



Australian Government
Australian Fisheries Management Authority



Tropical Tuna and Billfish Fisheries
Research Assessment Group
(TTRAG)

MINUTES
TTRAG 14
8-10 MARCH 2016
MOOLOOLABA

Table of Contents

1. Preliminaries	3
1.1 Welcome and apologies	3
1.2 Pecuniary interest declarations	3
1.3 Adoption of agenda	5
1.4 Acceptance of minutes	5
1.5 Actions arising/out-of-session development	5
2. Review of fishery performance	6
2.1 Current catches and effort in the domestic fishery- verbal updates from scientists, industry and recreational fishing member since last RAG meeting (October 2015)	6
2.2 WTBF Review	8
2.4 MAC/AFMA Commission Outcomes (2:36)	10
2.5 Economics workshop outcomes	11
2.6 Estimating Recreational catch	11
3 CPUE standardization review	12
3.1 E-monitoring progress update	12
3.2 Accounting for e-monitoring in the standardisations	13
4. Yellowfin Tuna TACC Review	13
5. Byproduct/Bycatch Species	14
5.1 Review of major byproduct/bycatch species	14
5.2 Mahi Mahi management for MSC	15
5 Harvest Strategy Framework Review	17
6 Research	17
6.1 Update on current research projects	17
6.2 Annual Research Statement	18
6.3 5-year strategic research plan 2017-2021	19
7 Other business	19
8 Date and venue for next meeting	19

1. Preliminaries

1.1 Welcome and apologies

1. The TTRAG Chair opened the meeting at 9:00am

2. Attendees

Members

Dr Sandra Diamond, Chair (University of Western Sydney)

Ms Stephanie Martin (AFMA member)

Dr Rob Campbell (CSIRO)

Dr Cathy Dichmont (Independent Scientist)

Dr Julian Pepperell (Recreational fishing scientist)

Dr James Larcombe (ABARES)

Prof John Tisdell (Economist)

Mr Gary Heilmann (Industry)

Mr John Abbott (Industry)

Mr Pavo Walker (Industry)

Invited participants

Mr Paul Williams (Industry)

Observers

Mr Trent Timmiss (AFMA)

Mr David Ellis

Mr Sam Williams

Mr Brett Taylor

Mr Adam Whan

Executive Officer

Ms Natalie Rivero (AFMA)

Apologies

Dr Rich Hillary (CSIRO)

Mr Cathal Farrell (Industry)

1.2 Pecuniary interest declarations

1. TTRAG discussed the declaration of pecuniary interest and how TTRAG will deal with potential conflicts of interest.

2. The attendees were asked to state their pecuniary interests.

- Dr Sandra Diamond, employee of the Western Sydney University. Has no pecuniary interest (financial or research) in tuna fisheries. Currently has a PhD student involved in game fishing tournament research. Dr Diamond is paid as the TTRAG Chair.
- Dr Robert Campbell, employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is actively engaged in research on the Eastern and Western Tuna and Billfish Fisheries. Is the PI of the following research projects: *"Data management, provision of*

fishery indicators and implementation of the harvest strategies for Australia's tropical tuna fisheries” and “Developing innovative approaches to improve CPUE standardisation for Australia's multi-species pelagic longline fisheries.”

