



**Australian Government**

**Australian Fisheries Management Authority**

# **Tropical Tuna and Billfish Fisheries Resource Assessment Group (TTRAG) 35**

**Minutes**

**13 – 14 July 2022**

**Video Conference**

## CONTENTS

Contents .....	2
<b>1 Preliminaries .....</b>	<b>3</b>
1.1. Welcome and Apologies .....	3
1.2. Declaration of Interest .....	4
1.3. Adoption of Agenda.....	5
1.4. Adoption of Minutes .....	5
1.5. Actions Arising.....	6
1.6. Out of session Correspondence.....	13
<b>2 Fishery Performance Review .....</b>	<b>13</b>
2.1. Verbal updates from scientists, industry and recreational fishing members since last RAG Meeting (March 2022) .....	13
2.2. AFMA catch watch reports (AFMA) .....	14
2.3. International meetings update .....	14
2.4. MAC and AFMA Commission outcomes .....	15
<b>3 Annual Research Statement .....</b>	<b>16</b>
3.1 Research processes and priorities 2023/24 .....	16
<b>4 Research Update .....</b>	<b>18</b>
4.1 Update on Tuna Australia projects.....	18
<b>5 Fishery Data Summary .....</b>	<b>18</b>
5.1 ETBF Data Summary .....	18
5.2 WTBF Data Summary .....	19
5.3 CPUE Standardisation Update .....	21
<b>6 Swordfish Harvest Strategy .....</b>	<b>23</b>
6.1 Swordfish Harvest Strategy and CPUE Update .....	23
<b>7 Other Business .....</b>	<b>24</b>
7.1 Tagged Striped Marlin Recapture .....	24
<b>8 Next meeting .....</b>	<b>25</b>

# 1 Preliminaries

## 1.1. Welcome and Apologies

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

<b>Present</b>	
Dr Cathy Dichmont	Chair
Ms Kate Martin	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 Ashley Williams	Scientific member, CSIRO
Mr Pavo Walker	Industry member
Mr James Larcombe	ABARES, Fisheries Science
<b>Invited Participants</b>	
Mr Terry Romaro	Industry Invited Participant
Mr Matthew Daniel	AFMA
Mr Adam Wang*	Industry Invited Participant
Dr Laura Tremblay-Boyer	CSIRO
Mr David Ellis	Tuna Australia, Project Manager
<b>Observers</b>	
Dr Robert Curtotti	ABARES, Fisheries Economics
Ms Sara Murphy	AFMA, EO TTAMC
Mr Nathan Jackson	AFMA
<b>Executive Officer</b>	
Ms Brooke D'Alberto	ABARES, Acting TTRAG Executive Officer
<b>Apologies (did not attend)</b>	
Mr Michael Dylewski	ABARES, Fisheries Economics
Mr Paul Williams	Industry invited Participant
Ms Fiona Hill	AFMA

Apologies were received from Mr Michael Dylewski, Mr Paul Williams and Ms Fiona Hill prior to the meeting.

\*Invited, did not attend

\*\*Attended session 1, of day 1 only.

## 1.2. Declaration of Interest

3. 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	Declared Interests
<b>Dr Cathy Dichmont (Chair)</b>	Has a consulting company but has no pecuniary interests in the tuna fisheries. Is the current Commonwealth Research Advisory Committee (ComRAC) chair. <i>No conflict of interest declared.</i>
<b>Ms Kate Martin</b>	Employee of AFMA, which includes a salary. Is the Manager of the tropical tuna fisheries. No pecuniary interest in tropical tuna fisheries. <i>No conflict of interest declared.</i>
<b>Mr Matthew Daniel</b>	Employee of AFMA, which includes a salary. Is the Acting Senior Manager of the Tuna and International section. No pecuniary interest in Tropical Tuna Fisheries. <i>No conflict of interest declared.</i>
<b>Ms Brooke D'Alberto</b>	Employee of ABARES. Is the Acting Executive Officer for TTRAG. No pecuniary interest in Australian Tropical Tuna Fisheries. <i>Declared an interest in Agenda item 3.1.</i>
<b>Mr James Larcombe</b>	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. <i>Declared an interest in Agenda item 3.1.</i>
<b>Dr Rich Hillary</b>	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. <i>Declared an interest in Agenda item 3.1.</i>
<b>Dr Ian Knuckey</b>	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. <i>No conflict of interest declared.</i>
<b>Dr Julian Pepperell</b>	Independent fisheries consultant and representative of the recreational fishing sector. Is currently undertaking research into game fishing. Is involved in projects including the monitoring of fish landed at game fishing tournaments and pop-up satellite tagging on juvenile black marlin. <i>Declared an interest in Agenda item 3.1.</i>
<b>Dr Ashley Williams</b>	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the project - Data Management, Assessment and Implementation of Harvest Strategy for Australia's Tropical Tuna and Billfish Fisheries. <i>Declared an interest in Agenda item 3.1.</i>
<b>Dr Laura Tremblay-Boyer</b>	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the project - Data Management, Assessment and Implementation of Harvest Strategy for Australia's Tropical Tuna and Billfish Fisheries. <i>Declared an interest in Agenda item 3.1.</i>
<b>Mr David Ellis</b>	Is currently the CEO of the industry association, Tuna Australia, which includes a salary paid by industry. <i>Declared an interest in Agenda item 3.1.</i>

<b>Mr Gary Heilmann</b>	Industry member, director of a processing company, no longer holds Eastern Tuna and Billfish Fishery (ETBF) boat or quota statutory fishing rights (SFRs). <i>Declared an interest in Agenda items 6.2 and 7.1.</i>
<b>Mr Pavo Walker</b>	Own ETBF boat SFRs. Holds a Coral Sea permit, longline and minor line permit. <i>Declared an interest in Agenda items 6.2 and 7.1.</i>
<b>Mr Terry Romaro</b>	Director of a company that owns ETBF boat 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) & IOTC. Invited participant for SquidRAG and squid concession holder. Director of a company who owns a fish processing facility in Port Lincoln. <i>Declared an interest in Agenda items 6.2 and 7.1.</i>
<b>Dr Rob Curtotti</b>	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. <i>Declared an interest in Agenda item 3.1.</i>
<b>Mr Nathan Jackson</b>	Employee of AFMA. Is a Graduate Tuna and International. No pecuniary interest in Australian Tropical Tuna Fisheries. <i>No conflict of interest declared.</i>
<b>Ms Sara Murphy</b>	Employee of AFMA. Is the Executive Officer for TTMAC. No pecuniary interest in Australian Tropical Tuna Fisheries. <i>No conflict of interest declared.</i>

4. Researchers (ABARES and CSIRO) and an observer (Mr David Ellis) were identified as holding a conflict of interest regarding Item 3.1, relating to the discussion and recommendations of annual research projects and priorities.
5. Industry members and an observer (Mr David Ellis) were identified as holding a conflict of interest regarding Items 6.2 and 7.1, due to the discussion of the update of the Swordfish Harvest Strategy and CPUE.
6. 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 discussion and not the recommendation for respective agenda items, noting the expertise of the individuals and benefits of these members contributing to discussions.

