

Tropical Tuna and Billfish Fisheries Management Advisory Committee

TTMAC: Meetings 21 to 24 summary of meeting outcomes

(NOTE: Each TTMAC between TTMAC 21 and TTMAC 24 undertook the administrative processes required under FMP 1, being those under agenda items 1 and 2 and records of this have been maintained but are not included in this summary).

TTMAC 21 Meeting

12 November 2019

- The Chair, Ms Catherine Sayer, opened the meeting at 9.10am and welcomed members, invited participants and observers to the 21st meeting of the Tropical Tuna Management Advisory Committee (TTMAC 21). Mr Trent Timmiss acknowledged Traditional Custodians of the land on which the meeting was held. They identify themselves in a number of ways including Gamayngal, Bideagal, Gweagal, Gadigal and Gadhungal. The meeting paid respect to them, and to other Aboriginal and Torres Strait Islander peoples who have made the area their home. The meeting paid respect to their cultures and to their Elders past, present and emerging.
- The following participants were in attendance at the meeting:

Table 1 Members, invited participants and observers in attendance at TTMAC 21

Participant	Role
Members	
Ms Catherine Sayer	Chair
Mr Trent Timmiss	AFMA Member
Mr Terry Romaro OAM	Industry Member
Mr Pavo Walker	Industry Member
Mr Grahame A Williams OAM	Recreational/Charter Fishing Member
Ms Alice McDonald	Environment Member
Dr Robert Campbell	Research Member
Mr Paul Lavalle	Industry Member
Invited Participants	
Mr Gary Heilmann	Industry representative
Mr Ian Bladin	Recreational/Charter Fishing
Mr David Ellis	Tuna Australia
Mr Brian Jeffriess AM	Australian SBT Industry Association
Mr Paul Williams	Industry representative
Observers	

Participant	Role
Mr Mat Kertesz	Department of Agriculture and Water Resources
Dr Don Bromhead	AFMA
Owen Carr	AFMA
Executive Officer	
Ms Sara Murphy	AFMA

Table 2 Status of actions arising from previous MAC meetings

Item	Meeting raised	Issues	Action	Responsibility	Status	Discussion at TTMAC
1	TTMAC 20 - action arising 2.1	Social aspect of ESD	TTMAC to seek clarification from the AFMA Commission about what is driving the current discussions to define the 'social equity' part of ESD. AFMA to inform the MAC whether there been a change in AFMA Policy regarding the definition of social equity or attitude to quota trading.	AFMA	<p>In March 2019, AFMA publicised its position statement on How AFMA considers the social aspects of the ESD principles. See here. The statement focuses on how AFMA incorporates the social aspects of ESD in its decision making with the Statement's purpose to assist stakeholders understand our approach to date and future challenges and developments. A key aspect of this is addressing the requirements of recent amendments to the fisheries management legislation to take account of recreational and Indigenous interests in fisheries decisions and articulating what is already done in this space.</p> <p>Economic issues are covered by AFMA's economic objective. In recent years focus in this area has been on maximising net economic returns and maximum economic yield targets, developing improved economic performance measures and collecting relevant economic data to support these processes.</p>	Covered in comments and also AFMA Commission responded separately to Mr Jeffriess.
2	TTMAC 20 - action arising 2.7	Data error	AFMA to correct an error in the additions column on page 10 of the	AFMA	Complete: Correction made 24/10/19	

			Fishery Catch Data Report provided to the MAC.			
3	TTMAC 20 - action arising 3.1	Budget Process	Letter from MAC to AFMA Commission requesting that the AFMA Section responsible for legal cost attributions to explain to MAC justifications for the change.	AFMA	<p>The letter was not sent to the AFMA Commission as they do not have a decision making role in budgetary processes.</p> <p>Budgetary processes for the 2020/21 year will allow time for more review than the truncated process in 2019. The issue has been brought to the attention of Sections within AFMA responsible for managing the budgetary and CRIS application processes. Invitations will be extended to these sections to attend the March 2020 TTMAC meeting. If this meeting is in Canberra, it will allow direct access for the MAC to meet with the sections responsible for these costs.</p>	Chief Financial Officer will be invited to the March meeting to be held in Canberra. The Commission is aware of the issue through the MAC summary which was sent to the Commission. The AFMA member noted that CFA will need to take this issue up with AFMA between now and year end. He further noted that it wasn't primary legislation it was for subsidiary legislation.
4	TTMAC 20 - action arising 3.1		AFMA to investigate the possibility of EM systems gaining approval to be used for the purposes of a VMS unit.	AFMA	<p>This remains a medium term priority for AFMA.</p> <p>Internal systems changes to allow EM data to be incorporated within the VMS database should be complete this calendar year.</p> <p>The requirement to carry a fully operational VMS unit is a WCPFC requirement. Further work within WCPFC would be necessary to have EM position data type approved.</p>	On east coast still a WCPFC requirement to have a certain type of VMS. The new provider is Trackwell VMS.

5	TTMAC 20 - action arising 3.3		TTMAC endorsed the ETBF FMS for final submission to the AFMA Commission once edits and changes suggested by the MAC are implemented	AFMA	Completed. Presented to and accepted by the Commission Meeting	
6	4.4		AFMA to update MAC on Size Monitoring Program at next MAC meeting.	AFMA	To be covered at this meeting (TTMAC 21) under Agenda Item 4.1 – Size Monitoring Program Update.	
7	TTMAC 20 - action arising 4.5		AFMA will arrange for an AFMA and industry (including David Ellis and potentially Simon Boag) meeting regarding EM program status and processes, for the next quarter.	AFMA	Not completed	
8	TTMAC 20 - action arising 4.4		AFMA draft up a simple report card, undertake a cost benefit analysis and review where the fishery sits now relative to the required performance	AFMA	Due to staff numbers and changes it has not been possible to undertake this project to date.	

			bench marks across each category being proposed.			
9	TTMAC 20 – action arising		AFMA to include EPBC listed species interaction rates (particularly for seabirds and turtles) in future environment updates.	AFMA	See agenda item 2.2. Protected species are now included in catch watch.	