- Dr Cathy Dichmont, part time employee of CSIRO and a member of TTMAC, undertakes some research on tuna species, but has no pecuniary interest in Australian Tropical Tuna Fisheries. Has a cross-cutting project that affects tuna fisheries and has a Research Consultancy Company.
- Dr James Larcombe, employee of ABARES, leads delegations to the WCPFC Scientific Committee and does Tropical Tuna research. Has no pecuniary interest in the Australian Tropical Tuna Fisheries.
- Ms Stephanie Martin, employee of AFMA, which includes a salary. Is the Acting Manager of the tropical tuna fisheries, but has no pecuniary interest in Australian tropical tuna fisheries.
- Mr Trent Timmiss, employee of AFMA, manager of all of AFMA’s Tuna and Antarctic fisheries, member of TTMAC and SBTMAC, attends WCPFC on behalf of the Australian Government, has no pecuniary interest in the Australian Tropical Tuna Fisheries.
- Prof John Tisdell, employee at the University of Tasmania and is a scientific member of the Great Australian Bight Resource Assessment Group (GABRAG). Has no pecuniary interest in tropical tuna fisheries
- Dr Julian Pepperell, independent fisheries consultant and representative of the recreational fishing sector. Is currently undertaking research into game fishing and has an application for research with West Australia fisheries. Is involved in projects including the monitoring of fish landed at game fishing tournaments and pop-up satellite tagging on juvenile Black Marlin.
- Mr Gary Heilmann, director of several companies that hold; 2 ETBF boat SFRs and quota SFRs (less than 5% of quota species except for Albacore Tuna which is greater than 5% of the total ETBF quota), a fish receiver’s permit and a Coral Sea fishery permit.
- Mr John Abbott, owns an ETBF boat SFR, and ETBF quota SFRs, and also holds a state licence fish receiver permit.
- Mr Pavo Walker, owns several ETBF boat SFRs, and ETBF quota SFRs for all species. Has pursued MSC certification for four ETBF species.
- Mr Paul Williams, director of a company that holds an ETBF boat SFR, ETBF quota SFRs, and holds a Commonwealth fish receiver’s permit.
- Ms Natalie Rivero, Employee of AFMA, which includes a salary. Is a Management Officer for the tropical tuna fisheries. No pecuniary interest in tropical tuna fisheries.
- Mr David Ellis (observer), previously involved in South Australian Tuna fishery, has a Consultancy company, involved in a project for feed development for aquaculture and pet food industries, working with a steering committee in the ETBF to set up an association.

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- Mr Sam Williams (observer), student at University of Queensland. Supervised by Julian Pepperell and is involved in a number of projects involving tagging of Marlin. Has no pecuniary interest in the Australian Tropical Tuna Fisheries.
- Mr Brett Taylor (observer), director of a company that holds ETBF boat and quota SFRs.
- Mr Adam Whan (observer), employee of a company that hold ETBF boat and quota SFRs.

Members not present

- Mr Cathal Farrell, Manager of fish receiving business and holder of an ETBF boat SFR.
 - Dr Rich Hillary, employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries.
3. At the beginning of each agenda item, TTRAG members with a stated conflict of interest were asked to leave the room and the remaining members discussed their individual claims. In all cases, all members were agreed to be permitted to participate in the item discussion.

1.3 Adoption of agenda

1. The agenda (Attachment A) was adopted by TTRAG with notice given by the chair on the possible inclusion of an additional agenda item under 3.3.

1.4 Acceptance of minutes

1. The minutes were accepted by TTRAG without amendment.

1.5 Actions arising/out-of-session development

1. TTRAG discussed the action items arising from TTRAG 13 (Table 1), and commented on progress.

Table 1. Actions arising from TTRAG 13 and the status of these actions.

	Action	Responsibility	Status
1.	A long-term analysis project of SST, other oceanographic factors and catch data to be made a research priority. The purpose would be to use the current model for Southern Bluefin Tuna and re-adapt for Yellowfin Tuna. This could be done for bycatch species as well. In the mid-term, Robert Campbell to undertake a statistical analysis of the relationship between oceanography and fish distribution. AFMA to also investigate the potential for a collaborative study (with SPC and near neighbour countries like PNG, Solomon Islands, New Caledonia, Vanuatu and Fiji) that examines fine scale spatial and temporal CPUE and size data for additional information regarding mixing of tropical tuna species within and between the Australian and adjacent fishing zones	Dr Rob Campbell	Ongoing. No update for this meeting.
2.	AFMA to provide Dr Rob Campbell with the locations	AFMA	Ongoing. Some data

	of the SBT management zones and a list of all the shot numbers within the zones.		has been collated but not yet finalised.
3.	TTRAG to discuss the “Development of an approach to harvest strategy management of internationally managed multi-species fisheries” report when finalised by CSIRO.	TTRAG	Ongoing. Has been assigned to Dr Rich Hillary.
4.	AFMA to include the classification of “discard” in the fishery management arrangements booklet and clarify the requirements for reporting discards.	AFMA	Ongoing. It is part of a review of discards across all AFMA-managed fisheries.