### 1.3. Adoption of Agenda

7. The agenda was endorsed by TTRAG after some changes to the scheduling of agenda items to accommodate a member's availability and enable more discussion time on other agenda items. The final amended adopted agenda is provided in Appendix 1.

### 1.4. Adoption of Minutes

8. TTRAG noted that no comments were received out of session from attendees on the TTRAG 34 meeting minutes.
9. The TTRAG adopted the TTRAG 34 minutes with no amendments.

## 1.5.Actions Arising

10. The RAG noted the status of action items from previous meetings (Table 1). The comments from the RAG on the actions arising can be found at Table 1.
11. A summary of actions arising from this meeting is included at Appendix 2.

**Table 1 Status of actions arising from previous TTRAG meetings, NOTED at TTRAG35.**

	Action	Meeting Raised	Responsibility	Status at TTRAG 35
1	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 TTRAG 36 in September.
2	In relation to the ETBF data dictionary:  a. CSIRO to provide AFMA with a copy of the CSIRO Tuna Legacy Data as described in the Data Dictionary.  b. AFMA to provide more details for the ADC line tables to CSIRO	TTRAG 29	AFMA	(a) <b>COMPLETE</b> Since TTRAG 31, AFMA has confirmed they have a copy of the Tuna Legacy database.  (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.
3	AFMA to update the Significant Events spreadsheet with the suggestions made by the RAG	TTRAG 32	AFMA	<b>IN PROGRESS:</b> Significant events spreadsheet not included in agenda for this meeting, will be reported in TTRAG 36. Note; AFMA has a Grad student currently compiling this spreadsheet, as part of their grad rotation.
4	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.	TTRAG 32	AFMA	<b>IN PROGRESS:</b> Significant events spreadsheet not included in agenda for this meeting, will be reported in TTRAG 36. Note; AFMA has a Grad student currently compiling this spreadsheet, as part of their grad rotation.
5	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.	TTRAG 32	CSIRO	(1) <b>ONGOING</b> Linear trend line was removed from catch plots presented in papers under agenda item 5  (2) <b>ONGOING:</b> Requires additional data to be collected on life status

**(3) ONGOING** Annual trends in size data were presented in the ETBF size summary paper under agenda item 5

6	A RAG sub-group (consisting of AFMA, industry and RAG scientist) meet to discuss how to progress gaining better information on depredation.	TTRAG 32	AFMA	<b>ONGOING:</b> The group has not yet been convened.
7	AFMA to circulate the RAG’s discussions and recommendations on the Striped Marlin MSE and prepare a paper for TTMAC outlining their recommendations.	TTRAG 32	AFMA	<b>COMPLETE:</b> A paper with this information was put to TTMAC in October 2021. The MAC agreed that at this stage a constant striped marlin TACC is a precautionary and practical way to manage this species.
8	The RAG requested that AFMA to add a graph showing effort (hooks) for the same period as species catch data to the Catchwatch report.	TTRAG 33	AFMA	<b>COMPLETE:</b> Provided under Agenda Item 2.2.
9	AFMA to review and update if necessary, the yellowfin catch in the catchwatch report, noting a possible typo in the RAG paper.	TTRAG 33	AFMA	<b>COMPLETE:</b> Provided under Agenda Item 2.2
10	ABARES to provide further explanation of inputs/outputs in calculation of ‘Economic performance Annual Indicators’ for ETBF.	TTRAG 33	ABARES	<b>ONGOING:</b> To be addressed and presented during the September TTRAG 36 2022.
11	ABARES to pursue options to take account of SBT in the catch figures and calculations of GVP and NER for the ETBF and include SBT in future ETBF economic indicators for TTRAG considerations.	TTRAG 33	ABARES	<b>ONGOING:</b> To be addressed and presented during the September TTRAG 36 2022.
12	AFMA to circulate CSIRO Addendum to 2020 key species CPUE presented to TTRAG 32 (July 2021).	TTRAG 33	AFMA	<b>COMPLETE:</b> AFMA circulated in February 2022.
13	CSIRO will undertake quantitative analysis to determine possible ways to understand if the low catch to TACC for Broadbill Swordfish constitutes exceptional circumstances in some way. They will also investigate if there is the opportunity to collect and integrate additional data in to the CPUE standardisation around bait types and sizes, and to undertake discussions with industry if there are other data that could be useful but aren’t included.	TTRAG 33	CSIRO	<b>ONGOING:</b> To be discussed under Agenda Item 6.1.



14	AFMA to investigate, if possible, whether bait changes have been experienced by NZ and the Spanish.	TTRAG 33	AFMA	<b>ONGOING:</b> AFMA is in the process of collecting data and will provide an update in TTRAG 36.
15	Japanese catch data to AFMA provided by Dr Rob Campbell to be included in this WTBF Indicators Paper.	TTRAG 33	AFMA	<b>ONGOING:</b> WTBF Indicators to be discussed at TTRAG 36.
16	AFMA to include any new stock structure advice elements in the WTBF Indicators Paper.	TTRAG 33	AFMA	<b>ONGOING:</b> WTBF Indicators to be discussed at TTRAG 36.
17	The Chair requested that, if the CSIRO yellowfin close kin study and associated stock structure work requested by the IOTC required further discussion by the RAG, it should be added to the agenda for the March 2022 TTRAG meeting.	TTRAG 33	RAG Members	<b>ONGOING:</b> Not yet actioned.
18	AFMA to add collection/updating of recreational catch data for Australia and NZ, particularly non-club take of yellowfin and striped marlin for consideration as a future research priority.	TTRAG 33	AFMA	<b>ONGOING:</b> Not yet actioned.
19	AFMA to work with J Pepperell on development of a TTRAG35 paper summarising State recreational CPUE indices, Australian tournament sampling and size frequency and sex ratio monitoring reports for the 2021 and 2022 seasons, and, where possible, New Zealand recreational swordfish effort.	TTRAG 34	AFMA & J Pepperell	<b>ONGOING:</b> Not yet actioned.
20	AFMA to present an updated approach to Catch Watch Report catch and effort figures at the next meeting. Figures to include a reference year, the current season, and the prior 10 years as individual lines, and the application of a shaded area between historical maximum and minimum values.	TTRAG 34	AFMA	<b>COMPLETE:</b> To be discussed under Agenda Item 2.2 in TTRAG 35.
21	AFMA to distribute a copy of the current ETBF e-log fields and confirm whether the additions recommended at TTRAG 23 were included (vessel log speed, shooting speed, branchline length, bubble dropper length).	TTRAG 34	AFMA	<b>ONGOING:</b> AFMA can confirm that shooting speed, branch line length and hook size have been added to the e-logs. AFMA can confirm additional fields to the e-log such vessel log speed, bubble dropper as per request in TTRAG

xxx and consider potential squid fields as per discussion in TTRAG34.

