



**Australian Government**

**Australian Fisheries Management Authority**

# **Tropical Tuna and Billfish Fisheries Resource Assessment Group (TTRAG) 32**

**Minutes**

**27 - 28 July 2021**

**Video Conference**

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# 1 Preliminaries

## 1.1. Welcome and Apologies

1. The Chair, Dr Cathy Dichmont, welcomed members and opened the meeting at 9:05am with an acknowledgement of country.
2. The following participants were present at the meeting:

<b>Present</b>	
Dr Cathy Dichmont	Chair
Mr Josh Fielding	AFMA member
Dr Rich Hillary	Scientific member, CSIRO
Mr Gary Heilmann	Industry member
Dr Julian Pepperell	Recreational fishing member
Dr Ian Knuckey	Scientific member
Dr Rob Campbell	Scientific member, CSIRO
Mr Pavo Walker	Industry Member
Mr David Ellis	Tuna Australia CEO
Dr James Larcombe	Scientific member, ABARES
Mr Paul Williams	Industry invited participant
Mr Terry Romaro	Industry member
<b>Invited Participants/Observers</b>	
Mr Phil Ravanello	Tuna Australia, Project Manager
Ms Ann Preece	CSIRO
Dr Ashley Williams	CSIRO
Mr Trent Timmiss	AFMA
Mr James Dell	CSIRO
Mr Robert Curtotti	ABARES
Mr Michael Dylewski	ABARES
*Dr Karen Evans	CSIRO
Mr Peter Grewe	CSIRO
<b>Executive Officer</b>	
Ms Natalie Rivero	TTRAG Executive Officer

\*Attended Day two only

3. No apologies were received prior to the meeting.

## 1.2. Declaration of Interest

4. The Chair asked all participants present at the meeting to declare any conflict of interest with the agenda items. Each participant with a declared conflict of interest was asked to leave the teleconference while the remaining members discussed their individual claims.

Member/participant/Observer	Declared Interests
<b>Dr Cathy Dichmont (Chair)</b>	<p>Has a consulting company, but has no pecuniary interests in the tuna fisheries. Is the current Commonwealth Research Advisory Committee (ComRAC) chair.</p> <p><b><i>Declared a conflict under Agenda item 5.</i></b></p>
<b>Mr Josh Fielding</b>	<p>Employee of AFMA, which includes a salary. Is the Manager of the tropical tuna fisheries. No pecuniary interest in tropical tuna fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Mr Trent Timmiss</b>	<p>Employee of AFMA, which includes a salary. Is the Senior Manager of the Tuna and International section. No pecuniary interest in tropical tuna fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Ms Natalie Rivero</b>	<p>Employee of AFMA, which includes a salary. Is the Executive Officer for TTRAG, but has no pecuniary interest in Australian tropical tuna fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Mr James Larcombe</b>	<p>Employee of ABARES, involved in fisheries research, primarily through engagement with the Western Central Pacific Fisheries Commission. Has no pecuniary interest in the Australian Tropical Tuna Fisheries.</p> <p><b><i>Declared a conflict under Agenda item 5.</i></b></p>
<b>Dr Robert Campbell</b>	<p>No pecuniary interest in Australian tropical tuna fisheries. Former employee of CSIRO and previously engaged in research on the Eastern and Western Tuna and Billfish Fisheries as former PI of the following research project: “<i>Data management, provision of fishery indicators and implementation of the harvest strategies for Australia's tropical tuna fisheries</i>”.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Dr Rich Hillary</b>	<p>Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the Management Strategy Evaluation (MSE) project for the tropical tuna and billfish species.</p> <p><b><i>Declared a conflict under Agenda item 5 and 7.</i></b></p>

<b>Dr Ian Knuckey</b>	<p>Has a consulting company with interests in electronic reporting in the tuna fisheries, and is a member on several other AFMA Committees. Has previously worked on a project on FADs in Tasmania and work relating to the Commonwealth resource sharing framework. Is working on a recreational and indigenous capacity building project with DAWE.</p> <p><b><i>Declared a conflict under Agenda item 5.</i></b></p>
<b>Dr Julian Pepperell</b>	<p>Independent fisheries consultant and representative of the recreational fishing sector. Is currently undertaking research into gamefishing. Is involved in projects including the monitoring of fish landed at game fishing tournaments and pop-up satellite tagging on juvenile Black Marlin.</p> <p><b><i>Declared a conflict under Agenda item 5.</i></b></p>
<b>Dr Ashley Williams</b>	<p>Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the project on <i>Data Management, Assessment and implementation of Harvest Strategy for Australia's Tropical Tuna and Billfish Fisheries</i>.</p> <p><b><i>Declared a conflict under Agenda item 5 and 7.</i></b></p>
<b>Mr James Dell</b>	<p>Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries.</p> <p><b><i>Declared a conflict under Agenda item 5 and 7.</i></b></p>
<b>Ms Ann Preece</b>	<p>Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the Management Strategy Evaluation (MSE) project for the tropical tuna and billfish species.</p> <p><b><i>Declared a conflict under Agenda item 5.</i></b></p>
<b>Mr David Ellis</b>	<p>Is CEO for Tuna Australia.</p> <p><b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b></p>
<b>Mr Phil Ravello</b>	<p>Is currently the program manager of the industry association, Tuna Australia which includes a salary paid by industry.</p> <p><b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b></p>
<b>Mr Gary Heilmann</b>	<p>Industry member, director of a processing company, no longer holds ETBF boat or quota SFRs.</p> <p><b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b></p>
<b>Mr Pavo Walker</b>	<p>Owns several ETBF boat SFRs, and ETBF quota SFRs for all species. Holds a Coral Sea permit and minor line permit.</p> <p><b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b></p>
<b>Mr Paul Williams</b>	<p>Director of a company that holds an ETBF boat SFR, ETBF quota SFRs, and holds a Commonwealth fish receiver's permit.</p>

	<b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b>
<b>Mr Terry Romaro</b>	<p>Director of a company that owns Eastern Tuna and Billfish Fishery (ETBF) boat statutory fishing rights (SFRs), minor line SFRs, ETBF longline SFRs, Western Tuna and Billfish Fishery (WTBF) boat SFRs, WTBF longline SFRs, Western Skipjack Tuna Fishery (WSTF) purse seine permit, Small Pelagic Fishery (SPF) purse seine, mid-water trawl SFRs, and SPF quota SFRs. Shareholder of a company that owns shares in a proposal to fish with foreign longliners in the WTBF. Industry member on Southern Bluefin Tuna (SBT) and Tropical Tuna MAC , Invited participant for TTRAG, and industry representative at the Commission for the Conservation of SBT (CCSBT) &amp; IOTC. Invited participant for squidRAG and squid concession holder. Director of a company who owns a fish processing facility in Port Lincoln.</p> <p><b><i>Declared an interest in Agenda item 4, 5 and 7.</i></b></p>
<b>Mr Robert Curtotti</b>	<p>Employee of ABARES, involved in fisheries economic research related to the Eastern Tuna and Billfish Fishery. Has no pecuniary interest in the Australian Tropical Tuna Fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Mr Michael Dylewski</b>	<p>Employee of ABARES, involved in fisheries economic research related to the Eastern Tuna and Billfish Fishery. Has no pecuniary interest in the Australian Tropical Tuna Fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Dr Karen Evans</b>	<p>Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>
<b>Mr Peter Grewe</b>	<p>Employee of CSIRO, FRDC projects and Swordfish analysis, no pecuniary interest in Australian tropical tuna fisheries.</p> <p><b><i>No conflict of interest declared.</i></b></p>

- In all cases where a member or observer declared a conflict of interest, the participant left the teleconference. The remaining members unanimously agreed they were permitted to participate in the item of discussion, noting the expertise of the individuals and benefits of these members contributing to discussions.