2.1. AFMA management report

- TTMAC noted the report provided by the AFMA Member and AFMA Observer regarding developments and issues relevant to the management of the ETBF and WTBF. It was explained that a number of management issues would be discussed under later agenda items however the MAC noted in particular that:
- The AFMA Commission has four new appointed members:
 - Mr Brett McCallum
 - Ms Sevaly Sen
 - Mr Scott Spencer
 - Dr David Smith
 - one re-appointed member - Ms Catherine Cooper.
 - The Chair - Ms Helen Kroger and
 - AFMA CEO - Mr Wez Norris also continued in their existing appointments.

2.2. Tuna Australia Update

- The Tuna Australia invited participant outlined key issues for the industry association at the moment. These include continued work on labour relations, management of relations with other fisheries gears, resource sharing, port visits and development of codes of practice for the Industry.
- Tuna Australia has engaged a Program Manager – Phil Ravello. He noted that the Association has also appointed Mr Richard Stevens OAM, as Chair of the Tuna Australia Board.

3. Consideration / Decision items

3.1 Review of ETBF TACCs

- The AFMA member introduced this agenda item noting that Total Allowable Commercial Catches (TACCs) were set (at the November 2018 MAC meeting - TTMAC 19) as part of a two year TACC process as follows:

	Species	TACC (t)
i.	Albacore tuna	2,500
ii.	Bigeye tuna	1,056
iii.	Swordfish	1,250
iv.	Striped marlin	351
v.	Yellowfin tuna	2,400

- Tropical Tuna MAC reviewed TTRAG advice on species indicators and discussed whether any exceptional circumstances exist that would require a change to the currently agreed TACCs.

SWORDFISH

- There was no updated stock assessment for Swordfish in 2019.
- TTRAG expressed concern about recent declines in ETBF CPUE and total catch. A number of issues could be causing this, from lower recruitment in recent years to increased foreign catch in the high seas area of the Coral Sea or changed targeting due to squid prices.

TTRAG noted that a revised harvest strategy was under development and noted that the current TACC had been set for two years.

- In reviewing swordfish catches the MAC noted previous cuts to the TACC and responsible management by Australian science, industry and management in the last 15 years. They noted that those cuts had seems to stabilise the CPUE and the current declining CPUE trend in some classes currently but questioned if factors outside the direct control of the MAC such as fishing effort just outside the Australian EEZ and potentially environmentally driven poor recruitment had influenced the CPUE in this instance. The MAC noted there was a low risk that the current TAC would cause further depletion of the stock.
- The MAC agreed that this is a very complex situation and waiting for the harvest strategy delivery (and results) next year and taking into account changes in targeting practices and wider factors justified the decision to retain the current TACC for the coming year.

STRIPED MARLIN

- A revised stock assessment for striped marlin was accepted by the WCPFC Scientific Committee. The assessment estimated striped marlin to be approximately B20 with considerable uncertainty. Fishing mortality was considered to be slightly under F_{MSY} . The recent trend in biomass and spawning biomass estimates were stable and possibly increasing in recent years.
- The MAC took note of AFMA Management advice in reviewing the striped marlin TACC and recommended no change to the current TACC.

YELLOWFIN

- The MAC heard that there had been no new stock assessment or management advice on yellowfin tuna from WCPFC. Yellowfin tuna is not considered overfished or subject to overfishing. There are currently two key projects underway that are likely to deliver key management advice for Yellowfin tuna in the future. Catches of Yellowfin tuna have been strong this season.
- The MAC took note of AFMA Management advice in reviewing the yellowfin TACC and recommended no change to the current TACC.

BIGEYE

- The AFMA Member advised the MAC that there was no new stock assessment or management advice on bigeye tuna from WCPFC. Bigeye tuna is not considered overfished or subject to overfishing. TTMAC noted advice from TTRAG that ETBF catches of bigeye tuna were relatively low in comparison to other catches in the region and that CPUE and catches in the ETBF are at historically low levels. The RAG noted that there is some evidence of more localised stock structuring in bigeye tuna compared to other species. There are currently two key projects underway that are likely to deliver key management advice for bigeye tuna in the future.
- TTMAC discussed whether there are circumstances that require changing the TACC for next year.
- They took into consideration that although this year's catch is likely to be the lowest of record this species is no longer considered overfished or subject to overfishing and that there are two genetics projects underway which will test the assumption to date that bigeye stocks in Australia's EEZ are part of larger region. The outcome of these projects are due to be reported next year and if they suggest more localised stock will trigger in-depth review TACC setting. However at this point the MAC agreed to recommend no change to the TACC for bigeye.

ALBACORE

- The MAC noted that there was no new stock assessment or management advice on albacore tuna from WCPFC. Albacore tuna is not considered overfished or subject to overfishing. TTRAG noted that domestic CPUEs have been relatively flat for the past decade.
- The MAC took account of AFMA Management advice not to recommend changing the TACC, however did note there will be a concerted push within the FFA to reduce domestic catch limits to achieve an albacore target reference point in future years and an average catch during 2019 for this species. They noted that next year there will be a broader consideration of catch of this species in Pacific.
- The MAC reviewed indicators for the albacore TACC and recommended no change to the current TACCs.