2. Review of fishery performance

2.1 Current catches and effort in the domestic fishery- verbal updates from scientists, industry and recreational fishing member since last RAG meeting (October 2015)

Catchwatch Report

1. The industry member, Mr Gary Heilmann, presented the information for this agenda item and stated that 2015/16 was a very good season. The bigeye tuna catch started earlier than usual in February and continued up to December with catches at around 750 tonnes up from around 500 tonnes last year. The core size of the Bigeye being around 28-30 kgs and were closer to shore than normal with a lot of Albacore Tuna and Yellowfin Tuna landed with it.
2. Industry informed members that for the July/August period, trips were bringing in around 30-40 tonnes of catch. Yellowfin catches were surprising as they are not usually caught with Bigeye leading them to raise the issue of running into difficulties with quota at the previous TTMAC meeting.
3. Operators began targeting swordfish and still caught Yellowfin, which was reflected in the catchwatch report showing Yellowfin catches of 2,200 tonnes at the end of January. Most of the bigger operators utilised their 10% overcatch provision, but industry members raised significant concerns regarding the yellowfin quota availability for the current 2016/17 season. The 2015/16 yellowfin tuna catch has been the largest since 2003 when there were 160 boats in the fishery. It was also noted that some operators were discarding Yellowfin as they had no quota to cover the catch. Industry members suggested the increase in the Yellowfin catches may be attributed to the warmer waters.
4. Industry members reported that during the 2015/16 fishing season, operators in NSW leased Yellowfin quota to operators in Queensland. However later in the season, the NSW operators had to find more quota when their Yellowfin catches increased. Industry members expressed concern that this season, operators could potentially hold on to their Yellowfin tuna quota in the event that catches continue late into the season again.

5. The industry noted that the Bigeye that turned up in February last year (2015) have turned up in January this year (2016) which is very unusual. The size class average is around 32-33 kg and showing good colour, indicating another good season for bigeye. It was stated that operators were discarding Yellowfin and Striped Marlin as there was limited availability of quota. It was further reported that the exchange rates were good and oil prices were down making it all round a good year.
6. The Scientific member, Dr Robert Campbell, stated that effort in the fishery was up 15% from the previous year. An industry member suggested the increase was due to the NSW operators, who usually exclusively target SBT, targeting other Tuna species to take advantage of the high catches. This would be in addition to an increase in days fished and number of hooks set.
7. Industry informed TTRAG that they anticipate bait prices to increase further as catches on the Atlantic grounds have been low.
8. Other industry members present also commented that the season had produced high catches as well as high quality Yellowfin tuna and that quota availability has been a major issue for this species.
9. The recreational industry member, Dr Julian Pepperell, gave an update on the recreational catches. He informed the TTRAG that the Marlin season had been good with catches beginning in late October to early November. Juvenile Marlin had made an appearance for the 4th year in a row and this year they were off Townsville. Spearfish catch was high with 12 tagged in tournaments, which was unusual. He also informed the TTRAG that he is writing a tagging report and only 49 Yellowfin were tagged, the average last year was 400, suggesting a shift off the shelf.
10. The recreational catches for Striped Marlin were unusual, beginning in early January and then disappearing, perhaps due to bigger boats going further out to target Blue Marlin instead. The Blue Marlin season was successful and they were caught in good numbers as operators have worked out how to catch them better. The effort on sharks has decreased and Mahi Mahi was consistent with large fish being caught.
11. The industry member commented that they have seen the opposite and not observed Mahi Mahi offshore.

ETBF Annual Catches

1. The TTRAG noted the Annual catches, RBCCs and TACCs for the ETBF presented by the Scientific Member, Dr Robert Campbell. The paper visually displayed the catch for each of target species in the fishery by quota year rather than calendar year.

ETBF management arrangements table

1. The TTRAG noted the current table of management arrangements in the ETBF since 1995 and discussed additions to current document. TTRAG suggested words to

describe each measure and links to relevant material discussing the impacts of the measures be included. Separate sheets for economic factors and recreational fishing were suggested as additions.

ACTION ITEM 1: TTRAG members to each review their areas of expertise and add relevant management arrangements to the existing table also including management arrangements in the WTBF.