### **1.3. Adoption of Agenda**

- The draft meeting agenda was circulated on 30 June 2021 with minor additions prior to being accepted by TTRAG, as detailed in Appendix 1.
- The order of Agenda items of Day two were revised and discussed in the order of item 7.1, 5.1, 5.2, 5.3, 6.1.
- The minutes are presented in the original order of the Agenda.

## **1.4. Adoption of Minutes**

9. The TTRAG noted that minor comments received out of session from attendees on the TTRAG 31 meeting minutes were incorporated into the draft at Attachment 1.4a.
10. No further amendments to the TTRAG 31 minutes were suggested and they were endorsed as final.

## **1.5. Actions Arising**

11. The RAG noted the status of action items from previous meetings (Table 1) and action items specifically related to CPUE (Table 2). The comments from the RAG on the actions arising can be found in Tables 1 and 2 below.
12. A summary of actions arising from this meeting are included at Appendix 2.



Table 1 Status of actions arising from previous TTRAG meetings (Items marked \* to be discussed and review by TTRAG).

	Action	Meeting raised	Responsibility	Status at TTRAG32	TTRAG comments
1	AFMA to review the background basis for differing CDR conversion factors used by CSIRO and AFMA.	TTRAG 24	AFMA	<b>ONGOING:</b> It was noted at TTRAG 31 that this item was originally proposed to align the conversion factors presented in data summaries by CSIRO with those used by AFMA for quota decrement. The RAG agreed to use the AFMA conversion factors in future data summaries presented to the RAG.	<b>Noted.</b>
2	AFMA to revise the WTBF Indicators template to include subregional IOTC information, recreational fishery information, summary statements and historic catch trends for foreign fishing in the EEZ.	TTRAG 29	AFMA	<b>ONGOING:</b> AFMA will look to incorporate TTRAG's suggestions for the WTBF indicators paper at the TTRAG meeting in September.	<b>Noted.</b>
3	In relation to the ETBF data dictionary: <ul style="list-style-type: none"> <li>a. CSIRO to provide AFMA with a copy of the CSIRO Tuna Legacy Data as described in the Data Dictionary.</li> <li>b. AFMA (Natalie Rivero) to provide more details for the ADC line tables to CSIRO (Dr Campbell)</li> </ul>	TTRAG 29	AFMA	<ul style="list-style-type: none"> <li>(a) <b>COMPLETE</b> Since TTRAG 31, AFMA has confirmed they have a copy of the Tuna Legacy database.</li> <li>(b) <b>ONGOING:</b> The ETBF Data Dictionary will be updated with new information on the new AFMA e-logs at the next FMS data strategy chapter update.</li> </ul>	<p><b>Noted.</b></p> <p><b>Noted.</b></p>

	Action	Meeting raised	Responsibility	Status at TTRAG32	TTRAG comments
4	AFMA to consolidate the list of action items in relation to CPUE analysis and handover to the incoming PI of the Data management for Tuna fisheries contract for review	TTRAG 31	AFMA	<b>COMPLETE:</b> The CPUE action item list is provided in Table 2 below.	<b>Noted.</b>
5	AFMA to prepare a summary of what is recorded with respect to Shark/Whale depredation in logbooks and present findings to the RAG for discussion.	TTRAG 31	AFMA	<b>COMPLETE:</b> A depredation data summary is to be presented under Agenda item 6.1	<b>Noted.</b>
6	CSIRO to produce the next iteration of Striped Marlin projections for TTRAG's July meeting	TTRAG 31	CSIRO	<b>COMPLETE:</b> CSIRO will be reporting on the updates to the harvest strategy at Agenda item 7	<b>Noted.</b>
7	AFMA to organise a small data sub-group consisting of AFMA, CSIRO and Dr Robert Campbell. The data sub-group to meet prior to the July RAG meeting and look preliminary data summaries and identify any issues that may arise in the CPUE standardisations.	TTRAG 31	AFMA	<b>COMPLETE:</b> The data sub-group met on 22 June 2021. The RAG will be provided with the outcomes of the meeting during the AFMA management update under Agenda Item 2.1	<b>Noted.</b>
8	AFMA to provide CSIRO with the locations of recreational fishing FADs off the southeast Queensland coast for consideration in future CPUE standardisations.	TTRAG 31	AFMA	<b>ONGOING:</b> AFMA is yet to receive the co-ordinates of the deployed FADs from QLD Fisheries.	<b>Noted.</b>



Table 2 CPUE related action items

Item	Meeting raised	Status at TTRAG 32	TTRAG comments
CPUE analyses: CSIRO to contact ABARES scientists regarding their 'clustering' analyses work to determine if it may provide insights for improving the CPUE analyses (and vice versa).	TTRAG 21  TTRAG 22	<b>ONGOING:</b> This work is still being progressed noting a change in staff working on it at ABARES.	<b>Taken as read.</b>
CSIRO will look to explore potential changes in fishing practices (particularly with the start of set location) associated with the introduction of Marine Parks, and determine potential implications for CPUE standardisations.	TTRAG 23	<b>ONGOING:</b> CSIRO to obtain the specific boundaries of the marine parks and then will pass onto whoever takes on the work	<b>Taken as read.</b>
TTRAG to consider development of TDR based research and/or data collection in the ETBF to better understand and account for (in CPUE analyses) the relationship between fishing strategies (including vessel log speed, shooter speed and dropper lengths etc) and fishing depth.	TTRAG 23	<b>ONGOING:</b> Not yet actioned.	<b>Taken as read.</b>
AFMA to examine VMS data to check and verify sets reported on logbooks as having mainline lengths greater than 100km.  TTRAG to consider frequency distributions of values for all factors used in CPUE standardisations and provide advice regarding the removal of outliers.	TTRAG 24	<b>ONGOING:</b> Not yet actioned.	<b>Taken as read.</b>
TTRAG to give further consideration to additional potential fields, specifically, those required by WCPFC logbooks and ROP, fields relevant to collecting data on	TTRAG 29	<b>ONGOING:</b> Not yet actioned.	<b>Taken as read.</b>

Item	Meeting raised	Status at TTRAG 32	TTRAG comments
depredation, and shape of mainline set.			
AFMA to provide CSIRO with the locations of recreational fishing FADs off the southeast Queensland coast for consideration in future CPUE standardisations	TTRAG 31	<b>ONGOING:</b> Not yet actioned.	<b>Taken as read.</b>

## 1.6. Out of session Correspondence

13. The TTRAG noted the out of session correspondence between the TTRAG 31 and TTRAG 32 meetings as provided in the written update by AFMA.