OUTCOME:

TTMAC agreed to recommend that the TACCs set as part of a two year TACC setting process at TTMAC 19 in November 2018 remain unchanged. They are:

Species	TACC (t)
Albacore tuna	2,500
Bigeye tuna	1,056
Swordfish	1,250
Striped marlin	351
Yellowfin tuna	2,400

3.2 ETBF and WTBF Overcatch for 2020 and 2021

- The MAC noted the need for overcatch and determined weight before the start of each season in ETBF and during each season in WTBF each year. The AFMA observer referred to the MAC paper for this agenda item and the reasons for allowing over and undercatch and determined weights.
- He noted that AFMA considers this long-standing management system allows flexibility to operators, is consistent with other fisheries and is unlikely to have any ecological impact on the fisheries

OUTCOME:

Eastern Tuna and Billfish Fishery undercatch, overcatch and determined weight provisions for 2020 fishing year

Quota species	Overcatch %	Undercatch %	Determined weight (kg)
Albacore tuna	10	10	2,000
Bigeye tuna	10	10	2,000
Yellowfin tuna	10	10	2,000
Broadbill Swordfish	10	10	2,000
Striped marlin	10	10	2,000

OUTCOME:

Western Tuna and Billfish Fishery undercatch, overcatch and determined weight provisions for 2020 fishing year

Quota species	Overcatch %	Undercatch %	Determined weight (kg)
Bigeye tuna	10	10	2,000
Yellowfin tuna	10	10	2,000
Broadbill Swordfish	10	10	2,000
Striped marlin	10	10	2,000

3.3 ETBF Harvest Strategy development update

- In 2018, based on advice from TTRAG and TTMAC, the AFMA Commission decided to cease using the former ETBF Harvest Strategy, which MSE testing had demonstrated (particularly for Swordfish) would not be able to meet the objectives of the Commonwealth Harvest Strategy Policy. More specifically:
- For Swordfish – the harvest strategy would continue to cut TACCs even when the biomass was above the target reference point.
- For Striped Marlin – the harvest strategy was utilising multiple size based CPUE series that were not justified by the size range of fish taken in the fishery.
- It was also identified that the previous harvest strategy, with its multi-level decision tree based harvest control rule, was unnecessarily complex and poorly understood by most stakeholders.

OUTCOME:

- TTMAC noted the update on progress on the development of the harvest strategy and the AFMA observer reported that it is likely that the MAC will receive a draft Harvest Strategy to review for the second MAC meeting for 2020.

3.4 WTBF Indicators

- The AFMA observer explained the need for development of indicators in WTBF due to a request from the AFMA Commission as AFMA has not implemented a HS for this fishery. He noted that WTBF catches, even if fully caught, would be too low to adopt a HS under the CHSP.

OUTCOME:

- TTRAG decided that indicators similar to those used in the ETBF should be forwarded to the Commission.

3.5 SBT Handling

- TTMAC noted this report of the EBTF SBT season including recently amended permit conditions defining the limited circumstances where discarding of damaged SBT is allowed in ETBF. Permit conditions (in part) are:

“(d) ensure live SBT are either landed (retained) or released (providing they are in a live and vigorous state).

(e) ensure any SBT that are to be released or discarded must be done so at the fish door in full view of the e-monitoring system. SBT damaged by sharks must have the damaged portion facing the cameras. SBT that are undamaged and dead when discarded or live fish that are gaffed and released will be deducted from the concession holder’s quota. The amount of quota decremented will be determined by the average weight of SBT retained for that trip.

(f) ensure all SBT, whether retained, released or discarded are reported in the logbook.”

- The AFMA member noted that operators wanting to discard SBT must bring it in front of camera to show it is not fit for human consumption otherwise AFMA will decrement quota to the average weight of an SBT. He further noted that Australia must be able to demonstrate in international fora that we are enforcing rules regarding SBT discarding.

3.6 Electronic Monitoring: Review of Program Overview Document

- The AFMA member noted that this agenda item is an opportunity for the MAC to provide comment on the document Electronic Monitoring, Program Overview Document which was developed in 2015 but has not been updated since. The MAC was asked to focus their feedback on Section 5.5 - Tuna longlines requiring repairs.

OUTCOME:

- TTMAC provided feedback that the document would benefit from further explanation of the use of red/amber colouring and meaning of ‘status’ to improve general understanding of the different categories.

3.7500 hook limit in Area E

- The AFMA member introduced this Tuna Australia addition to the agenda by noting he had undertaken to produce a paper on the issue but time had not allowed its development. The MAC agreed to consider this issue at its next meeting, informed by a paper to be produced by AFMA detailing the complex issues in this area of the fishery.
- These issues include:
 - history of area E, including where the boundaries are and why they are there,
 - management regime in Management Plan which applies now,
 - relationship and interaction of gamefish tourism and industry,
 - species specific issues and data analysis
 - origins and currency of rules related to commercial fishing in the area, and
 - whether changes are needed to the current arrangements and options for future management of the area.

OUTCOME:

- AFMA to produce background paper on Area E including all the dot points above, for discussion at next TTMAC – March 2020.

4. Other Information/Discussion Items

4.1. Size Monitoring Program Update

- TTMAC members noted a brief report on this project from the AFMA observer. The Tropical Tuna Team is in the process of finalising a 1 year trial co-management contract with Tuna Australia to undertake this project.

4.2. TAP Update

- TTMAC Members noted a TAP update. This included a summary of Seabird interactions since 2015, a report on a recent Seabird mitigation workshop at AFMA and Ulladulla port visit on 16 and 17 October 2019, conducted by the Tropical Tuna Team.
- TTMAC noted that historically, boats working south of 30-35°S have been more likely to interact with birds, especially albatross. Boats working in the north have been less likely to experience interactions and have encountered mainly shearwaters.
- AFMA has and will continue to take action at boat level with those boats which are taking seabirds, taking into account that each has a unique set of considerations including boat size and design, bait type and usage, set/haul times, skipper and crew experience and species identification.
- He also noted that, to increase the level of identification to made species rather than just family, the use of feather kits has been made compulsory throughout ETBF where a boat kills a seabird.
- AFMA noted the continued co-operation of boats and skippers and drew the MAC's attention to the recent Ulladulla port visit with seabird mitigation specialist Nigel Brothers who worked with individual boats to develop on-the-water actions to reduced interactions.

4.3 Policy, Environment, Economics and Research Section (PEER) Update

- The AFMA member introduced an Update from the AFMA Policy, Environment, Economics and Research Section (PEER) covering multiple issues previously requested by the MAC including climate change adaptation work and environmental issues such as species listings and renewable energy planning.
- He noted that Mako sharks have now been listed under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and therefore need a non-detriment finding under EPBC to be exported. An Industry member gave feedback that this species attracts a low sale price overseas and is not exported at this time.
- The AFMA member advised that operators should consider their export needs well in advance of actual exportation of Mako product as AFMA would need to seek export approval on behalf of ETBF operators through a lengthy non-detriment finding process, should export of the species ever be required.