22	AFMA and Tuna Australia to capture historical dates of changes to squid bait species, with evidence to be provided through bait import documents and a questionnaire.	TTRAG 34	AFMA	<b>ONGOING:</b> Initial data has been received. Further data is yet to be received from industry.
23	AFMA to provide CSIRO with data capturing squid bait changes by mid-April 2022. CSIRO to include these changes in the Swordfish CPUE standardisation to be presented at TTRAG 35 in July.	TTRAG 34	AFMA & CSIRO	<b>ONGOING:</b> Data was received late and couldn't be presented at TTRAG 35. CSIRO to review data and will work with AFMA on additional data requirements.
24	AFMA to contact AAP to explore cost of undertaking a spot audit of effort reporting in the ETBF.	TTRAG 34	AFMA	<b>COMPLETE:</b> Verbal costings were sought from AAP. There would be significant cost associated with spot audit and positioning of cameras could be an issue.
25	AFMA to work with Tuna Australia to develop operationally feasible options to capture discard sizes for swordfish. i.e. (E-log comment section, tick box for fish between 10-20kg, head only, small, medium or large).	TTRAG 34	AFMA & Tuna Australia	<b>ONGOING:</b> AFMA is currently working on having additional fields added to e-logs swordfish discussion.
26	CSIRO to explore offsetting a decrease in the TAC under the HS, by comparing average catch to additional recent undercatch and applying a decision rule based on the relationship of actual and additional undercatch proportions (detailed in Appendix 3 in TTRAG 34) in time for TTRAG 35	TTRAG 34	CSIRO	<b>ONGOING:</b> CSIRO to provide an update at action item 6.1.
27	CSIRO standardisation team to work with Jason Hartog to identify environmental factors included in the ETBF CPUE standardisations that could be informed by the outputs of the FRDC Oceanography Project.	TTRAG 34	CSIRO	<b>ONGOING:</b> CSIRO have provided an update into the CPUE standardisations for all key species. Update to be presented at action item 6.1. Report to presented at TTRAG 37.
28	AFMA to work with the Chair to set new date for TTRAG36	TTRAG 34	AFMA	<b>COMPELTE:</b> TTRAG 36 will be held on 13-15 September in Mooloolaba.



**Table 2 CPUE related action items**

Item	Meeting Raised	Status at TTRAG 33	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 depredation, and shape of mainline set.	TTRAG 29	<b>ONGOING:</b> Not yet actioned.	<b>Taken as read.</b>
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>COMPLETE:</b> AFMA provided a spreadsheet of FAD locations in February 2022.	<b>Taken as read.</b>

## 1.6. Out of session Correspondence

12. TTRAG noted the out of session correspondence between the TTRAG 34 and TTRAG 35 meetings as provided in the written update by AFMA.

## 2 Fishery Performance Review

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### 2.1. Verbal updates from scientists, industry and recreational fishing members since last RAG Meeting (March 2022)

13. Industry members and invited participants provided an update on recent fishing activity with the RAG noting:
  - On the west coast, activity has been low with one active boat, catches have been steady. The RAG heard the west coast operator is experiencing issues with crew, as well as issues with AFMA e-log. AFMA noted that they will follow up with the operator regarding the e-log issues.
  - On the east coast, industry reported decent fishing activity, however the catches are unpredictable. The RAG heard that there are currently high eddies which are not located close to ports and that the current oceanographic conditions is yielding a poor fishing year.
  - The RAG heard that the impact of COVID-19 on the industry is continuing, due to the loss of the international markets, and increased bait and fuel prices. Following the cessation of the International Freight Assistance Mechanism program, air freight remains a large cost, and market access will remain reduced until improvements to international freight flights occur.
  - Industry reported that as operators are unable to send produce internationally, with produce flooding the domestic market, which has led to a decrease in the price of the fish per kilo due to the increased availability of the product.
  - The RAG heard issues on crew recruitment and retention to be a key challenge for all fleets, particularly around availability of international crew. This has led to reduced trips, with flow on effects on catches. Industry reported that other sectors are competing for international crew members. Industry is concerned about the length of the Agricultural Visa program application process and the required English language skills which is a barrier to skilled applicants for the.
  - The RAG heard that AFMA and Industry are planning to meet to discuss options in establishing a mechanism to cater for “pulse” fishing events. A working group to be arranged.
  - Inferior bait remains a concern, where increased bait prices has resulted in use of substandard bait to reduce costs. Industry raised concerns regarding untrained crew and substandard bait is affecting catch rates.
  - Industry also noted issues with sourcing other trades domestically due staff shortages i.e. servicing vessels and first aid equipment.
14. The recreational fishing member provided an update on recent fishing activity with the RAG noting:
  - The RAG heard that the recreational fishing is experiencing economic declines, particularly in the fishing tournaments, with increasing cost of fuel and bad weather. There was a decrease in the number of boats, along with a decrease in the fishing distance travelled in recent tournaments.

- The recreational member advised that current recreational catches are slow and have decreased for all species, compared to the previous years.
- In NSW and QLD, the recruitment pulse of 1 year old black marlin has not been observed, which is a key age class for the inshore fishery. Catches of striped marlin and black marlin have reduced, which is partly due to increased fuel costs and decrease of vessels on the water. The RAG heard that there was mid-sized yellow fin tuna being reported off the central coast of NSW and a small number of the smaller size classes for yellow fin tuna have been tagged inshore, compared to previous years where individuals were tagged in the thousands.
- The RAG heard that there was a new tournament in Shell Harbour, NSW with a prize of \$50,000 for a blue marlin caught over 250kg, which was not claimed. There was a 2<sup>nd</sup> recorded capture of Pacific Bluefin tuna (170kg) on rod and reel off NSW, which was confirmed by CSIRO. CSIRO will be able to sequence the genome from this specimen and collect the otoliths.
- In VIC and TAS, the southern bluefin tuna season has been good with many fish landed over 100kg, by accounts from social media. Similarly, the swordfish recreational fishery has increased with more reported fish being caught, however there are no estimates of numbers as most of the fish being caught are by non-club members.

15. There were no updates from the scientists for this agenda item.

## 2.2. AFMA catch watch reports

16. The RAG was presented with the fishery catch data paper provided by AFMA noting:

- The 2022 season had very low catches of swordfish, striped marlin, and bigeye tuna.
- Yellowfin tuna catches were trending low which is representative to industry updates.
- Effort has declined, corresponding with the industry updates with increases in fuel prices and weather events affecting fishing.
- Following the recommendation of TTRAG34, AFMA have amended the presentation of the catch and effort figures, to display a reference year (2006), data from the prior 10 years, the current year's data, and a shaded band indicating the area between historical maximum and minimum monthly values.
- Bigeye tuna graph in Figure 2 on the ETBF cumulative catch by year was not ready in time for this meeting and will be presented at TTRAG 36.
- AFMA noted current formatting and data issues in the catch watch figures that will be amended for TTRAG 36.