## 2 AFMA Catchwatch

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### 2.1. Current catches and effort in the domestic fishery – verbal updates from scientists, industry and recreational fishing members since last RAG Meeting (March 2021)

14. Industry members and invited participants provided an update on recent fishing activity with the RAG noting that:
- Limited air freight options are continuing to be problematic with one Mooloolaba operator focusing on sending Albacore product via sea freight as an alternative to the usual targeting of Swordfish.
  - Lockdowns in Sydney and Melbourne have continued to impact the domestic market while US markets are beginning to open up again. It is hoped that fishing will be good mid-year and be consistent with previous years so targeting of Swordfish can resume.
  - The switch to Albacore fishing means changes in gear settings such as zero light sticks used (rather than 100% light sticks), Sardine bait (rather than Squid), slower setting speeds and fishing in the Northern Coral Sea area.
  - In the Northern NSW, Coffs Harbour and Nelson Bay there have been good quality sized Bigeye Tuna and Yellowfin Tuna with catches improving in recent weeks.
  - The Southern Bluefin Tuna east coast season is in full swing with good catches south of Ulladulla with an average of ~50t a week being processed through the Ulladulla co-op. Prices on the Japanese market have been relatively low at ~800-1000 yen/kg. The Covid-19 shutdown in Sydney and Melbourne have greatly affected the domestic market.
  - In the WTBF, there has been very limited access to Japanese markets which has made operations difficult.
  - In Cairns, there has been a fair amount of byproduct, specifically Mahi Mahi and Wahoo product, supplementing target species. Recent changes to the Coral Sea Zone hook limit have made operations more efficient where one shot can be done per day instead of two.
  - Financial pressures are continuing to impact industry with the recent Job Keeper payments only covering half of the work force. Sourcing labour is continuing to be a challenge as international borders remain closed. Financial constraints will likely result in reduced membership fees for Tuna Australia in the coming year.
  - The recent Indian Ocean Tuna Commission (IOTC) Yellowfin Tuna measure has impacted WTBF operators by reducing the TACC that can be set in the 2022 season by 60%.

- Tuna Australia has many projects underway or looking to be funded to create value in the fishery that will be discussed further during the Research agenda item.
15. The recreational fishing member provided an update on recent fishing activity with the RAG noting:
- The recreational fishery has started off well in south-eastern Australia with good catches of Juvenile Black Marlin. Recent tournaments have been largely unaffected by Covid-19 lockdowns and would've been highly successful if it weren't for a number of cancellations due to rough weather which resulted in a reduction in the number of fishing days. Tournament catch data that is monitored may be impacted this year as a result.
  - Recently, there have been very good Oceanic Yellowfin Tuna catches from South Sydney far out wide off the coast ~ 50-70kg in size. Inshore Yellowfin Tuna have again failed to appear during the season.
  - The Yellowfin Tuna project that was undertaken with Dr Robert Campbell is now complete with the final report submitted to NSW DPI. Unfortunately, the project was unable to find a definitive reason driving the availability of Yellowfin Tuna in the Recreational sector. The report will be circulated to the RAG when it can be made public.
  - The Swordfish fishery off Tasmania is doing well with boats reporting good catch rates. There have been two additional Swordfish tagged in Victoria under Sean Tracey's project, one of which was a modest 280kg.
  - The Southern Bluefin Tuna fishery has also been positive with large fish (over 100kg) reported in Tasmania and Southern NSW.
  - The Mooloolaba fleet very kindly provided samples for a PhD student undertaking a project on Sailfish. Dr Pepperell was appreciative of the effort from Tuna Australia in co-ordinating the samples for the project.
  - There were 28 boats participating in the recent Sailfish tournament with 517 Sailfish tagged.
16. A question was raised as to whether the consistent good recruitment of Black Marlin that has been reported for a number of years now has translated into improved strike rates in the adult population. It was noted that a recent honours project investigated whether increases in the adult population result in higher number of recruits. There may be an opportunity to revisit work on Black marlin with the recent change to the hook limit in the Coral Sea Zone in the commercial fishery.
17. The AFMA member informed the RAG that in early June, a subset of TTRAG members, industry and CSIRO held a data meeting to explore the preliminary catch and effort data for 2020. It was agreed at the meeting that the data was reflecting the behavioural changes that occurred in 2020 such as the shift to Albacore targeting and moving away from Swordfish targeting due to market constraints.

## 2.2. AFMA catch watch reports (AFMA)

18. The RAG was presented with the fishery catch data paper provided by AFMA noting:
- The percentage of TACC caught at this time of year is fairly consistent with previous years with the exception of reduced catch of Swordfish and higher Albacore catch

reiterating the reports noted from industry. Overall, effort is lower than previous years likely due to the ongoing issues effecting available markets arising from the Covid-19 pandemic.

- The WTBF catch is mostly consistent with previous years and the same difficulties affecting the ETBF have been experienced on the West Coast resulting in lower Swordfish and Yellowfin catches.
- With respect to SBT targeting, a persistent eddy of NSW/VIC border has been fished consistently in recent weeks. The final SBT farm sector catch was ~4600t at the conclusion of their season resulting in a significant proportion of quota available for the east coast. To date, the longline sector catch to date is ~400t to date. Reports from industry have indicated that there have been good quality SBT catches but sale prices are poor.