4.4 Research Update

- The AFMA Observer outlined the summary of AFMA and FRDC-funded ETBF relevant projects currently underway in Table 7 and Table 8 :

Table 7: Research projects currently underway – AFMA funded

AFMA Project Code	Description	Principal investigator
150818	ETBF Size Monitoring Program - 2015-19	Kevin Williams, WWF
170813	Data Management, Assessment & implementation of HS for Australia's Tropical Tuna Fisheries 2017/18 to 2020/21	Dr Robert Campbell, CSIRO
190806	ETBF Broadbill Swordfish & Striped Marlin Harvest Strategy Revision	Dr Rich Hillary, CSIRO
190817	Developing Economic Indicators to track economic performance of AFMA's fisheries	
190818	Integration of additional ERA/ERM methods found to be appropriate in the international context into AFMA's ERA/ERM process	Dr Miriana Sporic, CSIRO

Table 8: FRDC Funded Research underway

FRDC Project Number	Title	Principal Investigator
	Determination of the spatial dynamics and movement rates of the principal target species within the Eastern Tuna and Billfish Fishery and connectivity with the broader western and central Pacific Ocean – beyond tagging.	Dr Karen Evans, CSIRO
2017-004	Investigate oceanographic and environmental factors impacting on the ETBF	Dr Alistair Hobday, CSIRO
2018-020	Cumulative impacts across fisheries in Australia's marine environment	Dr Beth Fulton, CSIRO

- TTMAC noted the two projects already commenced on stock structure and genetics and that results of these projects will be used to determine any future research needs in relation to furthering understanding of ETBF species stock structures.

4.5 Bait collection near gamefish tournaments

- TTMAC noted AFMA's advice in relation to Gamefishing tournaments during 2020 and the goodwill that has existed on the part of both ETBF Industry and gamefishers to avoid conflicts. The MAC thanked Grahame Williams for his continued work in pulling the Gamefishing Tournament 2020 Calendar together. AFMA will send this Calendar to all operators in the next couple of weeks.

TTMAC 22 Teleconference

3 July 2020

The Chair opened the 22nd meeting of the Tropical Tuna Management Advisory Committee (TTMAC), held as a shortened teleconference via Microsoft Teams due to the Covid-19 Pandemic. The original meeting was scheduled to occur in Canberra on 27 March.

- One apology was received from Mr Paul Lavalle. Ms Alice McDonald had advised the Chair that she was no longer resigning from her position and would continue to serve as Environment/Conservation Member on TTMAC. The Chair congratulated Ian Bladin for his appointment as President of the Game Fishing Association of Australia.

Table 3 Members, invited participants and observers in attendance at TTMAC 21

Members	
Ms Catherine Sayer	Chair
Mr Trent Timmiss	AFMA Member
Mr Terry Romaro OAM	Industry Member
Mr Pavo Walker	Industry Member
Mr Grahame A Williams OAM	Recreational/Charter Fishing Member
Ms Alice McDonald	Environment Member
Dr Robert Campbell	Research Member
Invited Participants	
Mr Gary Heilmann	Industry representative
Mr Ian Bladin	Recreational/Charter Fishing
Mr David Ellis	Tuna Australia
Mr Brian Jeffriess AM	Australian SBT Industry Association
Mr Paul Williams	Industry representative
Mr Phil Bolton	NSW State Industry Representative
Observers	
Mr Scott Spencer	AFMA Commissioner (until 11.30am)
Ms Kerrie Robertson	Department of Agriculture, Water and Energy
Dr Don Bromhead	AFMA
Darci Wallis	AFMA
Executive Officer	
Ms Sara Murphy	AFMA

1.2 Adoption of agenda

- The agenda (Attachment 1) was adopted by TTMAC with the following amendments:
 - i. Agenda Item 2.1 will include a 5 minute verbal update from Tuna Australia on the impacts of Covid-19 on Industry.

- ii. Agenda item 4.4 is now a general Research Update which removed reference to Oceanography, genetics, swordfish.

1. Background and discussion items

General update from members, invited participants and observers

Tuna Australia Update

- The Tuna Australia invited participant gave a short presentation about the effects of the Covid-19 pandemic in Industry.
- He thanked AFMA and the Australian Government for reacting quickly to have levy payments waived. He noted that there is a limited market for tuna in Japan at present as restaurants are closed due to the pandemic and tuna already stored in anticipation of the Olympics has shrunk market demand.

2. Consideration / Decision items

2.1 TTRAG major outcome – ETBF Harvest Strategy redevelopment

Background

- The AFMA observer summarised the work undertaken in redeveloping the Harvest Strategy since TTMAC 21. The planned March TTRAG and TTMAC meetings were postponed due to COVID-19, so a small working Group of TTRAG reviewed CSIRO's work. The full TTRAG then met via teleconference on 17 June 2020 to review the candidate management procedures and management strategy evaluation and make recommendations to TTMAC.
- TTMAC received a presentation about the TTRAG recommendations noting that any recommendations were only in relation to swordfish and not striped marlin. Discussion about the swordfish harvest strategy was asked to focus on:
 - a) the preferred Target Reference Point,
 - b) TAC setting period,
 - c) maximum change levels, and
 - d) any exceptional circumstances and meta-rules to build into the harvest strategy.
- For clarity, a summary of numbered action items in relation to the Harvest Strategy redevelopment is presented at the end of this agenda item.
- MAC members acknowledged the hard work put into the development of the Harvest Strategy so far by CSIRO, AFMA and TTRAG.
- The meeting explored model predictions using 1 and 3 year TACC setting. TTMAC noted advice from the CSIRO that a 3 year cycle might allow more time for the harvest strategy to respond to actual fishery/population trends and while there was some possibility of more volatility or 'noise' influencing TACs if using a 1 year cycle. In assessing the differences, the MAC preferred a 1 year TACC cycle with TACC changes limited maximum of 10 percent because it would allow for greater business adaptability and possible ongoing assessment of the operating model.
- The MAC discussed the possibility of reviewing the operation of the Harvest Strategy after three years of implementation and sought advice from the technical expert as to whether this should be a formalised review process with tasks spelt out very clearly up front.