## 2.3. International meetings update

17. The RAG was provided with an update from ABARES on recent international meetings:

### *Indian Ocean Tuna Commission*

- The Indian Ocean Tuna Commission (IOTC) 26<sup>th</sup> Session of Commission met on 16-20 May 2022. The Australian delegation was made up of the Department of Agriculture, Fisheries and Forestry, ABARES, AFMA and CSIRO, including current and past RAG scientific members and participants.
- A Conservation and Management Measure (CMM) proposal to rebuild yellowfin tuna stocks was adopted through Resolution 21/01, in response to the low status and updated stock assessments that indicated that the stock remains overfished relative to the IOTC SB<sub>MSY</sub> reference point (which differs from the harvest strategy policy default LRP of 20% of unfished SB) and subject to

overfishing ( $F > F_{MSY}$ ). The updated stock assessment recommended that further catch reductions are required to fishing mortality and increase biomass for the stock. However, there have been IOTC wide issues for catch reductions, where reductions have occurred in some quarters and not others, and with some cases of increasing fishing mortality. A number of proposals were tabled to reduce catch, no revised resolutions were adopted, and no changes were made to Resolution 21. Negotiations for catch reduction will continue in special meetings throughout the year.

- The CMM proposal by the European Union to restrict the number of fish aggregating devices (FADs), primarily in the purse seine fishery for skipjack tuna (IOTC-2022-S26-PropC\_Rev3) as an update to Resolution 19/02 was not adopted during the Commission meeting.
- The Management Procedure (MP) for bigeye tuna was adopted, which was led by Australia. The outcome is globally significant to the management of this species. The RAG discussed a meeting in the future to be briefed on the IOTC Management Procedure for bigeye tuna.
- The RAG noted industry's ongoing concerns regarding catch reductions in the IOTC convention area for yellowfin tuna when other Parties have withdrawn their support for the catch reductions. The Chair noted the concerns, however stated that this issue is a TTMAC discussion.
- Industry enquired about the progress of observers and electronic monitoring (EM) in IOTC to which the ABARES representative responded that new measures were adopted during the Commission that provided the basis of introduction and acceptance of EM in the RFMO.
- The IOTC Technical Committee for allocation criteria is currently developing a regime for the allocation of IOTC stocks, however the committee is not closer to any resolutions with the ongoing negotiations on the allocation of catch and management issues. Progress is required in the allocation in order to implement the adopted MP for bigeye tuna and skipjack tuna.
- An industry member noted that the Australian delegation attending international meetings, need to support the efforts domestically.
- The dates for the international meetings were noted by the RAG:
  - Western Central Pacific Fisheries Commission (WCPFC) Scientific Committee on 10-18<sup>th</sup> August 2022,
  - WCPFC Commission meeting in December 2022,
  - IOTC Scientific Committee meeting on 5-9<sup>th</sup> December 2022.

**ACTION: RAG to be provided an update in the new year on the Management Procedure for big eye tuna.**

## 2.4. MAC and AFMA Commission outcomes

18. The RAG was provided with an update from the TTMAC 27 meeting held on 27<sup>th</sup> April 2022 and the 83<sup>rd</sup> AFMA Commission meeting held in May 2022. The outcomes of the MAC and AFMA Commission meeting were taken as read and the RAG noted that:

- The key points from the AFMA commission meeting included issues around data confidentiality, the impacts on industry as a result of the removal of the International Freight Assistance Mechanism (IFAM), and the cost and difficulty procuring labour. It was agreed in an out of session meeting with Tuna Australia and selection of Commissioners and Senior Executive to established of a working group to progress a mechanism to cater for pulse fishing events.
- The key outcome from TTMAC 26 the AFMA 2022-23 budget was presented to the MAC and the draft budget has been released to industry for comment. The MAC noted a presentation by Dr Rich Hilary (CSIRO) that summarised TTRAG 34 discussions and recommendations for the ETBF Harvest

Strategy for Swordfish and the CSIRO workplan, which will be set to be discussed under Agenda Item 6.1, to inform TTRAG and MAC discussion on Total Allowable Commercial Catch (TACC) recommendations for the 2023 fishing season.

## 3 Research

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### 3.1 Research processes and priorities 2023/24

19. The AFMA invited participant advised that the purpose of this item is to identify priorities for 2023/2024. The AFMA invited participant also advised that the Draft Five-Year Research Strategy is due for review, which outlines the framework of the key strategic needs during the time period. The RAG noted that:

- There have been significant changes in the fishery during the last five years that could not be accounted for in the previous Five-Year Research Strategy. These changes need to be accounted for in the next Five-Year Research Strategy, including capturing the impacts of climate change, the short term and long-term capacity of the industry due to COVID impacts, the economic condition of the fishery.
- ABARES sought clarification surrounding determining economic performance of the fishery and whether this falls within scope of the research statement. The chair suggested the research statement is inclusive, but not limited to the survey.
- The review of the Draft Five-Year Research Strategy was not allocated sufficient time in the Agenda for TTRAG 35 and there was limited time to the RAG to review. AFMA to provide the Draft Five-Year Research Strategy out of session for review and comment.

**ACTION: AFMA to provide the Draft Five Year Research Strategic document and Annual Research Plan out of session for RAG review and comment.**

**ACTION ITEM: AFMA to collate comments for the Draft Five-Research Strategic Document and Annual Research Plan and provide an update at TTRAG 36.**

20. The TTRAG discussed the draft annual research plan and research gap scopes, noting the following points:

- For AFMA Research Committee (ARC) there was one project recognised for the annual research plan, which was the 3-year project *Scientific advice for management of Tropical Tuna and Billfish Fisheries* that is due for funding renewal. The RAG noted there was no costing for the project from CSIRO, and there was also flexibility in the project to focus on additional issues that RAG required.
- For the Fisheries Research Development Corporation (FRDC) funding round for innovative research projects, there were two currently funded projects.
- First project 2020-041 *“Improving the management of wildlife interactions in pelagic longline fisheries”*, that could also address the lack of understanding on fishing depths associated with different gear type setting and investigate the changing of fishing strategies over time across the ETBF.
- Second project 2021-078 *“Improving the effectiveness, efficiency and safety of mitigation tools for protected species interactions in the ETBF”*
- Newly identified research priorities for FRDC funding included assessment of ETBF fishing depth strategies to assist key commercial and protected species management approaches