## 2.3. International meeting update

19. The RAG was provided with an update from AFMA on recent international meetings noting:

- The Covid-19 pandemic has resulted in an increased frequency of international meetings which is likely to continue for the foreseeable future. Prior to the start of the Covid-19 pandemic a number of decision items on the WCPFC work plan had been deferred to 2020. Those items were again deferred to 2021 in light of the pandemic. However, it is likely the main focus at this year's meeting will be the Tropical Tuna measure so there may be further delay for items on the work plan.
- There will be a number of meetings in the coming months focusing on the Tropical Tuna measure in the lead up to the main Commission meeting in December which was planned to be held in Canada but will now be online.
- Don Bromhead from ABARES led the submission of a paper to the Scientific Committee on behalf of Australia for how to better manage Swordfish (the paper will be circulated to the RAG when it becomes available). Kerry Smith continues to chair Electronic Monitoring/Electronic Reporting group that is looking to develop standards for the continued rollout of Electronic Monitoring in the Western Central Pacific.
- With respect to the Scientific Committee, Dr Rich Hillary informed the RAG that the Swordfish assessment is due this year and it will look to have updated migration estimates in the assessment. There is also an independent review of the Bigeye assessment due to be completed which may result in changes to how Bigeye is assessed.
- For the Indian Ocean Tuna Committee (IOTC), there have been a number of meetings recently including a recent allocation meeting for key tuna stocks in Indian Ocean. The main item has been the Yellowfin Tuna measure which aims to reduce mortality by 20% from the previous assessment in 2017.
- The result of the measure has been a reduction in the current catch limits for a number of countries (including Australia) from 5000t to 2000t. There was pressure on Australia to accept a limit of 500t, however, a reduction to 2000t was agreed and will need to be implemented by Australia via the WTBF Yellowfin TACC in the 2022 season.



- It was questioned by industry as to how effective the new measure will be in reducing actual catch. It was noted that the measure's intent is to prevent the larger catching countries from reflagging vessels to countries that aren't catching their limits.
- There was also a new agreement (that is pending legal advice) on Fish Aggregating Devices (FADs) that restricts the numbers of FADS and implements a closure.
- At the recent CCSBT meeting, the TAC's were set for 3 years with few other changes that will impact management for the next year or two.

## 2.4. MAC and AFMA Commission outcomes

20. The RAG was provided with an update from the TTMAC 25 meeting held on 23 March 2021 and the AFMA Commission meeting held on 4-5 May 2021.

21. The key items from the most recent MAC were:

- 2021 CRIS and 2021/22 budget - Key changes in the draft 2021/22 budget in comparison to the final 2020/21 budget were:
  - An overall decrease (~\$1k) for ETBF levy budget; where increases in management costs (driven by budgeting for resumed normal MAC/RAG travel) and inclusion of bycatch overheads (which were incorrectly not included in the last budget) were offset by a reduction in the research budget.
  - Decreases in the WTBF (~\$13k) and Skipjack Tuna Fishery (~\$14k) mainly driven by a reduction in licensing administration and revenue collection costs.
  - The way IT costs are recovered has changed. Previously they were mainly allocated to licensing administration, whereas now they are mainly allocated to data collection and management. It was noted the move to and integration of digital data collection for logbooks and CDR's has resulted in a net increase (~\$30k) to the ETBF.
- Striped Marlin harvest strategy update - TTMAC noted the work presented to the TTRAG on the Striped Marlin Harvest Strategy and that the TTRAG will be considering how well the HCR operates when they are presented with the final outcomes of the MSE testing produced by CSIRO.
- Coral Sea hook trial Update - TTMAC noted a working group was formed and agreed on conditions for a two year trial of an increased hook allowance in the CSZ.

22. The RAG noted the key discussion items from the most recent Commission meeting which were:

- The ASBTIA undercatch request- which was supported by TA, to provide increased flexibility through increased undercatch provisions in the Southern Bluefin Tuna (SBT) fishery. In reaching its decision to not support industry's request, the Commission:
  - Recalled its decision to provide this flexibility for the 2019-20 season only, as a direct response to COVID-19;
  - that the presence of undercatch from 2020 was contributing to the likely further undercatch in 2021;
  - Noted that markets are gradually freeing up; and
  - Considered whether there would be perceived inequity in treating the SBT fishery differently to other fisheries.
  - The Commission did note, however, that the current application of undercatch provisions in Australia's domestic SBT fishery differs from other members of the

CCSBT and presents annual lost opportunities for Australia. The Commission agreed to explore, in consultation with industry, a long-term arrangement that might result in greater usage of Australia's CCSBT allocation and avoid ad hoc considerations that would likely lead to inconsistent decision making over time.

- The WTBF overcatch and undercatch and determined weight- that was agreed by the Commission for quota species for the 2021-22 season.

### 3 Other Business

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#### 3.1. Significant events

23. The RAG noted that at each July meeting, a review and updating of the Significant Events spreadsheet is undertaken to maintain a record of management changes in the fishery over time, both for the commercial fishery managed by AFMA, but also for the recreational gamefish fishery as well.
24. In the period since the last update, the RAG noted that AFMA has added information relating to:
- New Harvest Strategy applied to Swordfish (2020)
  - FADs deployed off QLD coast (25 February 2021)
  - Size monitoring project (run by Kevin Williams from late 1990s)
  - Size monitoring project (run by Tuna Australia from 1 July 2019)
  - Mandatory e-logs introduced into the ETBF (1 January 2021)
  - Coral sea zone increased hook limit two year trial (1 March 2021)
  - E-monitoring for all pelagic longline vessels from 5 November 2020 (even if fished for less than 30 days)
25. The RAG suggested further additions to the Significant Events spreadsheet, specifically to include:
- The newly proposed Indian Ocean Territories marine park
  - Introduction of the marine park in the Coral Sea
  - Change of Principal Investigator on the Data management contract for Tropical Tuna Fisheries.
26. It was also suggested that the WCPFC SC paper authored by Dr Robert Campbell that contains explanatory notes for significant events in the fishery be provided alongside the spreadsheet in future.

**ACTION: AFMA to update the Significant Events spreadsheet with the suggestions made by the RAG**

**ACTION: AFMA to include Dr Robert Campbell's WCPFC SC paper that contains explanatory notes for significant events in the fishery alongside the Significant Events spreadsheet in future.**

#### 3.2. Update on Coral Sea Zone (CSZ) hook limit trial

27. The AFMA member presented the RAG with an update on the Coral Sea Zone (CSZ) trial noting that:

- On 23 June 2021, the CSZ working group was convened as the number of blue marlin reported (37 interactions) had triggered the first tier that was agreed under the conditions of the trial. As per the trial's conditions, the group reviewed the available data to decide whether any changes should be made to the trial.
- After comparing trial numbers with CSZ catch data for previous years and discussing species identification issues, the group agreed to simplify the Tier trigger table by combining the blue and black marlin trigger count numbers rather than having separate rates for the two species.
- Tier 1 and 2 Marlin interaction which were originally broken down into Black and Blue Marlin species, are to be combined as follows:

	Marlin (Blue and Black)
First Tier	99
Second Tier	131

28. The group agreed the operator must still attempt to identify marlin by species and continue to include recording of all interactions with protected species and the recording of species, life status and weight estimation for each individual interaction with marlin.
29. The group additionally requested that AFMA provide a further breakdown of available data (including a marlin catch rate per 1000 hooks and life status for individual marlin interactions) at its next meeting in August or prior to August if the revised trigger is reached.
30. A question was raised to whether the trigger will increase if a new boat begins fishing in the CSZ and it was clarified that the trigger will remain the same and applies to all activity in the CSZ during the trial.
31. It was also discussed whether there will be sufficient information collected during the trial to determine the survivability of marlin and it was noted that life status information is being recorded through e-logs.
32. Industry outlined their feeling that the metrics to analyse the trial need to reflect the original intention of increasing fish survivability by restricting fishing gear in the area to 500 hooks/shot. Therefore, the focus of the trial should be on survivability and not the trigger limit of fish caught. AFMA noted that the metrics being assessed will include life status and as such ongoing consideration of the trial will include assessment of life status.

