable at around 1,300 t from 2012-13 and 2015-16. The 2017-18 SPF</p>	<p>Fourth season at Tier 1</p> <p>RBC</p>

Species	Assessment results	Panel Advice	Recommendation for 2019/20
	49 575 tonnes	<p>catches were 0.86% of the DEPM biomass estimate and 4.33% of the TAC. There were no discernible trends in the CPUE data.</p> <p>The Panel noted that Victorian catches have not been provided due to confidentially concerns and the issue of data sharing is becoming a concern in multiple jurisdictions for a number of jointly managed stocks. However, this is not relevant to the RBC / TAC setting process for the Commonwealth given the stock boundary corresponding broadly with the NSW / Victorian border.</p> <p>The Panel noted that two DEPM surveys have been undertaken for this species, a southern area survey (biomass estimate 10,962) was undertaken at the same time as the recent jack mackerel survey (Ward <i>et al.</i> 2015a) and a northern area survey (biomass estimate 49,575) was conducted at the same time as the blue mackerel east survey (Ward <i>et al.</i> 2015b). It was noted that the southern estimate is likely an underestimate.</p> <p><b>The annual assessment provided no basis to change the Panel's previous advice for this species. The Panel confirmed its previous recommendation to use the biomass estimate from the northern survey to determine a RBC for the northern area and that only the NSW State catches should be taken off the RBC when setting the TAC.</b></p> <p><b>This recommendation was based on recent research (Izzo et al. 2017, Ward et al. in prep, and Sexton et al. submitted to Fisheries Oceanography) that provides indications of stock structuring, with a north stock and south eastern stock (with the stock spilt occurring around the NSW/Victorian border).</b></p>	<p>=49 575 x 20%</p> <p>= 9 915 tonnes</p>
Redbait east	DEPMs conducted in 2005 and 2006	<p>The Panel was provided with an overview presentation for redbait east. The catches in recent years continue to be low compared to the peak catches of ~7700 t in 2003/04, although catches increased from negligible levels to 217 tonnes in 2015/16 and 101 tonnes in 2016/17, however 2017/18 catches are again low at 10 tonnes. The 2017/18 SPF catches were 0.02% of the agreed DEPM biomass estimate and 0.3% of the TAC.</p>	<p>Eighth season at Tier 2</p> <p>RBC</p>

Species	Assessment results	Panel Advice	Recommendation for 2019/20
	Estimated biomass 68 886 tonnes	<p>There were no discernible trends in the CPUE data, with highly variable fishing effort and catches for this species and very low catches over the last 5 years. The length frequency data shows large fish however there are low sample numbers. With very low catches there is no basis to change the Panel's previous advice.</p> <p><b>The Panel noted the most recent biomass estimates from DEPMs in October 2005 and October 2006 of 86 990 tonnes and 50 782 tonnes, respectively. The annual assessment provided no basis to change the Panel's previous advice for this species. The Panel confirmed that the approach used by SPFRAG of adopting the average of these DEPM estimates (68 886 tonnes) should be continued, and the Harvest Strategy Tier 2 harvest rate for redbait of 5 per cent be used as the basis for RBC advice.</b></p>	<p>= 68 886 x 5% = 3 444 tonnes</p>
Redbait west	<p>Annual Fishery Assessment.</p> <p>DEPM survey conducted in 2017</p> <p>Estimated biomass of 66 787 tonnes</p>	<p>The Panel was provided with an overview presentation for redbait west. The Panel noted that limited fishing for this stock has occurred over the last few years with no catch in 2017/18. In recent years, catches increased to 1,157 in 2015/16 and 1,140 t in 2016-17 (from previous peaks of ~3,000 t in 2005-2007).</p> <p>The CPUE is variable due to the intermittent fishing effort for this species making trends difficult to discern from the data. The Panel agreed that due to this variability in the data and extremely low fishing effort in the fishery over recent years that there is no reason for concern with the stock.</p> <p><b>A new DEPM survey for this stock was completed in 2017 with the Panel recommending a spawning biomass estimate of 66,787 tonnes be used for the recommended biological catch (RBC) based on the weight of evidence provided by the survey.</b></p> <p><b>With the new survey results accepted by the Panel, this species moves into Tier 1 under the Harvest Strategy with an exploitation rate of 10%</b></p>	<p>First season at Tier 1</p> <p>RBC = 66 787 x 10% = 6, 678 tonnes</p>

## **Research Priorities for 2020-2021**

As part of the AFMA annual research cycle, MACs and RAGs are required to review the relevant fishery five year strategic research plans to identify the annual research needs. The process to develop the 2020-21 research priorities for the SPF has commenced with advice from the Panel to be considered by the South East Management Advisory Committee in 2019 before consideration by the AFMA Research Committee.