- It was noted by the RAG that outcomes of current research being conducted by Tuna Australia (FRDC 2020-041) will be analysed in the next six months and could potentially inform the development of the objectives of the fishing depth project.
- ABARES member supported 2020-041 project as it provides a mechanism to derive depth profiles from hooks. The RAG has assessed the priority of 'High'.
- The RAG agreed that the fishing depth project to remain in the annual research plan, noting that other projects (Tuna Australia) are underway that have potential to address some of the objectives of this project.
- The recreational fishing data collection project was discussed with AFMA follow up out of session with the recreational fishing member on the revised expression of interest for this project proposal.
- The recreational fishing member noted the feasibility for this project has increased particularly relating to organised fishing sectors (Clubs, Tournaments and Tag data), the big unknown is still the non-organised sector.
- TTRAG noted COMRAC's advice that it considered this priority (for inclusion in the COMRAC call for proposals) in March 2022. COMRAC has sought further refinement and clarification from TTRAG on the content of priority, in particular for TTRAG and SESSEFRAG to reconsider how to clarify what the scope intends to deliver and how this will be used in a management context.
- TTRAG agreed that it is high priority. in relation to COMRAC's suggestion, that there might be opportunity for Tropical Tuna and Southern and Eastern Scalefish and Shark Fishery (SESSEF) regions pursuing a joint research proposal.
- TTRAG agreed there was some overlap of methods or issue/ priority however, Tropical Tuna Fisheries and are currently in a unique position of potentially identifying existing recreational fishing data sources compared to the SESSEF.
- It was noted that this is not likely the case in the SESSEF region and would provide a better opportunity to separate the joint research proposal to only incorporate tropical tuna.
- The potential sources include – club data, recreational boat 'non-organised' data particularly in relation to swordfish and SBT and analysis of tagging data.
- The RAG noted the possible utility of this data in CPUE standardisation and RAG processes.
- The RAG further noted that the priority should consider a stepwise scheduling of data collection and analysis. To ensure it remains within the bounds of a project budget.

**ACTION: AFMA and Recreational Fishing member to have discussions out of session on revised expression of interest and report for the Recreational Fishing Data Collection Project and provide an update to the RAG.**

**ACTION: CSIRO to provide budget to AFMA for the costing of the CSIRO project "*Scientific advice for management of Tropical Tuna and Billfish Fisheries*" out of session.**

## 4 Research Update

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### 4.1 Update on Tuna Australia projects

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

- The research projects that were detailed in the previous meeting (TTRAG 34) are continuing to progress with students from University of the Sunshine Coast (USC), including the projects regarding managing wildlife interactions, sustainable bait use, and outcomes regarding biosecurity issues.
- The project investigating whether live-bait can be set successfully using an underwater bait-setter is progressing issue regarding funding of the underwater bait-setter. Industry has reported positive support and feedback regarding the technologies.
- Tuna Australia is scoping a new project on alternative energy sources for the industry, including wind energy to combat increasing fuel costs.

22. ABARES member suggested that it would be useful for the RAG to have the students working on the Tuna Australia projects present the outcomes of the projects to the RAG.

**Recommendation: March TTRAG meeting to be used as an opportunity to present research papers.**

## 5 Fishery Data Summary

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### 5.1 WTBF Data Summary

23. Industry requested Agenda Item 5.1 to be discussed earlier on the agenda, due to out of meeting scheduling conflicts.

24. CSIRO presented an update on the characterisation of the Western Tuna and Billfish Fishery (WTBF) with a review of the trends in the captures in the fishery over time series 1998 – 2021.

- The key points from the data summary presentation were that there has been a sharp decline in retained catch and catch weight over given time series for WTBF for the two main species, big eye tuna and broadbill swordfish. There was also decline in the nominal CPUE overtime for these two main species.
- CSIRO presented new figures to the RAG on the spatial trends in captures over time, which received positive feedback from the RAG, as well as constructive feedback on the figure legends and terminology for the next meeting.

25. Key points from the RAG's discussion on WTBF Data Summary were that:

- Industry raised a question on the time series for the WTBF data summary, noting that fishing activity began in the 1994, not 1998 for the WTBF. The RAG discussed possible reasoning and causes to the selected time period, including to be consistent with the time series in ETBF and data driven with the introduction to particular type of data logs. CSIRO agreed to investigate and clarify the decision between the selected time series and Industry agreed to work with CSIRO to provide data sets from 1994-1998.
- The RAG heard that, over time, the number of lights to hook ratio have increased in the fishery. Bait is an important issue in the targeting of tropical tuna, and if vessels are using light on the hooks and squid as bait, then vessels are targeting swordfish.

- The RAG heard that the shot set times had not changed through time, with the exception of the 2021 where variability in the set time increased for the two main species. The group noted concerns with how the set times were recorded after the fishery changed to e-log books and automatic time conversions. CSIRO and AFMA agreed to clarify the set times in the data and analysis
- It was noted that there was limited time to review the meeting documents and Industry will review the data summary documents in detail and will follow up with CSIRO out of session with questions and/or comments.

**ACTION ITEM – AFMA and CSIRO to investigate the reasoning behind time series starting in 1998.**

**COMPLETE** – CSIRO provided an update to the RAG on the morning of day 2. A report was referenced from Dr Robert Campbell in 2018 noting that TTRAG agreed to start the analysis for ETBF for 1998. An industry member noted it was agreed that time series started 1998, due to unprecedented fishing year in 1997.

**Recommendation - WTBF Industry member to provide time series data from 1994 onward out of session and CSIRO to investigate whether this time series data from 1994 can be included into future data summaries relating to WTBF.**

## 5.2 ETBF Data Summary

26. CSIRO presented an update on the characterisation of the Eastern Tuna and Billfish Fishery (ETBF) with a review of the trends in the captures in the fishery over time series 1998 – 2021. The key points from the data summary presentation were:

- Over the time series, the annual effort, the number of vessels, and the number of sets per vessel demonstrated a decline from 2010 and all have stabilised in the most recent years. There was increase in effort (number of sets and number of days fished) per individual vessel that stabilised in 2015 and has declined over 2020-21.
- Of the retained catch of the main species, the catch of yellowfin tuna has declined over the recent years. Yellowfin tuna remains the highest number of fish by weight in the fishery.
- The retained catch of albacore tuna varied over time and has become more prevalent in the fishery, while the retained catch of southern bluefin tuna in the fishery has increased over time.
- There was no recent information on the size distribution of discards, due to the change from observers to electronic monitoring (EM). To account for this, size distributions were assigned based on constant proportions. By catch numbers, yellowfin tuna, albacore tuna and southern bluefin tuna had the highest records of discards across the fishery over time.
- For most species in the ETBF, the monthly nominal CPUE for retained catch was similar between 2020 and 2021. The monthly nominal CPUE for yellowfin tuna was higher in summer, compared to spring which usually has the highest CPUE.
- The monthly CPUE for broadbill swordfish decreased in October- December in 2021.
- Spatial trend in retained catches varied over time in the fishery, with effort and catches concentrating near the coast and shelf for the previous two years. The retained catch composition varied spatially, with albacore tuna being the species with the largest proportion of retained catch and the proportion of southern bluefin tuna increasing in the southern part of the fishery. CSIRO noted that they will add the new years to spatial trends figures for completeness across all figures.