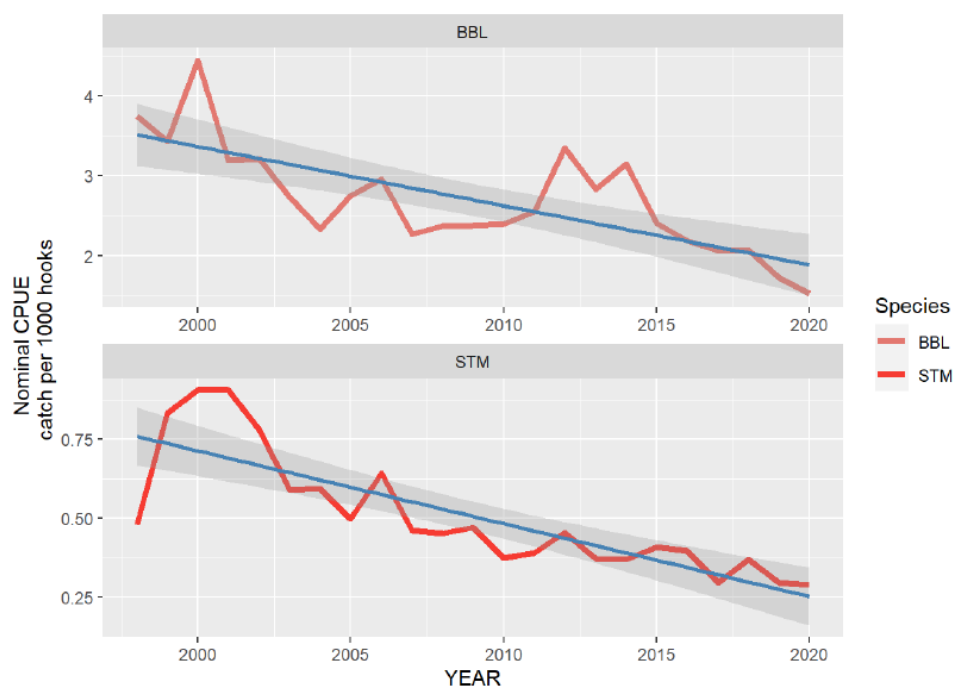
## 4 Review of Fishery Indicators

### 4.1. ETBF Data Summaries

33. The RAG was presented with the ETBF data summary prepared by Mr James Dell noting that:
  - The presentation of the paper varies slightly from papers previously prepared by Dr Robert Campbell. However, all the core information that has previously been provided to the RAG has been included.

- With respect to effort, there were fewer days fished and a lower number of sets in the 2020 fishing season. However, the number of hooks set has remained consistent with previous years.
- Catch for all quota species combined was higher in 2020 than the previous years despite the difficulties experienced by industry.
- The data shows an increase in Albacore and Yellowfin catch and a notable decrease in Swordfish catch. The nominal CPUE for both Swordfish and Striped Marlin show a decreasing trend over time (Figure 6 below from Agenda item 4.1 *Summary of Catch and Effort Information pertaining to Australian Longline Fishing Operations in the ETBF – 2021 Update*)

Figure 6– Nominal CPUE for target species. Blue line is a linear fit to all years, grey shadow shows 95 % CI of the fit.



- Trends in monthly catches for each quota species were shown where it was noted that the monthly catches of Striped Marlin appear drop off between December and January however it is unclear why.
- There was effort out wide in 2020 (in the vicinity of Lord Howe) in what is a principal Swordfish ground that wasn't apparent in the 2019 season. It was noted that it may have been an attempt for Swordfish targeting on a few trips, but the trips were not undertaken by the usual operator that targets Swordfish in the fishery.
- The distribution of effort and catch for each species across each latitude band in the fishery was noted with the majority of effort over time occurring in the 25S – 30S latitude band.
- A linear trend line was applied to each species catch plot in each latitude band with the RAG noting that a linear line was perhaps not the best fit for the data given a number of high catching years greatly influencing the trend. It was agreed that it was best to remove the trend line in future data summaries.

- The change in bait usage for 2020 provided by industry in their update was noted with a decrease in Squid bait and reduction in light stick usage, as well as, an increasing trend of longer lines being set.
- With respect to the discard figures presented in the paper, the RAG requested that future updates provide more information (e.g. life status, discards relative to effort) in what may be driving the discards. In future, size classes of discards would be useful to capture.
- It was noted that better information collected around discards is something that all Commonwealth fisheries are interested in.
- The ETBF weight frequency data summary that is collected via sampling across a number of different processors and locations and exists in both single fish measurements and bulk estimates.
- Mean weight of Albacore is generally consistent with the overall time-series though with a strengthening of the upwards trend in quarter 3 in recent years.
- Swordfish weights in all quarters - especially 3 and 4 - are generally below the average of preceding 5 years.
- Striped Marlin mean weights still show similar recent trends in quarters 1–3 with the general downward trend in quarter 4 continuing.
- The last two years of mean weight in Yellowfin tuna have been below recent average levels in all quarters.
- It was noted that the quarterly representation of the size data makes it difficult to see the trends over time and perhaps future size data summaries can display the data using mean weight by year.
- **ACTION: Future data summaries to**
  - (1) remove the linear trend line from the catch plots and**
  - (2) provide more information of discards such as including life status and context around discards relative to effort, and**
  - (3) present future size data summaries to show trends over time (e.g. by year) rather than by quarter.**

## 4.2. WTBF Data Summaries

34. The RAG was presented with the WTBF data summary prepared by Mr. James Dell noting that:

- Effort in terms of number of hooks set and days fished was lower in 2020 than in the previous five years.
- Catch in 2020 across all species combined was the lowest in 10 years in terms of both number of fish and kilograms of fish caught.
- There was observed effort in the Gulf of Carpentaria picked up in the preparation of the data summaries, however, the RAG noted that this was likely a data entry mistake.

## 4.3. ETBF CPUE standardisations

35. The RAG was presented with the ETBF CPUE standardisations noting that:

- Three sets of indices were prepared for the RAG for discussion and Table 3.1 in the paper at Agenda item 4.3a outlines the differences between each of the three indices presented.
- The three indices were:
  - 1) the same set of Indices presented at last year's RAG, and for many years prior (oldGamma2).
  - 2) a set of Indices where the GLM models have additional main effects terms, simplified effort variable, modified moon phase, and the reintroduction of ocean current information (trip Gamma2).
  - 3) The third set of Indices is same set of models as in 2) with the trip-based targeting/clustering term swapped for a set-based clustering term (setGamma2).
- The 2020 CPUE standardisations (in all three indices) have used the same size cut offs for each species as previous data summaries presented to the RAG. For each species, the nominal CPUE for each of the 3 indices were presented for all size classes combined, for recruits, for sub-adults and for adults.