- The Panel agreed to maintain the current order of DEPM surveys noting that the Harvest Strategy framework allows the level of investment in research and assessment to be varied to match commercial interest in exploiting the resource while generating the information required to manage each stock. The schedule is:
  - Jack mackerel east 2018-19
  - Blue mackerel east 2019-20
  - Blue mackerel west 2020-21
- The Panel agreed to retain the annual monitoring and assessment of the fishery as a priority for 2020-21 noting that the project could be simplified in light of the revised sampling requirements and abbreviated report.
- The Panel added an additional research priority to improve the level of information regarding the distribution of small pelagic species to the west of Kangaroo Island, in the western quota zone. This project would use a method such as DNA barcoding to identify all species present in a large number of samples collected through other research projects. This project will provide valuable information on species distribution in a cost effective manner which can then be used to design more targeted DEPM surveys of stocks in this area. This project replaced the previous priority which had a similar objective of improving the level of understanding about stocks west of Kangaroo Island but with more conventional methods of sorting and identifying eggs.

## **Data and monitoring strategy for the SPF**

The Panel discussed data and monitoring requirements in the fishery acknowledging that it underpins the evidence based decision making in the fishery. The Panel noted that throughout 2019, AFMA will be developing a data and monitoring strategy for the fishery, incorporating the work on sampling requirements and monitoring in the fishery to date.

In discussing data collection and monitoring, the Panel recommended:

- For commercial species, 30 samples of 20 fish for length estimates and 5 aged fish across all species are collected to support the annual fishery assessment in the fishery. It was agreed this level of sampling would provide confidence in estimating length and age parameters of SPF species. Sample collection should

be spread throughout the year and can potentially be collected by industry given no processing of samples is required.

- For small bycatch species (as opposed to large bycatch outlined below) on board observer coverage between 5 – 10 per cent of effort would provide confidence in monitoring bycatch species caught in the fishery.
- For Protected species, marine mammals and large bycatch monitoring be reduced from 100 to 10 per cent review of Electronic Monitoring footage. This recommendation was based on the outcomes of footage review in the SPF to date, as well as evidence from both AFMA-managed fisheries and international work that this level of review is sufficient to achieve accurate reporting in logbooks.
- As risk to seabird interactions in the fishery is low (due to very little discarding of catch and the use of bird mitigation devices), that the deployment of mitigation be audited by Electronic Monitoring.

### **Accounting for discards in the TACs**

The SPF Harvest Strategy outlines that to set the TAC, all significant known sources of mortality for each stock is subtracted from the RBC. The Panel discussed the development of an agreed method of calculating discards, to be applied to the SPF RBCs from 2019-20 onwards.

The Panel noted that:

- discards in the SPF are currently very low (generally less than 5 per cent of total catch). Only when discards become larger than the uncaught TAC do they become of concern.
- Generally discards are related to total catch so if discards are to be accounted for, a rate based approach, rather than an absolute tonnage deduction, is more appropriate. This is also consistent with the approach adopted in other fisheries.
- In light of its previous advice regarding how to estimate discards (by calculating a rate based on retained and discarded catch from the previous three seasons and applying that to the RBC), the Panel acknowledged the issue that arose when trying to apply this approach without accounting for the differences between the different methods in the fishery and the abrupt changes in the fleet.
- Consequently, the **Panel recommended that the discard rate should be calculated by vessel type to account for the differences in mid-water trawl and purse seine operations. In applying the discard rate, if there is to be no fishing expected by a sector in the upcoming season, the discard rate for the respective sector not be applied.**