- The CSIRO observer noted that this review would involve a full “re-tuning” of the Harvest Strategy for swordfish not a piecemeal or ad hoc review.
- Industry members flagged the need, upfront, to identify a funding source for the Harvest Strategy review.
- TTMAC noted advice that the Harvest Strategy meta-rules would be the best place to specify how the review process would occur.
- TTMAC then considered the Target Reference Points (TRP) to be used in the Harvest Strategy. The MAC supported the use of the ‘recent average CPUE’ as TTRAG reported that it tuned well in scenario testing and that the period 2012-2015 was deemed the most representative of normal fishing operations in ETBF with sound CPUEs and landing levels and was therefore considered a reasonable baseline period. A MAC member requested that the rationale for the choice of TRP be clearly outlined in the HS documentation and AFMA undertook to include this.
- Finally the MAC discussed exceptional circumstances, which could be defined as rules contained in the Harvest Strategy on what to look for and then what to do when specific events or conditions observed in the fishery lie outside the range of ‘realities’ used in the MSE to test the harvest strategy .
- The MAC reviewed the exceptional circumstances listed so far as triggers for reconsideration of aspects of the Harvest Strategy. These are:
 - check, each time the harvest strategy is run, that the performance index is not outside the range tested,
 - review whether the stock is in a different place relative to MSE work, and
 - review any new biological/fishery information.

OUTCOME:

- In summary, TTMAC requested that AFMA and CSIRO use the recommendations listed below to guide drafting of the full technical specification of the harvest strategy (including the set of exceptional circumstance provisions and an explanation of the rationale for each choice including the TRP) for review at TTMAC 23. The agreed components to be included in the harvest strategy were:
 - a) A standardised CPUE based harvest control rule base on CPUE for age 3 and 4 fish using a four year rolling average CPUE
 - b) A TRP based on the recent average CPUE for the period 2012-2015
 - c) A buffer zone of +-20%
 - d) A 1 year TACC setting cycle with:
 - a. TACC changes to be limited to a maximum of 10 percent per year.
 - b. A full review and re-tuning of the Harvest Strategy after 3 years (cycles),
 - c. HS meta-rules will house the rules directing this review, which must developed and agreed to up-front as part of HS
- AFMA to ensure rationale for the choice of TRP is clearly articulated in the harvest strategy documentation.

2.2 The 500 hook limit in Area E – Coral Sea Area

- TTMAC reviewed proposals from a commercial operator to change the current 500 hook limit in the Coral Sea Zone (previously called Area E) to the area west of 148°E and to the period of 1 September to 31 December.

OUTCOME:

- Agreed further consultation with recreational fishing bodies is required, and
- Supported the TTRAG27 proposal to collate further relevant data, information and analyses to support development of advice on this matter by TTRAG28, with that advice to be then provided to TTMAC to support its further consideration of the industry proposal.

2.3 Electronic Monitoring – 30 shot requirement

- TTMAC was asked to consider removing the exemption for e-monitoring for vessels fishing less than 30 shots in a season.
- Since 2015, e-monitoring has been mandated for all concession holders using the pelagic longline method in the ETBF and WTBF for vessels fishing 30 shots or more in a season.
- In presenting the paper, the AFMA member noted that all longline vessels currently have Electronic Monitoring (EM) installed as they have all exceeded the fishing effort requirement for EM installation. He further noted retention of the current system could pose a potential risk to the reputation of the industry, such as MSC certification, as operators fishing less than 30 shots would be subject to less monitoring of protected species reporting, seabird mitigation, and other fishery measures which is inequitable when other operators expend the time, effort and expense to comply with measures.
- The AFMA member explained that removal of the exemption would result in all new entrants to the fisheries requiring an installed and operating e-monitoring system.
- TTMAC supported the removal of the 30 shot rule.

OUTCOME:

- AFMA to remove the 30 shot threshold entirely from both Directions which will:
 - repeal E-monitoring (Eastern Tuna and Billfish Fishery) Direction 2015 No 2 and E-monitoring (Western Tuna and Billfish Fishery) Direction 2015 and
 - make two new Directions which are identical to the repealed directions, minus the 30 shot EM installation requirement.

3. Information Papers

Prior to the meeting, members were asked to note agenda items 4.1 to 4.4 and they were taken as read during the meeting however the Chair asked participants if there were any questions and these are covered under the relevant agenda item.

3.1 Size Monitoring Program Update

- TTMAC members noted a written report on this program from the Tuna Australia Program Manager. Following the success of the trial one year contract, the AFMA is in the process of finalising a second co-management contract (Two years – 2021-2022) with Tuna Australia to undertake this program.

3.2 Threat Abatement Plan (TAP) Update

- TTMAC Members noted a written TAP update provided prior to the meeting.
- The AFMA Member noted the upgrading of the conservation status of shy albatross from Vulnerable to Endangered.

3.3 Policy, Environment, Economics and Research Section (PEER) Update

- TTMAC Members noted a written update provided prior to the meeting.
- The Environment Member registered their concern with Australia's submission of a Reservation for the Smooth Hammerhead Shark and the School Shark that were recently included on Appendix II of the Convention on the Conservation of Migratory Species (CMS), and noted that they would want to understand the effectiveness of Australia's management measures in contributing to the recovery of these species before supporting Australia's reservation. This means that the listings will not take effect within Australian waters, and the species will not be included on the migratory species list under the EPBC Act.

3.4 Research Update

- TTMAC Members noted a written update provided prior to the meeting.