36. Key points from the RAG's discussion on the construction of the three CPUE indices were that:

- There is variation between how the Year + Quarter + Area term is used between models. The 'Trip Gamma2' and 'Set Gamma 2' indices use a model that fits the year, quarter and area variables as main effects, whereas the 'Old Gamma 2' uses a model that uses the interaction of 'year:quarter' and 'quarter:area'.
- The underlying models are constructed differently and it makes it difficult to compare the influence of excluding variables (e.g. moon phase) or reintroducing variables (e.g. current direction) in constructing the indices.
- There is a new analyst coming onboard to take over the data work for the Tropical Tuna fisheries and they will likely have further suggestions as to how to improve the construction of the indices.
- The work presented to the RAG demonstrates that there are improvements that can be made to the standardisations and a comprehensive comparison between new methods and the previous method would be good to consider when the new analyst starts in the position.
- The RAG was appreciative of the work done to explore a new approach to constructing the model and new variable selections as they appear to present opportunities for improvement. The RAG further noted that a species-specific approach may be the best way forward however the current timing for introducing a new method is not ideal.
- The RAG would like to see species-specific model comparison as well as step-by-step changes to variable selection to be able to endorse a new method CPUE model/variable section. As such, the RAG will use the Old Gamma 2 model for the basis of its advice in the short term until such an analysis can be presented for consideration by the RAG.

37. Key points from the RAG's discussion on the CPUE indices results for each of the species were that:

- Yellowfin Tuna showed an increase in 2020 (in nominal, Old Gamma 2 and Set Gamma indices) in all size classes combined that appears to be driven by adult rather than sub-adult fish.

- Bigeye Tuna showed a decline in 2020 in all size classes combined in all indices presented. It was noted that the first point in the data series (1998) is very different from subsequent data points. However, it does not affect the way in which the RAG forms its advice where the most recent 5 and 10 year average are described in the advice to the MAC and AFMA Commission.
- Albacore showed a great level of variation between indices where the Old Gamma 2 model appears to have accounted for the targeting practices of the species over time and shows a very slight incline in 2020 for the species.
- Swordfish recruits showed a decline in 2020 despite seeing an increase in recruitment in the previous few years which was also observed in the size data where the average size has decreased (indicating more small fish observed in the fishery). The sub-adults showed a sharp decline in all the 2020 indices presented. There is also a trend of decline over the past 5 -7 year range that appears to be continuing.
- Industry noted that the bait type variable is likely not capturing the shift in Squid usage where there has been a shift from high quality squid to a poorer quality squid in recent years due to cost. It was noted it may be worthwhile separating out the different types of squid to see if it has an influence on catch rates through a sensitivity analysis. A data meeting each year prior to the development of the CPUE indices may be the best way to ensure new developments such as this are captured.
- Industry noted the increased international fishing pressure adjacent to Australia's EEZ in Areas 1, 5 and the SW Pacific are likely having an impact on Australian swordfish catches
- **ACTION: A data meeting should be scheduled each year prior to the development of the CPUE indices to ensure that nuances in data (such as bait types and other behaviours) can be understood by those running the standardisation to ensure significant contributing factors can be investigated.**
- Striped Marlin showed a sharp decline in 2020 across all indices presented that is consistent with a downward trend in the last few years.

## 5 Research Update

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### 5.1. Annual Research Statement

38. The RAG was provided with the schedule for the annual process which the AFMA Research Council (ARC) undertakes to facilitate AFMA research prioritisation and funding.
39. The AFMA member explained that the RAG is required to finalise the 2022/23 Annual Research Statement for consideration by the ARC at its August 2021 meeting.
40. The RAG noted the list of Tropical Tuna strategic priorities that were discussed at the recent ARC meeting with RAG chairs which were:

# Tropical Tuna – strategic priorities

- Collect and maintain accurate fishery data
  - Economic data (include in HS?)
  - EM data collection & analysis. Can it be used better? Implications of 6-month rule
  - Recreational catch data
  - Other sources of mortality (depredation)
- Development of reliable stock abundance indices
  - Influence of climate change?
  - Stock connectivity between Australia and wider Pacific (i.e. close-kin for Swordfish in South Pacific)
  - Other external factors on fishery (oceanography)
- Best practice measures to reduce TEP interactions
  - Fishing depth strategies and implications on catches and TEPs

41. It was noted that there was discussion at the ARC meeting on more generic cross fishery priorities (e.g. Climate Change) and the ability for IMOS to use ships of opportunity in the fishing industry.
42. Many of the items (highlighted in green in the list above) were added to the list following a recent call for priorities to the RAG noting that there are projects that have (or will shortly) end such as the Genetics and Oceanography projects.
43. In their discussion, RAG members suggested a number of potential additions to the priorities including:
- Better estimates of the size classes of discards, particularly for species that go into the CPUE standardisations.
  - As part of transitioning to new methods for constructing the CPUE standardisations, a simulation study (similar to what has been completed before) when the new analyst is onboard.
  - Exploring fishing depth strategies and implications for catches and TEPs in the fishery.
  - There may be further work that can follow on from Dr Karen Evans' genetic project (i.e. such as close-kin) that could be considered in the future.
  - Following on from the Recreational fishing Yellowfin Tuna project that has been completed, investigate size and recruitment patterns of juvenile Yellowfin Tuna and other recommendations from the project through an extension of funds from the NSW Recreational Fishing Trust.
  - Revisit work of catch rates and survivability of Black Marlin in the Coral Sea.
44. Tuna Australia is progressing an EOI for a project looking at wildlife mitigation and TEP interactions and have Time Depth Recorders (TDRs) that could be contributed to another project that looks at depth characteristics of fishing gear to inform CPUE standardisations. It was discussed whether an integrated project (that looks at both depth as well as TEP interactions) was worth pursuing and it was agreed that it would be best to not integrate the projects at this time.



45. It was discussed whether a project on market conditions would be useful and industry noted that a recent project on market diversification and value added projects has been completed and no further work in that area is needed at this time.

46. Overall, the RAG agreed that:

- There have been a number of projects recently completed and considering the results of those holistically before new projects are pursued would be a good step. It was agreed that outcomes of recent projects should be added to the March TTRAG meeting agenda.
- The extension of funding for the recreational fishing Yellowfin Tuna project should be pursued with the NSW recreational fishing trust with the support of the RAG.
- A project of depredation should be discussed further under Agenda item 6.1 and added to the priorities if necessary.