- A Scientific member enquired about the southern bluefin tuna data record off Hobart in 45 degrees south between 1998-2004. Industry noted that historically southern bluefin tuna was fished in this location.
- Historically, the bait used in the fishery was primarily squid, followed by mixed species and pilchards. The proportion of squid has decreased in the fishery and the majority of the bait reported is mixed species, with the species composition of the mixed species not recorded in the logbooks.
- The operational trends in the fishery varied overtime, with some variation in the trends between species. The number hooks per set have steadily increased over the time period, while the number of lights per set and lights-to-hook ratio have varied.
- There appeared to be some inconsistencies in the operational set times, for example the set times for yellowfin tuna shifted dramatically to later in the day in 2021. Industry noted that the changes in set times to later in the afternoon, may signal the shift to targeting swordfish that is typically late afternoon (~4pm), as well as the increase in the number of lights per hook.
- The RAG discussed the possibility of inconsistencies introduced by the auto time adjustments in EM, with AFMA noting that there have been some difficulties with the new data system. CSIRO agreed to follow up with AFMA to investigate the differences between set times.
- Distribution of mainline length has steadily increased from 1998-2021, with no clear trend across the species, with the exception for southern bluefin tuna has stabilised over the past eight years.
- The number of hooks between floats has slightly increased over time between species, with albacore tuna with the highest number of hooks between floats. The distance between floats, as well as the hook density (number of hooks per km) has remained steady over the past decade with no clear trend between species.
- The RAG noted that change to EM from on-board observers reduces the data quality on discard numbers and is not able to collect key information on the size and life stage of fish. Industry suggested that the reasoning for discarding fish can be based on recruitment pulses and discard numbers can vary between years.
- The RAG heard whether it was possible to review the EM data to get estimates of size of the discarded fish. It was noted that it depends on the vessel and whether fish were brought on board, as there are no cameras on the side of the vessel if the fish was cut off the line water line of the vessel.
- Industry reported that the yellowfin and albacore tuna discard numbers were increasing due to depredation by false killer whales and/or sharks. Tuna Australia stated that there are currently projects with University of Sunshine Coast working on the flick buttons with EM to get an estimate of size and impacts of depredation.
- Industry noted the increase in swordfish and SBT discard numbers, which are likely to be smaller fish that are being discarded in the fishery. AFMA noted that the fishers prefer to discard alive and vigorous small fish that are caught due to market size preferences.

**ACTION ITEM: AFMA and CSIRO to investigate the differences and potential inconsistencies in set times, including auto-time adjustments from what is being recorded in electronic logs entries and the AFMA database.**

**Recommendation: CSIRO to review two figures on the spatial trends (Figure 7 & 8) whether the figures be more appropriate in weight, instead of number of individuals.**

### 5.3 ETBF Size Distribution Summary

27. CSRIO presented an update on the size distribution of the main species in the ETBF with a review of the trends in the captures in the fishery over time series 1998 – 2021. The key points from the presentation were:

- The processed weight of albacore tuna varied more in the years prior to 2010 than since, with bimodality in the size distributions observed in some years. By region, larger individuals were sampled in NSW, compared to other states.
- For bigeye tuna, the weight distributions demonstrated a potential three-year trend of year cohorts moving through the fishery, particularly in southern NSW. The RAG noted that there may be a different trend occurring in the lengths of bigeye tuna, compared to the processed weights.
- For swordfish, the annual processed weight was relatively stable overtime, with little difference in weights across regions. There was an increase in small size classes in the sample, with a decline in larger size classes.

### 5.4 CPUE Standardisation

28. CSRIO presented an update on the CPUE standardisation modelling for ETBF for key size classes, over time series 1998 – 2021. CSIRO proposed a number of changes to modernise and simplify the CPUE standardised methodology and presented in detail the terminology used in the models, reasoning on the proposed changes and provided an in-depth description of the proposed approach.

- The key developments included the use of a new Australian specific oceanographic database (ACCESS S2) that is curated and updated daily by Bureau of Meteorology,
- A new approach to the modelling framework from Generalised Linear Models (GLMs) to General Additive Models (GAMs) that allows for more flexibility in the definition and shape of the expected relationships between catch rates and model covariates, simplifying the model where possible for each species by removing covariates that were not influential through a stepwise approach, and new visual diagnostic figures to assist with the interpretation of the influence of the covariates on the standardised indices.
- For the three tuna species, the changes to methodology had a limited impact on the CPUE indices, whereas for the two billfish species, the proposed approach retained the year-to-year variability but demonstrated a reduction in the overall range of indices.
- The standardised CPUE indices for albacore tuna were developed for all sizes aggregated only. The index derived from the new proposed approach was slightly less variability than the previous approach, and the decline in the final year (2021) was less pronounced in the new approach. The standardised CPUE index for all sizes aggregated for albacore tuna was stable but variable since the mid-2000's.
- The standardised CPUE indices were developed for all sizes aggregated, adults and recruits for yellowfin tuna. For size aggregated, adult and recruit indices, the standardised indices were variable through time, but showed a general decline followed by a recent increase. Similar to albacore, the index derived from the new approach to standardising CPUE was similar to the previous approach, but was slightly less variable.

- Bigeye tuna, the standardised CPUE indices were developed for all sizes aggregated, adults and recruits only. The standardised size aggregated and adult indices demonstrated a steady decline over time, with some variability with a recent increase. The index for recruits showed similar trends, with an increase from 2000 to 2006, with high variability throughout.
- Broadbill swordfish, the standardised CPUE indices were developed for all sizes aggregated, adults, sub-adults, and recruits. The overall trends for all size class/life stages were similar between the new and previous model, with an increase between 2020 and 2021 for the sub-adult CPUE indices. For all sizes aggregated, sub-adults and adults, the standardised indices appeared to vary cyclically with a low period from 2016 and a noticeable increase in 2021. The recruit index demonstrated the most variability, with a slight decline in the last two years.
- Standardised CPUE indices for striped marlin were developed for all sizes aggregated. The CPUE index derived from the proposed model approach for striped marlin CPUE showed a similar trend but was less variable than the previous approach.

29. CPUE standardisation modelling discussion:

- Industry reported that broadbill swordfish are not schooling fish and spread out through the water column and indicated that the longline length not the number of hooks on the line that determines the number of swordfish caught.
  - Industry noted that there has been a number of recent changes in the fishery, including a decrease in bait quality and increase in bait, fuel, and freight prices since 2018, particularly for swordfish as it is currently not profitable to target this species. Therefore, Industry suggested a timeline to be developed for the fishery, in order to capture the changes in fishing methods and targeting behaviour that can be used to inform the standardisation models and interpret the results. CSIRO noted that there were a number of targeting clusters identified for each species, which has changed through time which CSIRO is currently working to refine how targeting clusters are used in the CPUE standardisation.
30. The RAG provided positive feedback on the presentation and analysis as a start on the way to more modernised, art CPUE standardisation approaches, noting there were a number of improvements to the model, including the targeting clusters and spatial-temporal treatments.
31. The RAG agreed to support the new modelling approach noting it is improving and modernising the CPUE standardisation,
32. RAG members agreed to adopt the proposed standardisation methodology for use in September to set the TAC.