2.2 WTBF Review

1. The AFMA member provided a verbal report regarding the catches, effort and general operation in the WTBF. The TTRAG was informed that there are currently two operators in the fishery and catch rates are well below the TACC.
2. The TTRAG was updated on an application that was submitted to bring foreign longliners into the fishery. The vessel was unsuccessful in reaching Australia and future plans to enter the WTBF are uncertain.
3. The TTRAG was also informed of an amendment to the Memorandum of Understanding with Western Australia Fisheries increasing the current Mahi Mahi trip limit from a 10 fish combined trip limit to an individual 200 fish limit. The Ministerial approval for this amendment is currently in the process of being confirmed.
4. The TTRAG noted the information provided in the Agenda Item document stating that the WTBF is under a 3-year TACC that will continue through to 31 January 2018.

2.2 WCPFC Update

1. The AFMA observer updated the TTRAG on the outcomes of the recent annual WCPFC meeting.
2. The TTRAG was informed that for each of the Tropical Tuna species the objective was to maintain fishing mortality, below the fishing mortality that would create MSY.
3. For Skipjack, a new target reference point of B_{50} in the absence of fishing was agreed. For Bigeye and Yellowfin, the objective was to reduce fishing mortality (F) below f_{MSY} by 2017. The agreed limit reference point for all species (B_{20}) is consistent with what is applied domestically.
4. The main management for the regional purse seine fishery is through managing effort through a vessel day scheme, which aims to maintain Skipjack at 50% of its uncaught biomass.
5. The TTRAG was informed that the biggest impact of recent years have been Fish Aggregating Devices (FADs), as they increase the efficiency of the purse seine effort

and also attract mixed species. It's been estimated that over the last 5 years the number of FADs deployed in the Western and Central Pacific Ocean (WCPO) has increased from approximately 30,000 to 80,000.

6. For Bigeye management for the longline sector, there are catch limits for the five main fleets (US, China, Japan, Taiwan and Korea). The catch limits are 40% below their catch average for 2001-2004. For the US and China it's their 2005 catch limit. For all other members there is a blanket 2,000t limit (that includes Australia) and there is a general exemption for Pacific Island fleets that are essentially unlimited.
7. For Yellowfin, the wording in the conservation measure surrounding limitation is much weaker than it is for Bigeye. For Australia, we use the 2001-2004 catch history by default as it is consistent with previous versions of the conservation measure.
8. For Albacore, the WCPFC measure was updated slightly to include more data and to state that there should be no increase to vessels actively fishing for Albacore South of 20°S, but lacks clarification on the definition of "actively fishing". There has been an increase in effort in the past few years on boats targeting Albacore, which the measure is failing to manage.
9. For Swordfish, the measure hasn't been updated since 2009 however it has been one of the better measures implemented that has reduced effort, particularly from the EU, South of 20°S. There are good reporting requirements in the measure as well as payback measures for overcatch.
10. For Striped Marlin, the measure hasn't been looked at for over 10 years and is overall the weakest. There are some data provisions but there is almost no reporting on this.
11. For MSC, all vessels on the high seas are subject to high seas boarding and inspections and they are required to have VMS. There is a 100% observer coverage requirement on purse seine vessels and a 5% observer coverage requirement for longliners that is generally not achieved due to the condition of the vessels. Observer safety continues to be an ongoing issue.
12. Port State Measures (PSM) in the WCPFC are developing, however transshipment at sea is still happening. There is also a catch traceability system being developed and there is a public record of authorized fishing vessels for the Convention Area.
13. Overall, the WCPFC requires a complicated mix of zone and flag based input and output controls with some capacity measures. Negotiations on improving tropical tuna and albacore measures that are ineffective have stalled. Striped marlin and swordfish are low priorities. The WCPFC has difficult decisions to make in the future that will likely effect coastal states such as Australia. The solution would be to get WCPFC to agree to a harvest strategy approach to fisheries management. In 2014

they agreed in principle to develop a harvest strategy framework and there is a conversation measure to support it, however the framework is continuing to be developed. In 2015, the Commission agreed to a 4 year work plan for implementation that will be progressed at the Scientific Committee meeting in August focusing on the objectives for 2016.

14. Additionally there is a management workshop in Noumea in June that will also be furthering the development of the workplan. For the Commission, 2017 will be a significant year as a number of conservation measures are up for review.