## 5.2. Update on Tuna Australia projects

47. The RAG was provided with a verbal update on Tuna Australia projects noting that:

- There is an audit due for the ETBF's MSC certification in January 2022. Tuna Australia would like to see items on the WCPFC workplan progressed prior to the audit as there is a risk the certification may not be renewed.
- There is a review of MSC standards under way and Tuna Australia are working within the review process to encourage MSC to reassess how P2 species are assessed. Industry would like to see Southern Bluefin Tuna receive certification, however, there are complications due to its conservation dependent status.
- The FRDC project that's looking at the safety around mitigation for seabirds is progressing with a few options developed to be trialled on vessels. Options such as side setting and adding weight to hooks were not considered viable options at this stage. However, other options (such as a flyback safety screen) will be trialled once there is ability to travel more freely domestically.
- Funding was received for a project to assess sustainable bait use in the fishery and investigate alternate bait sources including artificial options to progress a recommendation arising from the MSC certification.
- An EOI to FRDC for a project looking to wildlife mitigation options is being developed in collaboration with the University of Sunshine Coast where the first step will be to get honours students to look at what mitigation options have been tested and what is available that hasn't been used in the fishery. It is hoped that project will involve a NZ collaboration and provide more mitigation options for industry, particular new things that have not been used in the Australian longline industry before.
- The recently completed market diversification project will be looking to extend outcomes for the next phase of the project, however, Tuna Australia is not leading that work.

## 5.3. Genetics Project

48. The RAG was provided with a presentation from CSIRO on additional Swordfish samples for the Genetics (Connectivity of the principal target species within the ETBF and broader western and central Pacific Ocean) project. It was noted the project received additional internal funding to more samples from added locations (such as New Zealand and the Cook Islands).

49. The RAG was presented with the outcomes of the additional sampling noting:
- Samples were collected from several locations in the ETBF, Norfolk Island, the Cook Islands and New Zealand. Within the samples there were a mix of sexes, lengths, age cohorts and reproductive state. Good quality samples were received from NZ and the Cook Islands.
  - There was little discernible genetic differentiation between Swordfish caught at the locations sampled suggesting some level of connectivity and mixing in the areas investigated. Given the low number of samples within years examined, the results should be considered preliminary and further sampling (potentially through techniques such as close-kin genetics) would be needed to definitively determine stock structure.
  - The study was originally designed to collect 50 samples from each site per year. However, a much lower number of samples were obtained.
50. A question was raised as to whether the conclusion driven by the low number of samples was valid. It was explained that the sample size was adequate to draw the conclusion the study came to and that previous studies have suggested there is one stock in the central pacific, and the results of this study are consistent with that finding.
51. The RAG discussed the results and whether there was sufficient evidence to determine that there are distinctive spawning stocks. It was noted that the project was looking at genetic differentiation and not assigning fish to spawning stocks.
52. In discussion it was noted that despite evidence to suggest there is a single stock, there may still be good reason to manage the species as if there are separate stocks (e.g. to ensure there is not localised depletion). It was also stated that the results of the study do not provide a conclusive reason to change the management of Swordfish in the Australian fishery.
53. The RAG thanks Dr Evans and Mr Grewe for their presentation.

## **6 Depredation Data Summary**

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### **6.1. Depredation Data Summary**

53. The RAG was provided with a summary of the information that is available on whale and shark depredation.
54. For each of the target species in the fishery data, the total damaged fish across discard related codes were compared to total number of discards for years 2007 – present.
55. The data showed that for the five ETBF target species there is an average of around 50% of discards being coded as damaged. This rate is much lower for SBT which might represent the specific targeting of SBT (shorter shots and soak times) and when and where they are captures and overlap with predators. The numbers are higher for Albacore and Yellowfin Tuna with damage accounting for nearly 70% of discards.
56. Key points from the RAG's discussion on Depredation were:
- The information that can be recorded in logbooks is limited and doesn't account for hooks where bait is completely removed or if someone has avoided an area due to presence of whales/sharks in the area. It is also impossible to determine if depredation is occurring across all size classes or selectively for larger or smaller fish.

- It is also difficult to discern gear loss due to entanglements with whales/sharks and that information could be useful to quantify the presence of predators in key fishing grounds.
- There may be opportunities to improve the information that can be recorded on logbooks (such as a percentage of estimated depredation on each shot).

57. It was agreed that a RAG sub-group should be formed to explore whether additional logbook fields or a dedicated project exploring depredation further is needed to gain more information of the extent of depredation in the fishery. The group should also consider how to best incorporate the information into the CPUE standardisations.

**ACTION: A RAG sub-group (consisting of AFMA, industry and RAG scientist) meet to discuss how to progress gaining better information on depredation**

## 7 Striped Marlin Harvest Strategy

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### 7.1. Update on Striped Marlin Harvest Strategy

54. CSIRO presented the outcomes of the Striped Marlin Harvest Strategy Management Strategy Evaluation (MSE) work. The MSE work was conducted to evaluate the performance of candidate harvest strategies for Striped Marlin under a range of uncertainties.

55. The RAG noted that operating models and initial Harvest Strategy (HS) results were presented to the TTRAG in 2020 and March 2021. Some final requests for modifications to the operating model include addressing implementation error, additional diagnostics, and alternative constant catch projections to assist in evaluating each candidate harvest strategy.

56. The RAG was presented with the final set of operating models and harvest strategies tested which were:

- Examining HS1 performance
- HS1 under 3 sets of operating models (reference set, localised stock scenario and high effort outside of ETBF)
- HS1 relative to alternative HS settings
- HS1 relative to constant catch projections

(NB: Detailed explanation of the components of Harvest Strategy and operating model can be found in the accompanying paper at *Agenda item 7.1a Striped Marlin MSE July 2021*).

The results of for each set of operating models and harvest strategies were presented to the RAG, noting that:

- Variations to HS1 (using reference set 1) examined if performance is enhanced by using the average CPUE over a shorter or longer period (HS2 and HS4), setting the TACC every 3 years (HS3), or by implementing alternative buffer-zones around the reference CPUE level (within which no TACC change occurs, HS5 & HS6).
- Results from these additional 5 harvest strategies (HS2 - HS6) indicated that there was poor performance relative to the risk of falling below the limit reference point for the alternative buffer zones harvest strategies, and little difference in SSB or CPUE performance for the alternative number of years for averaging CPUE scenarios.

- HS3, where TACC is set every 3 years, had lowest risk of from the additional 5 harvest strategies of falling below the limit reference point, and higher median CPUE in 2035, but lower TACCs compared to HS1.
- The zero constant catch (CC0) projection indicated that the population would increase in the absence of fishing in the ETBF.
- The constant catch of 250t (CC250), 300t (CC300) and current TACC (CC350) all showed rebuilding of the stock above current low levels, higher median CPUE in 2035, and a low risk of falling below the limit reference point.
- HS1 outperforms the constant catch projections in median TAC in 2035 because the HS can take advantage of good stock and respond to bad stock conditions to adjust catches.