**RECOMMENDATION: CSIRO to investigate the targeting behaviour and potentially capture the recent changes in the fishery for the CPUE standardisation.**

**RECOMMENDATION: CSIRO to provide regular updates on new stepwise approach of CPUE standardisation model and updated whether targeting and spatial-temporal treatments can be incorporated.**

**RECOMMENDATION: AFMA/CSIRO to investigate if discarding is able to be captured and incorporated within the CPUE standardisations.**

## 6 Swordfish Harvest Strategy

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### 6.1 Swordfish Harvest Strategy and CPUE Update

33. CSIRO presented on the evaluation of a modified Swordfish Harvest Strategy (HS), that was agreed by the TTRAG 34.
34. RAG members agreed at TTRAG 34 that the persistent low catch to TAC ratio experienced in recent years meets the conditions for exceptional circumstances under the Swordfish HS, noting this was only for the exceptional circumstance number 4 listed under 3.5.6.2 in the HS. The key points from the presentation were:
- The modification and testing details of the proposed augmented HS needed to be very specific, i.e., the modification needs to be able to deal with the low recruitment scenario without unduly reducing the TAC and if industry do return to normal operating conditions.
  - The modification proposed by CSIRO only applies to scenarios of under-catch of the TAC, which was below the TAC. The recent low mean catch level was assumed to be 600 t based on the approximate of the last two years of catches. This scenario was applied from the period 2022-2024 and then assumed that the general market conditions returned to levels similar to pre-COVID.
  - The modification to the HS was defined as:
    - If the HS suggests a decrease to the TAC during the extreme under-catch period, then:
    - If the proposed TAC is above the low recent mean catch level and the required reduction in TAC is less than the difference between the current TAC and the low recent mean catch level: maintain the TAC at the current level.
    - If the proposed TAC is above the low recent mean catch level but the required reduction in TAC is more than the difference between the current TAC and the low recent mean catch level: reduce the TAC only by the difference between the reduced TAC and the low mean recent catch level.
    - If the HS suggest an increase in the TAC during the extreme under-catch period, the increase is applied but the low recent mean catch level is the catch actually taken given under catch.
    - If we are outside the extreme under-catch period, the HS applies in the same way as it was adopted and originally implemented.
  - Two scenarios were explored,
    - (i) update the catch and CPUE data with no modification to the HS or continued extreme under-catch of the TAC and
    - (ii) simulation of the modified HS for the updated catch and CPUE data.
  - The modification to the broadbill swordfish HS performed for the specific MSE testing scenarios were agreed to at TTRAG34. The current low levels that are assumed to have ceased from 2025 onwards, effectively has the same output as the current HS with dealing with low recruitment, without reducing the TAC at the same time.
35. The modified HS was also designed to cope with the recovery from the under-catch and include recovery from market influences. The resulting higher TACC in the modified HS and catches post 2025 when recruitment is assumed to be higher, did not appear to cause a rapid depletion of broadbill swordfish until 2030.

Key points from the RAG's discussion on MSE testing for the modified HS were:

- Industry noted that the Australian percentage of the international swordfish fishery is currently decreasing and enquired how the modified harvest strategy accommodates this decrease. CSIRO responded that that assumption in the modified HS is that the percentage share is maintained at the current level as the HS can only be applied to the Australian fishery catch.
- The MSE testing adequately addressed the exceptional circumstances of the low catch. Noting that, now that the scenario of under-catch to the TAC has been explored, the exceptional circumstances is no longer applied to the HS.
- It is noted that the modified HS can cope with the recovery from the under-catch as it considers the level of catch for that year and it does not ignore the recovery of under-catch from market conditions.

36. The RAG accepted the modified HS for broadbill swordfish from the results that were presented after the CSIRO MSE work.

37. AFMA and the RAG are to work together on communicating the background and rationale regarding the acceptance of the modified HS, including emphasis on the explanation that the low under-catch is for market reasons and not biological reasons.

38. The RAG noted, that the modified HS will be reviewed in 2023. The RAG agreed and recommended to apply the new modified HS in September for advice to TTMAC when setting the TACC. The RAG also recommended that it is essential that the modified HS continues to be reviewed over the next year or two, as planned. The review must include assessing the continuation of the low recruitment within the fishery; if under-catch remains low and continues due to the market conditions; and review the percentage of Australian catch relatively to other countries fishing at/near the Australian EEZ.

**ACTION ITEM: AFMA to provide advice to the MAC using the accepted modified broadbill swordfish Harvest Strategy and for this to be applied this year to set the TAC for 2023.**

**ACTION ITEM: The modified harvest strategy will be reviewed 2023, the review must include assessing the continuation if the low recruitment within the fishery; if under-catch remains low and continues due to the market conditions; and review the percentage of Australian catch relatively to other countries fishing at/near the Australian EEZ has been incorporated adequately.**

## 7 Other Business

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### 7.1 Tagged Striped Marlin Recapture

39. The RAG heard of a recapture of a tagged striped marlin off Fraser Island, QLD Australia by a recreational fisher. The individual was tagged in New Zealand and may be the first record of a tagged striped marlin crossing the Tasman Sea from Zealand to Australia. The RAG also heard of the first record on a striped marlin that was tagged in Australia and recaptured in New Zealand after 18 months at liberty.

- Industry noted that often commercial and recreational fishers do not know what to with the tagged fish when they are caught and more awareness is needed about who to report the tagged individual to and what information is required to be collected, for example genetic samples and otoliths.

**RECOMMENDATION: Recreational fishery member to discuss tagged fish reports with NSW DPI.**



## 7.2 Anchored FAD analysis action item from TTRAG31.

40. CSIRO gave a brief presentation on an action item from the previous meeting on the catch rates of anchored FADs, which were not a component of the meeting documents from CSIRO.
- The RAG had a discussion on the starting locations on FADs and potential movement from servicing, and if it might impact the information in the analysis. CSIRO confirmed that FADs data from QLD was given to CSIRO two months ago by QLD DAFF and data did not indicate if any FADs had been replaced or moved over the analysis time period.

## 7.3 Oceanographic project update

41. The ABARES representative enquired about an update regarding the CSIRO oceanographic project that was discussed in the previous minutes, with an update was to be reported during the current meeting.
- The RAG heard from CSIRO that the project has been completed, however there has been delay in receiving internal feedback from Government on the project report prior to submitting the final report to the RAG.

**ACTION ITEM: CSIRO to present final report to TTRAG in March.**

## 7.4 Data breach

42. A summary was provided to the RAG from an Industry member (Tuna Australia)
- AFMA was asked on what the legal repercussions are when a data user breaches the requirements of a data confidentiality agreement from which they obtained those data. AFMA responded that they will provide an answer to this question to the RAG out of session.