TTMAC 23 Teleconference

26 August 2020

The Chair opened the 23rd meeting of the Tropical Tuna Management Advisory Committee and delivered an acknowledgement of country. TTMAC 23 - a shortened teleconference via Microsoft Teams due to the Covid-19 Pandemic – was held to provide any final review comments and endorse the Swordfish Harvest Strategy 2020.

- One apology was received from Mr Phil Bolton. As the meeting was conducted via teleconference, a roll call was undertaken at the start of the meeting. Mr Pavo Walker did not attend the meeting.

Table 4 Members, invited participants and observers in attendance at TTMAC 23

Members	
Ms Catherine Sayer	Chair
Mr Trent Timmiss	AFMA Member
Mr Terry Romaro OAM	Industry Member
Mr Paul Lavalle	Industry Member, joined meeting at 10.48am
Mr Grahame A Williams OAM	Recreational/Charter Fishing Member
Ms Alice McDonald	Environment Member
Dr Robert Campbell	Research Member
Mr Rowan Lamason	Industry Member
Invited Participants	
Mr Gary Heilmann	Industry representative
Mr Ian Bladin	Recreational/Charter Fishing
Mr David Ellis	Tuna Australia
Mr Brian Jeffriess AM	Australian SBT Industry Association, joined meeting at 10.47am
Mr Paul Williams	Industry representative, joined meeting at 11.08am
Observers	
Mr Phil Ravanello	Tuna Australia
Dr Rich Hilary	Employee of CSIRO
Ms Matt Kertesz	Department of Agriculture Water and Environment
Dr Don Bromhead	AFMA
Ms Louise Cathro	AFMA
Executive Officer	
Ms Sara Murphy	AFMA

2. Consideration and decision items

2.1 ETBF Harvest Strategy 2020

- The MAC noted the summary of recent TTMAC and TTRAG discussions and recommendations relating to the draft ETBF Harvest Strategy for Swordfish.

Summary of recent TTMAC and TTRAG discussions

- At its video conference meeting on 3 July 2020, TTMAC considered the draft ETBF Swordfish harvest control rule (and associated elements of the draft harvest strategy) and recommended the following technical specifications:
 - A standardised CPUE based harvest control rule base on CPUE for age 3 and 4 fish using a four year rolling average CPUE
 - A TRP based on the recent average CPUE for the period 2012-2015 (with the rationale clearly explained)
 - A buffer zone of +-20%
 - A 1 year TACC setting cycle with TACC changes to be limited to a maximum of 10 percent per year.
 - A full review and re-tuning of the Harvest Strategy after 3 years (cycles), with the review parameters contained in the meta-rules.
- TTMAC then requested that the full technical specification of the harvest strategy be drafted and reviewed by TTRAG prior to further consideration by TTMAC.
- TTRAG28 met on 30 July 2020 and reviewed the fully specified draft harvest strategy. Overall TTRAG supported the draft but made a range of amendments to clarify technical explanations in the document and strengthened the exceptional circumstances text around the implications of decreasing ETBF catch share (due to increasing foreign catch).
- TTRAG28 also noted that consideration should be given to collecting additional data on logbooks (fishing depth data), recreational catches of swordfish and longline discards size data, and to providing economic indicators as part of the advice on TACC decisions provided to TTMAC and the AFMA Commission.
 - A revised draft incorporating changes suggested was emailed to TTRAG for clearance following TTRAG28 and no further amendments were requested.

Final presentation on components of Swordfish Harvest Strategy

Dr Don Bromhead outlined the key components of the draft ETBF Swordfish Harvest Strategy, being:

- iii. Monitoring (data collection)
- iv. Assessment/analyses
- v. Harvest control rule
- vi. Meta rules and exception circumstance considerations.
- vii. Review requirements

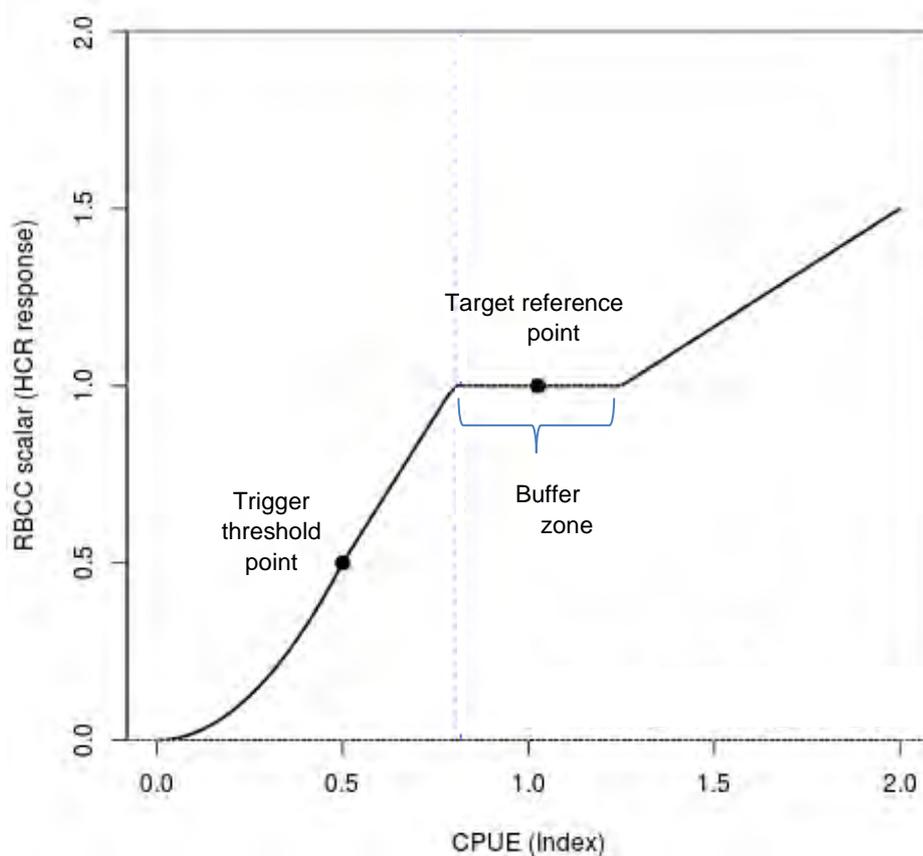


Figure 1 – The harvest control rule used in the ETBF Swordfish Harvest Strategy

In relation to the data and analyses components, the following points were noted:

- viii. **Monitoring and Data Collection** - data pertaining to ETBF catch of swordfish, fishing effort and sizes of fish caught, along with additional information pertaining to fishing methods and gear settings used and environmental conditions, are collected on an ongoing basis via a variety of programs, including: logbook, size monitoring, environmental data and electronic monitoring data programs.
- ix. **Assessment and Analyses** - The data collected from these data programs are then fed into the second component of the harvest strategy which is the assessment and analyses component – more specifically these data are used to inform the development/updating of a standardised catch rate (std-CPUE) index for pre-adult (age classes 3 and 4) swordfish in the ETBF, with that CPUE index used as an indicator of relative local abundance/availability of swordfish (of those age classes) for application in the 3rd element of the HS, the harvest control rule.

In relation to the **harvest control rule** the following key points were noted:

- The harvest control rule specifies a relationship between the Swordfish standardised CPUE and a scalar (or multiplier) that is applied to the current season's RBCC (Recommended Biological Commercial Catch) to determine the next season's RBCC. The RBCC is the key scientific input to Commission decisions on total allowable commercial catches (TACCs).
- The purpose of the HCR is to adjust the RBCCs (or TACCs) over time so that the fishery achieves and maintains std-CPUEs at or close to the target level (being the av. CPUE 2012-2015). Figure 1 demonstrates that:
 - Anytime the CPUE is within the buffer zone, the scalar applied to the current season RBCC is 1, meaning that next season's RBCC will be the same as the current season's RBCC.

- If the CPUE goes above the buffer zone, the scalar (applied to current season RBCC) will be >1, so the RBCC next season will be higher than the current season RBCC.
 - Conversely, if the CPUE goes below the buffer zone, the scalar will be less than 1, so the RBCC next season will be lower than the current season.
- Finally he noted the 10% maximum change rule that limits the level of RBCC change in any year to maximum of 10% up or down, and a list of annual “**exceptional circumstance**” checks to be conducted by TTRAG including that:
 - CPUE index, size data, biological parameters and catch to TAC ratios are all within the ranges tested in the MSE analyses:
 - That stock status is not manifestly different (every 3 years using updated OMs)
 - ETBF catch share (relative to other fisheries) is not too low to justify full or partial application of RBCCs as TACCs.

MAC discussion

- The use of the rolling four year average was queried in relation to the three year review and it was explained that it's a moving average, so every year it updates, it is not a static number. It was further explained that the three year review will focus on how the Harvest Strategy is working and if it is performing as expected.
- It was queried if there is information on post release mortality and survivability of discarded fish and whether that should be taken account of in the harvest strategy. It was explained that while there is information on post release survival for swordfish from overseas and domestic studies, the nature of a std-CPUE index as an index of stock abundance is that it will respond to all fishing mortality (retained or post release) regardless of whether post release mortality itself is known or not.
- The precautionary nature of Harvest Control Rules developed for the HS was noted. It should also be noted that Section 3.5.8 of the HS – should highlight the need for further quantitative economic analysis to be identified/gathered in the lead up to and during the three year review.
- The HS does not specify the catch number or regional catch proportion that Australian Industry catch would need to equal in order to cease application of the HS. It was explained that there is no specific percentage/proportion that can be identified but the situation will require ongoing monitoring by and then qualitative advice from TTRAG.
- MAC members recognized the hard work in bringing the Swordfish Harvest Strategy to fruition, particularly the dedicated efforts of Dr Rich Hilary who was responsible for all of the technical work.
- The MAC also thanked Dr Rob Campbell, Dr Don Bromhead and TTRAG for their contributions to the development of the Harvest Strategy.
- TTMAC endorsed the Swordfish Harvest strategy with minor amendments which will now be submitted to the AFMA Commission for consideration at its meeting on 7/8 September 2020 and noted that it is anticipated that the results of the harvest strategy will form the basis of 2021 Swordfish TACC setting.

TTMAC 24 Teleconference

26 October 2020

The Chair opened the 24th meeting of the Tropical Tuna Management Advisory Committee (TTMAC), held as a teleconference via Microsoft Teams due to the Covid-19 Pandemic. The Chair acknowledged Scientific Member Dr Rob Campbell, as this may be his last MAC meeting. Dr Campbell announced that his retirement date is 30 October 2020. The Chair thanked him, on behalf of the MAC, for his contribution to fisheries science and for his efforts over nearly 30 years of involvement in the tropical tuna fisheries.

1. Preliminaries/Matters arising

Members	
Ms Catherine Sayer	Chair
Mr Trent Timmiss	AFMA Member
Mr Terry Romaro OAM	Industry Member
Mr Pavo Walker	Industry Member
Mr Paul Lavelle	Industry Member
Mr Grahame A Williams OAM	Recreational/Charter Fishing Member
Ms Alice McDonald	Environment Member
Dr Robert Campbell	Research Member
Invited Participants	
Mr Ian Bladin	Recreational/Charter Fishing
Mr David Ellis	Tuna Australia
Mr Brian Jeffriess AM	Australian SBT Industry Association
Mr Paul Williams	Industry representative
Observers	
Ms Ann Preece	CSIRO
Dr Ashley Williams	CSIRO
Mr Mat Kertesz	Department of Agriculture, Water and the Environment
Dr Don Bromhead	AFMA
Ms Natalie Rivero	AFMA
Executive Officer	

Members	
Ms Sara Murphy	AFMA

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1.5 Actions arising from previous meetings

The MAC discussed the action items arising from previous meetings and commented on the progress on each item in Table (3).