57. Key points from the RAG's discussion on the MSE results were that:

- The Annual Average Variation (AAV) in catch is relatively low. It was explained that the HS limits the annual change in TACC to 10% and this would be a determining factor for the low variation observed.
- There are resulting differences in the TACC when the reference set that assumes 20% migration is applied (HS1 using reference set 1) compared to the applying the reference set where 1% migration assumed (HS1 using reference set 2). In both instances, there are increased catches in the longer term above current levels however with 20% migration, the increases do not occur as rapidly as with 1% migration.
- The rationale for selecting the reference level CPUE (i.e. the 2012-2015 period) considering it is the lowest stock biomass in the assessment was discussed. It was noted the period was chosen as the RAG agreed to test the same settings that were selected for the Swordfish MSE work and while it is a low period, it's not a target SSB that is trying to be achieved. It is used a reference level in which the performance of candidate harvest strategies can be assessed against and most of the harvest strategies tested outperform the CPUE reference level.
- The best Stock Spawning Biomass (SSB) that can be achieved, which occurs under zero constant catch scenario (CC0), is 0.35. Both HS 1 and HS3 using reference set 1 perform well in comparison, with SSB of 0.30 and 0.31 respectively.
- It was further noted that the constant catch of 300t (CC300) and the constant catch of 350t (CC350) scenarios perform equally well with SSB of 0.31 and 0.30 but also with lower probability of breaching the limit reference point (e.g. HS1 using reference set 1 has a 9% probability of breaching the reference point compared to a 5% probability in the CC350 scenario).
- The influence of recruitment in the models tested show high variability in the stock assessment with the stock being slightly more positive in recent years and may contribute to the positive future outlook of recruitment observed in some scenarios. It was noted that the positive recruitment projection is greater than actual recruitment seen in the past. It was however noted that this was not a defining factor for how the various models perform relative to each other.
- Dr Jess Farley has recently completed work on updated growth curves for Striped Marlin and it was discussed whether the operating models should incorporate the revised growth curves. It was agreed that it would be premature to include the new growth curves until they are integrated into the broader stock assessment.

- Industry's view on the trade-off between having a Harvest Strategy, as opposed to a constant TACC scenario that performed equally in MSE testing were discussed. Industry explained that Striped Marlin is effectively a by-product species with limited marketability that is not actively targeted but rather caught in conjunction with the targeting Yellowfin Tuna. The current Striped Marlin TACC is effective in not limiting the ability to catch Yellowfin.
- Overall, the RAG agreed that:
  - HS1 and HS3 (both using reference set 1), and the constant catch of 350t scenario (CC350) all performed well with respect to SSB and probability of breaching the reference point when compared to the best scenario that can be achieved (i.e. zero constant catch).
  - Each of the options (HS1, HS3 and CC350) vary in TACC and annual variation in catch and while there isn't additional cost from the CSIRO's perspective in running a harvest strategy, there are efficiencies to be gained in setting a three year TACC instead setting an annual TACC and running an annual harvest strategy.
  - The options (HS1, HS3 and CC350; with CC0 included for comparison) should be presented to the MAC in a paper clearly outlining the pros/cons in each option to allow the MAC to make a recommendation to the AFMA Commission on their preferred approach.
  - The RAG's discussion and recommendations on the Striped Marlin MSE should be summarised and circulated to members for comment.

**ACTION: AFMA to circulate the RAG's discussions and recommendations on the Striped Marlin MSE and prepare a paper for TTMAC outlining their recommendations.**

## 8 Next meeting

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58. At the TTRAG 30 meeting in October 2020, TTRAG agreed to set placeholders for all meetings throughout 2021. The next tentative meeting date scheduled is 14 -16 September 2021 and will be held online.
59. The Chair closed the meeting at 2:30pm on day two and thanked members for their attendance and contributions.

# APPENDIX 1: TTRAG 32 AGENDA

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## Day 1: Tuesday 27 July (NSW/ACT time)

### Session 1: 9:00am- 10:30am

#### 1. Preliminaries

- 1.1 Welcome and apologies
- 1.2 Pecuniary interest declarations
- 1.3 Adoption of agenda
- 1.4 Acceptance of minutes
- 1.5 Actions arising/out-of-session developments
- 1.6 Out of session correspondence

#### 2. Review of Fishery Performance

- 2.1 Current catches and effort in the domestic fishery – verbal updates from scientists, industry and recreational fishing members since last RAG Meeting (October 2020)
- 2.2. AFMA catch watch reports (AFMA)
- 2.3. International meeting updates (AFMA)
- 2.4. MAC/AFMA Commission outcomes (AFMA)

#### 3. Other Business

- 3.1 Significant events spreadsheet (AFMA)
- 3.2 Update on Coral Sea Zone trial (AFMA)

### Session 2: 10:45am- 12:00pm

#### 4. Review of Fishery Indicators

- 4.1 ETBF Data Summary (CSIRO)
- 4.2 WTBF Data Summary (CSIRO)

### Session 3: 1:00pm- 2:30pm

- 4.3 ETBF CPUE standardisations (CSIRO)

## Day 2: Wednesday 28 July (NSW/ACT time)

### Session 1: 9:00am- 10:30pm

#### 5. Research

- 5.1 2022 Annual research statement

### Session 2: 10:45am- 12:00pm

- 5.2 Update on Tuna Australia projects (Phil Ravenello)
- 5.3 Genetics project – supplementary Swordfish sampling (CSIRO - Dr Karen Evans)

#### 6. Depredation data summary

- 6.1 Depredation data summary (AFMA)

### Session 3: 1:00pm- 3:00pm

## **7. Striped Marlin Harvest Strategy**

7.1 Update on the Striped Marlin Harvest Strategy (CSIRO)

## **8. Next Meeting**

**\*\*TBC\*\***

## APPENDIX 2: ACTIONS ARISING FROM TTRAG 32

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	Action	Responsibility
1	AFMA to update the Significant Events spreadsheet with the suggestions made by the RAG	AFMA
2	AFMA to include Dr Robert Campbell's WCPFC SC paper that contains explanatory notes for significant events in the fishery alongside the Significant Events spreadsheet in future.	AFMA
3	Future data summaries to (1) remove the linear trend line from the catch plots and (2) provide more information of discards such as including life status and context around discards relative to effort, and (3) present future size data summaries to show trends over time (e.g. by year) rather than by quarter.	CSIRO
4	A RAG sub-group (consisting of AFMA, industry and RAG scientist) meet to discuss how to progress gaining better information on depredation	AFMA
5	AFMA to circulate the RAG's discussions and recommendations on the Striped Marlin MSE and prepare a paper for TTMAC outlining their recommendations.	AFMA

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