**ACTION: AFMA to provide an update to the RAG regarding the breaches of data confidentiality and the legal repercussions.**

## 7.5 RAG Appointments

43. Clarification was sought regarding RAG appointments and notification letters.
- The chair provide details regarding the RAG appointment process and a detailed summary of RAG appointments is set out through the Fisheries Administration Paper 12 (FMP12). It was noted the RAG is composed of sufficient members who possess a balance of the skills and expertise required to fulfil the RAGs scientific, economic, and technical functions. Industry membership is to ensure that different perspectives and knowledge sources are recognised, and industry association EOs are very rarely appointed through this process.
  - AFMA has responsibility for ensuring that RAGs comprise the best available team of experts (i.e. fishery scientists of varying disciplines and other stakeholders with relevant skills and knowledge).

### Next meeting

44. At the TTRAG 33 meeting in September 2021, TTRAG agreed to set placeholders for all meetings throughout 2022. The tentative meeting date was confirmed during the current meeting as:
- TTRAG 36, 13-15 September 2022
45. The RAG noted that the September meeting clashes with the announced dates for Seafood Directions, which impacts several participants.
- AFMA noted that alternative dates were investigated for the September meeting. However, due to the key participants availability and timing for TTMAC, the meeting dates remained as 13-15

September. The Chair suggested that participants may be able to offset the meetings to be able to attend the RAG and Seafood Directions.

- AFMA agreed to work with the RAG to develop the agenda for the next meeting to ensure that members attending Seafood Directions will be able to attend key agenda items.

46. The Chair closed the meeting at 1:19 pm on day two and thanked members for their attendance and contributions.

**Video Conference**  
**Day 1: Wednesday 12 July 2022**  
**Time- 9:00am start (QLD time)**

<b>Day 1</b>			
<b>Session 1 9:00am – 11:00am AEST</b>			
<b>1.</b>		<b>Preliminaries</b>	
	1.1	Welcome & Apologies	Chair
	1.2	Declarations of Interest	Chair
	1.3	Adoption of Agenda	Chair
	1.4	Acceptance of TTRAG 33 Minutes	AFMA
	1.5	Actions arising/ Out of Session Developments	AFMA
	1.6	Out of Session Correspondence	AFMA
<b>Session 2 11:15am – 1:30pm AEST</b>			
<b>5.</b>		<b>Review of Fishery Indicators</b>	
	5.1	WTBF Data Summary	CSIRO
<b>2.</b>		<b>Fishery Performance Review</b>	
	2.1	Verbal Updates from members	Chair
	2.2	AFMA Catch Watch	AFMA
	2.3	International Meeting Updates	AFMA/ABARES
	2.4	Commission & TTMAC Outcomes	AFMA
<b>3.</b>		<b>Research</b>	
	3.1	2023/24 Annual Research Statement	AFMA
<b>4.</b>		<b>Other Business/Research Update</b>	
	4.1	Update on Tuna Australia projects	David Ellis
<b>5.</b>		<b>Review of Fishery Indicators cont.</b>	
	5.3	ETBF Size Distribution Summary	CSIRO

**Video Conference**  
**Day 2: Thursday 13 July 2022**  
**Time- 9:00am start (QLD time)**

<b>Day 2</b>			
<b>Session 1 9:00 – 11:00 am AEST</b>			
<b>5.</b>		<b>Review of Fishery Indicators cont.</b>	
	5.2	ETBF Data Summary	CSIRO
	5.4	CPUE Standardisation	CSIRO
<b>Session 2 11:00am – 12:45pm AEST</b>			
<b>6.</b>		<b>Swordfish Harvest Strategy</b>	
	6.1	CPUE and Update on Swordfish Harvest Strategy	CSIRO
<b>Session 3 1:00pm – 1:30pm AEST</b>			
<b>7.</b>		<b>Other Business</b>	
	7.1	Tagged Striped Marlin Recapture	David Ellis
<b>8.</b>		<b>Next Meeting</b>	

## APPENDIX 2: RECOMMENDATIONS AND ACTIONS ARISING FROM TTRAG 35

**Table 1. Recommendations arising from TTRAG 35**

	Recommendation	Responsibility
1	March TTRAG meeting to be used as an opportunity to present research papers	AFMA
2	WTBF Industry member to provide time series data from 1994 onward out of session and CSIRO to investigate whether this time series data from 1994 can be included into future data summaries relating to WTBF.	Industry Member/CSIRO
3	CSIRO to review two figures on the spatial trends (Figure 7 & 8) within presentation whether the figures be more appropriate in weight, instead of number of individuals.	CSIRO
4	CSIRO to investigate the targeting behaviour and potentially capture the recent changes in the fishery for the CPUE standardisation	CSIRO
5	CSIRO to provide regular updates on new stepwise approach of CPUE standardisation model and updated whether targeting and spatial-temporal treatments can be incorporated.	CSIRO
6	AFMA and CSIRO to investigate if discarding is able to be captured and incorporated within the CPUE standardisations.	AFMA/CSIRO
7	Recreational fishery member to discuss tagged fish reports with NSW DPI	Recreational Fishing Member.

**Table 2. Actions arising from TTRAG 35**

	Action	Responsibility
1	TTRAG to be provided an update in the new year on the Management Procedure for big eye tuna.	ABARES/AFMA
2	To provide the Draft Five Year Research Strategic document and Annual Research Plan out of session to the RAG for review and comment.	AFMA
3	To collate comments for the Draft Five-Research Strategic Document and Annual Research Plan and provide an update at TTRAG 36	AFMA
4	AFMA and Recreational Fishing member to have discussions out of session on revised expression of interest and report for the Recreational Fishing Data Collection Project and provide an update to the RAG.	AFMA/Recreational Fishing Member
5	CSIRO to provide budget to AFMA for the costing of the CSIRO project <i>“Scientific advice for management of Tropical Tuna and Billfish Fisheries”</i> out of session	CSIRO
6	AFMA and CSIRO to investigate the reasoning behind time series starting in 1998.  <b>COMPLETE</b> – CSIRO provided an update to the RAG on the morning of Day 2. A report was referenced from Dr Robert Campbell in 2018 noting that TTRAG agreed to start the analysis for ETBF for 1998. An industry member noted it was agreed that time series started 1998, due to unprecedented fishing year in 1997.	AFMA/CSIRO
7	AFMA and CSIRO to investigate the differences and potential inconsistencies in set times, including auto-time adjustments from what is being recorded in electronic logs entries and the AFMA database.	AFMA/CSIRO
8	The modified harvest strategy will be reviewed 2023, the review must include assessing the continuation if the low recruitment within the fishery; if under-catch remains low and continues due to the market conditions; and review the percentage of Australian catch relatively to other countries fishing at/near the Australian EEZ has been incorporated adequately.	AFMA
9	AFMA to provide advice to TTMAC using the accepted modified broadbill swordfish harvest strategy and that it is used to apply the TAC for 2023.	AFMA
10	AFMA to provide an update to the RAG regarding the breaches of data confidentiality and the possible legal repercussions.	AFMA