2.4 MAC/AFMA Commission Outcomes (2:36)

1. The TTRAG noted the verbal update from the AFMA member on the outcomes of the TTMAC meeting held on 4 November 2015 in which the TTMAC discussed the TACC recommendations they would provide to the Commission.
2. The TTRAG was informed that the TTMAC recommended to the Commission the tuna TACCs remain the same except for Yellowfin Tuna where the TTMAC industry members proposed a 200t increase. TTMAC were not able to agree on a Yellowfin tuna TACC recommendation. For swordfish, the RBCC was recommended as the TACC and for Striped Marlin it was recommended that the TACC remained the same in the continued absence of a resource-sharing agreement.
3. The TTRAG also noted the update on the out of session AFMA Commission decision on the ETBF TACCs. The AFMA observer stated that the Commission did not make a decision on the Yellowfin TACC increase as the TTRAG had not formally had the opportunity to discuss the implications of raising the Yellowfin TACC. The Commission recommended that the TTRAG discuss the increase in the Yellowfin TACC for the upcoming season rather than increase the TACC for the current season and it is an Agenda Item for discussion later in this meeting.

4. TTRAG Industry members commented that a decision should have been made by the Commission as the TTRAG had previously provided advice that all indicators were positive and showed the Yellowfin stock was doing well. The point was also raised that a faster decision making system is required as once an outcome is decided, it is a year behind.

2.5 Economics workshop outcomes

1. The TTRAG economic member provided a summary of the recent economic workshop held at AFMA in December 2015. The workshop was attended by the resource economists of the various RAGs as well as James Findlay (CEO of AFMA) and Beth Gibson (Senior Manager, Policy Environment Economics and Research, AFMA).
2. The TTRAG was informed that the purpose of the working group was to provide recommendations to the CEO who would then take the recommendations to the AFMA Commission.
3. Many topics were discussed including the role and advice of economic members on RAGs and key economic issues including the lack of economic data and where economic data can be sourced from.
4. There was also discussion at the meeting on the previous Quota Board system and why it wasn't successful and a need to have transparency for data collection on quota trading.
5. Uncaught TACCs were discussed, and it was concluded that models need to account for drivers that change fishing behaviour such as switching economic incentive.
6. It was also noted at the meeting that there should be a push for RAG membership to represent a greater proportion of the supply chain.

2.6 Estimating Recreational catch

1. The TTRAG discussed potential options for better estimating recreational catch in the ETBF and WTBF for target species and how to incorporate the estimates of recreational catch in the advice given to the Commission.
2. The TTRAG noted that organized recreational catch data from fishing clubs is recorded however unorganized recreational catch is unknown and difficult to estimate. The TTRAG discussed which species to prioritize in terms of collecting recreational catch data and striped marlin was considered to be a critically important species, and Yellowfin and Albacore potentially important.
3. It was noted that researcher Danielle Ghosn is working on recreational club data and may have results that could be useful for the RAG to consider for striped marlin. The

AFMA observer additionally stated that there are approximately 240 charter boat licences that record logbook data, and that data will be useful for Yellowfin catches.

4. The TTRAG decided that for this year's estimates, AFMA will contact NSW fisheries for the charter boat logbook data. The recreational fishing scientific member, Dr Julian Pepperell, will contact Danielle to see what club data she will have. The TTRAG will use this information to scope the importance of the species to inform further discussions.

ACTION ITEM 2: AFMA to contact NSW fisheries for the charter boat logbook data. Dr Julian Pepperell will contact Danielle to see what recreational club data she will have.

ACTION ITEM 3: Dr Julian Pepperell to contact Danielle Ghosn to obtain her recreational club data

3 CPUE standardization review

3.1 E-monitoring progress update

1. The AFMA member provided the TTRAG with an update on the comparisons of logbook recording with e-monitoring data. The TTRAG was presented with the key points from the comparison, which were:
 - The numbers of discards have doubled between early 2015 and early 2016 and the number of different species reported has increased.
 - Landed catch appears to be reported more accurately.
 - Previously no Dolphins or Whales were reported; now 4 Dolphins and 4 Whales have been reported since e-monitoring implementation.
 - Discards and non-target species appear to be under reported.
2. The AFMA observer also commented that the previous issue of identification between Blue and Black Marlin has been resolved and the camera angles not capturing the release of discards is also being addressed. Other outstanding issues with the e-monitoring provider, Archipelago Asia Pacific (AAP), that are still undergoing resolution are radio interference, install issues and issues with the supply of hard drives. There have been system problems but now with a technician based in Mooloolaba the system issues should be improved.
3. An industry member commented that they are not getting a full month out of the hard drive they are using, and the AFMA member commented they should be using 2 terabyte hard drives. This issue will be investigated by AFMA.
4. The AFMA observer also informed the TTRAG that treatment of bycatch has become an issue in the shark fishery and there are plans to roll out an education program surrounding the correct handling procedures for bycatch across all fisheries.

3.2 Accounting for e-monitoring in the standardisations

1. The Scientific member, Dr Robert Campbell gave a report and presented information on accounting for e-monitoring in the standardisations. The aim was to identify notable changes since the introduction of e-monitoring for landed catch, discards, and retained species.
2. For target species there is not a noticeable increase in the CPUE, meaning that reporting is largely accurate and confirms the information presented by AFMA in the comparisons data. For discards, there has been an increase in reporting for target species that could possibly also be attributed to lack of quota for Yellowfin and Striped Marlin. For bycatch species there wasn't a consistent increase observed. (See Agenda Item 3a for more detail).

4. Yellowfin Tuna TACC Review

1. Dr Robert Campbell gave a summary on the paper prepared for the Commission by TTRAG in October 2015 on the stock status of Yellowfin. The take home message from the paper was that there did not appear to be any long term decline in the availability of the Yellowfin catch, and that increasing the quota by 200t will not increase catch by 200t, it would allow the fleet to catch a larger amount in the years when the CPUE is high. Based on these facts, the scientific advice was that an increase in the TACC would not likely have an adverse effect on the sustainability of the stock.
2. The AFMA observer suggested the TTRAG take caution in their advice in suggesting that the effort is stable given figures show effort in the fishery is up by 15% since last year. A scientific member suggested that TTRAG take into account the new genetic work on Yellowfin that suggests Region 5 is a different stock, when framing the additional advice to the AFMA Commission.
3. An industry observer commented that vessels have doubled their catches in the 2015/16 season and suggested abundance is likely significantly higher than what is reflected in the catch data graphs, as operators are actively trying to avoid catching Yellowfin. The industry observer further commented that if the trend continues without implementing an arrangement that responds to the current abundance, a discarding problem will arise. It was also noted that had there been more quota available in 2015/16, the fishery could have increased its financial revenue for the season.
4. The TTRAG went on to discuss the issue of resource allocation between the recreational fishing sector and the commercial fishing sector. The recreational fishing scientific member commented that there is a perception of declining Yellowfin abundance by recreational fishers and that an increase in quota may be perceived as a reduction in the available catch to recreational fishers. The TTRAG agreed that the evidence of a separate Region 5 stock would suggest the recreational fishers and

commercial sector are potentially targeting different stocks. Consequently, there is no evidence to suggest an increase in the commercial Yellowfin quota would have an adverse effect on recreational catches.

5. The TTRAG discussed the issue of policy and procedural matters related to increasing the TACC. Industry commented that there was a need for expediency to allow operators flexibility while the season is running as making a decision for the next season will not solve the issue of lack of quota for the current season.
6. The AFMA observer commented that there is no mechanism in the management plan that allows for a change in the TACC within a quota year. The point was made that Yellowfin quota has a value to quota owners at present and increasing the available quota mid-season undermines the value of that quota. There are also associated legal implications with any TACC change.
7. Industry members expressed their concern and frustration with the lack of flexibility in the current quota system and reiterated their preference for this to be improved.
8. The Scientific member, Dr Cathy Dichmont, stated that to the best of her knowledge, the Commission had not ever approved an increase to the TACC without an attached analysis from a RAG and stated that the TTMAC should have sought prior advice from the TTRAG before going to the Commission. With that in mind, an out of session process for consultation with the TTRAG in instances such as this is needed.
9. The AFMA observer proposed that TTRAG draft advice that makes a strong case for raising the Yellowfin TACC for 2017 and
address the specific questions raised by the recreational fishing and environmental members of TTMAC.
10. The AFMA observer further suggested that discussions about changing the management plan to allow for a 2400t TACC no longer continue and proposed an option to consult with industry whether they prefer a 2400t TACC with overcatch and undercatch provisions or the maximum 2650t without overcatch and undercatch provisions for the 2017/18 season TACC (noting that 2650t is the average catch for 2001 to 2004 and is the WCPFC maximum catch limit permitted for Australia by the WCPFC).
11. The TTRAG drafted a letter of advice to the Commission (Attachment A) with their recommendations regarding the Yellowfin TACCs.

5. Byproduct/Bycatch Species

5.1 Review of major byproduct/bycatch species

1. The AFMA observer informed the TTRAG that the Commonwealth government is conducting a review of the Harvest strategy policy and the Bycatch policy. It was

stated in the coming years that the TTRAG will need to assess the sustainability of minor species to ensure there are no concerning patterns with any of the species over time. It was also noted the fishery had good data and there are no species that appear to be of concern, however over the coming years, formalized monitoring will be needed.

2. An industry member raised the question of the confusion surrounding oilfish, rudderfish and escolar reporting and AFMA agreed to follow this up as it is also an issue in the e-monitoring reporting.
3. The scientific member, Dr Robert Campbell, presented the TTRAG with a spreadsheet listing the byproduct/bycatch species caught in the fishery and TTRAG noted that there is a need to ensure the list of categorised byproduct/bycatch species is consistent with the list in the harvest strategy document. The AFMA observer also informed the TTRAG that under the current draft of the harvest strategy policy there will be different requirements for management of byproduct and bycatch species. A scientific member also highlighted that once the new policies are in place, there will be a need to formally categorise the species caught in the fishery.
4. Dr Robert Campbell informed the TTRAG that there was no evidence to suggest a decline in any of the bycatch/byproduct species from the 2015 analysis of all species, then presented the TTRAG with information for Mahi Mahi from the 2016 analysis (Attachment B).
5. An industry member suggested that the spike observed in 2002-03 in discarding of Mahi Mahi was likely due to a pay dispute with fisheries officers where they began heavily enforcing the trip limit for Mahi Mahi and serving infringements to operators. As a result, operators increased the discarding of Mahi Mahi to avoid being fined. The trip limit for Mahi Mahi was subsequently removed and discarding decreased.

5.2 Mahi Mahi management for MSC

1. The TTRAG was informed that Walker seafoods had applied for Marine Stewardship Council (MSC) certification for four ETBF species and received it for three. Mahi Mahi was not given certification and to get it assessed as a principle 1 species it would need to be included in the Harvest Strategy. It was noted that the paper presented by Dr Robert Campbell was the first step in accreditation and then the harvest strategy would need to be finalised and applied to Mahi Mahi.
2. An industry member stated that the TTRAG has previously formally set trigger limits for Mahi Mahi. AFMA agreed to investigate the source of the past trigger limit discussions.

3. Dr Robert Campbell then continued to present the paper on Mahi Mahi. The data shows the first quarter has higher catch rates than the fourth quarter suggesting seasonality in the fish or the locations fished. The data also shows a shift in availability over the Northern and southern part of the fishery.
4. It was noted by the TTRAG that the current data for Mahi Mahi shows no indication of a decline and that sizes caught are highly variable. It was also noted that the biology of the species, which is short lived, makes the size information less informative (Attachment B).

ACTION ITEM 4: AFMA to investigate the past Mahi Mahi trigger limit arrangements.

5 Harvest Strategy Framework Review

1. The AFMA member informed the TTRAG that the draft of the Australian Tuna and Billfish Fishery (ATBF) Harvest Strategy Framework review was progressed out of session with some questions raised regarding separating monitoring and byproduct species in the current draft.
2. It was also noted that the Harvest Strategy Policy currently being developed will likely require the TTRAG to make changes to the current draft of the ATBF Harvest Strategy Framework. In light of this, the TTRAG decided to wait for the Harvest Strategy Policy to be released before further progressing the document.
3. It was suggested by members that a screening test on Mahi Mahi would be done every 3 years. If the stock falls below $B_{0.5MSY}$ in any of the 3 years considered, primary indicators (catch rates) will be reviewed the following year. If the stock falls below $B_{0.5MSY}$ for a second consecutive year, all indicators (size, spatial range catches, other jurisdictions etc.) will be considered, and the issue will then be raised with the TTMAC.
4. There was some debate over the appropriate length of time for the review of Mahi Mahi, being a relatively short-lived species.
5. It was agreed that a letter would be drafted out of session that includes interim monitoring rules discussed with Dr Robert Campbell's paper on Mahi Mahi attached to be circulated to the TTRAG for comment. It was also agreed that AFMA and Walker Seafoods would contact MSC for further clarification as to what is required for certification.

ACTION ITEM 5:

AFMA to draft a letter out of session that includes the interim monitoring rules discussed with Dr Robert Campbell's paper on Mahi Mahi attached and circulate to the TTRAG for comment.

ACTION ITEM 6:

AFMA and Walker Seafoods to contact MSC for further clarification as to what is required for certification of Mahi Mahi.

6 Research

6.1 Update on current research projects

1. The Chair noted that the nature paper on Yellowfin genetics has come out and she would circulate it to the TTRAG.
2. Dr Robert Campbell presented the TTRAG with the 3rd Milestone Report for *“Developing innovative approaches to improve CPUE standardisation for Australia's multi-species pelagic longline fisheries.”* The TTRAG was given an overview of the report and the progress made regarding the development of two multispecies catch and effort data simulators (see Agenda item 3a for detail).
3. The TTRAG was informed that four groups of methods have been tested making use of the two simulators developed and further testing is required to include other possible estimators.
4. Dr Robert Campbell also updated the TTRAG on an international collaboration he will be pursuing with two researchers that have submitted a manuscript for review on analysing catch and effort data from a multispecies fishery. The collaboration will take place in the next 3-4 months and results will tie into the objectives of the CPUE standardisations methods project.

AFMA Research Committee

5. The TTRAG noted the background information (see Agenda Item 7.1) provided by AFMA on the two ongoing tropical tuna research projects and noted that no new research priorities were identified by the TTRAG in the November 2015 call for proposals.

Commonwealth Fisheries Research Advisory Body (FRDC Funding)

6. The TTRAG noted the background information on the two initial proposals on *“Determination of the spatial dynamics and movement rates of the principal target species within the ETBF and connectivity with the broader WCPO- beyond tagging”* that stemmed from the Annual Research Statement 2016/17 research priorities. It was noted that the proposal was provisionally approved with ComFRAC meeting on 22 March 2016 at FRDC to consider and endorse final research proposals.

6.2 Annual Research Statement

1. The TTRAG noted the 2015 Annual Research Statement and discussed projects of high priority for the 2017/18 financial year for the 2016 Annual Research Statement.
2. It was agreed that Project 1 (*Determination of the spatial dynamics and movement rates of the principal target species within the ETBF and connectivity with the broader WCPO- beyond tagging*) remains a high research priority until the funding outcome is finalised.

3. It was noted that Project 2 (*Spatial and temporal model to estimate economic returns to the fishery*) would remain a priority for FRDC funding.
4. The project being undertaken by Dr Robert Campbell (*Developing innovative approaches to improve CPUE standardisation for Australia's multi-species pelagic longline fisheries*) was also noted as an ongoing research priority.
5. It was also identified that recreational catch (*Correlation between commercial and recreational catches*) should also be included as a new research priority. Dr Julian Pepperell agreed to write a proposal and circulate to the TTRAG for comment.
6. It was decided that at the next TTRAG meeting, the outcome of the current funding for project 1 will be known and the order of priorities can be rearranged accordingly.

6.3 5-year strategic research plan 2017-2021

1. The TTRAG discussed updates to be made to the research priority areas and needs document. The changes will be made to the electronic copy of the document by the AFMA member and circulated to the TTRAG out of session. The economic member Dr John Tisdell agreed to update the economic priority section out of session.
2. It was decided that the correlation between commercial and recreational catches should be a research priority to allow the TTRAG to better estimate recreational catch. The Recreational fishing scientific member agreed to prepare a proposal for submission and circulate it out of session.

ACTION ITEM:

The Recreational fishing scientific member to prepare a proposal for submission and circulate it to TTRAG out of session.

7 Other business

1. No other business was raised. The Chair thanked the TTRAG for their input over the last three years and noted that there will be new membership for the next TTRAG meeting..

8 Date and venue for next meeting

1. The next TTRAG meeting (TTRAG 15) was tentatively agreed to be held during the first week of July 2016, possibly 6-8 July in Mooloolaba.