Item	Meeting raised	Issues	Action	Responsible	Status	Discussion at TTMAC 24
1	TTMAC 20 - action arising 4.5		AFMA will arrange for an AFMA and industry (including David Ellis and potentially Simon Boag) meeting regarding EM program status and processes, for the next quarter.	AFMA	Completed.	Noted that the meeting occurred. Item will now be removed from list.
2	TTMAC 20 - action arising 4.4		AFMA draft up a simple report card, undertake a cost benefit analysis and review where the fishery sits now relative to the required performance benchmarks across each category being proposed.	AFMA	Not complete.	Still to be done. A review of the priority of this project against other fishery projects will be conducted early in 2021.
3	TTMAC 21 – action arising		AFMA to include EPBC listed species interaction rates (particularly for seabirds and turtles) in future environment updates.	AFMA	Not complete	Rates were left out of paper in error and will be circulated out of session.
4	TTMAC 21 – action arising	3.4	Japanese catches in the WTBF during the 1990s to the WTBF indicators document.	CSIRO	Data not readily available	To be added to the WTBF indicators document for future TACC discussions.
5	TTMAC 21 – action arising	3.4	Limit reference points to be added to the ETBF and WBTF Indicators documents.	CSIRO/AFMA	We report against WCPFC limit reference points and CHS reference points as appropriate.	Complete. Relevant reference points were included in the TACC advice paper prepared by TTRAG and presented to the MAC.

Item	Meeting raised	Issues	Action	Responsible	Status	Discussion at TTMAC 24
6	TTMAC 21 – action arising	3.4	The WTBF Indicators Document to be updated for a second round of review by TTMAC.	AFMA/CSIRO	Completed - to be addressed at TTMAC 24, agenda item 3.2	Noted the document. Item will now be removed from list.
7	TTMAC 21 – action arising	3.7	AFMA to produce background paper on Area E for discussion at next TTMAC – March 2020.	AFMA	Completed – see TTMAC 24, agenda item 3.4.	Discussed the paper. Item will now be removed from list.
8	TTMAC 21 – action arising	4.5	AFMA to review and where possible include more information in the package of indicators provided to the MAC for the 2021 TACC setting process, including more detailed data and background information on the ETBF and working of the quota system in the Fishery.	AFMA	Completed – economic indicators included - To be covered at TTMAC 24 – agenda item 3.1.	Noted the economic indicators. Item will now be removed from list.

Item	Meeting raised	Issues	Action	Responsible	Status	Discussion at TTMAC 24
9	TTMAC 22 agenda item 3.1	ETBF Harvest Strategy redevelopment – summary of actions	<p>TTMAC requested that AFMA and CSIRO use the recommendations listed below to guide drafting of the full technical specification of the harvest strategy (including the set of exceptional circumstance provisions and an explanation of the rationale for each choice including the TRP) for review at TTMAC 23. The agreed components to be included in the harvest strategy were:</p> <p>a) A standardised CPUE based harvest control rule base on CPUE for age 3 and 4 fish using a four year rolling average CPUE</p> <p>b) A TRP based on the recent average CPUE for the period 2012-2015</p> <p>c) A buffer zone of +-20%</p> <p>d) A 1 year TACC setting cycle with:</p> <p>a. TACC changes to be limited to a maximum of 10 percent per year.</p> <p>b. A full review and re-tuning of the Harvest Strategy after 3 years (cycles),</p> <p>c. HS meta-rules will house the rules directing this review, which must developed and agreed to up-front as part of HS</p> <p>42. AFMA to ensure rationale for the choice of TRP is clearly articulated in the harvest strategy documentation.</p>	AFMA/CSIRO	Completed. Swordfish Harvest Strategy approved by AFMA Commission in September 2020.	Reported. Item will now be removed from list.

Item	Meeting raised	Issues	Action	Responsible	Status	Discussion at TTMAC 24
			AFMA to work with CSIRO to draft a set of exceptional circumstance provisions for review at the TTMAC 23.			
10	TTMAC 22, agenda item 2: 3.2	The 500 hook limit in Area E – Coral Sea Area	TTMAC: a) Agreed further consultation with recreational fishing bodies is required, and b) Supported the TTRAG27 proposal to collate further relevant data, information and analyses to support development of advice on this matter by TTRAG28, with that advice to be then provided to TTMAC to support its further consideration of the industry proposal.	AFMA	Complete. Issue to be discussed at TTMAC 24, agenda item 3.3	Discussed the item. Item will now be removed from list.

Item	Meeting raised	Issues	Action	Responsible	Status	Discussion at TTMAC 24
11	TTMAC 22, agenda item 3: 3.	3 Electronic monitoring	<p>AFMA to remove the 30 shot threshold entirely from both Directions which will:</p> <ul style="list-style-type: none"> repeal E-monitoring (Eastern Tuna and Billfish Fishery) Direction 2015 No 2 and E-monitoring (Western Tuna and Billfish Fishery) Direction 2015 and make two new Directions which are identical to the repealed directions, minus the 30 shot EM installation requirement 	AFMA	Completed. e-monitoring directions have been registered and will come into effect at the start of 2021 fishing season.	During the discussion the issue of elogs in WTBF was raised, it was reported that an operator wants to continue to use paper logs – is this possible? The AFMA member explained that once a majority of fleet is on elogs, the cost to produce paperlogs is very high to individuals. AFMA, across the Commonwealth Fisheries, is moving to elogs; tuna fisheries are the last to move across. AFMA will contact operators directly on this issue, outside of the MAC setting.
12	TTMAC 23 agenda item 1: 2.1	ETBF Harvest Strategy 2020	TTMAC endorsed the Swordfish Harvest strategy with four minor amendments (see Attachment 2) which will now be submitted to the AFMA Commission for consideration at its meeting on 7/8 September 2020 and noted that it is anticipated that the results of the harvest strategy will form the basis of 2021 Swordfish TACC setting.	AFMA	Completed. Swordfish Harvest Strategy approved by AFMA Commission in September 2020.	Noted the results of the Swordfish harvest strategy. Item will now be removed from list.

2. Background and discussion items

2.1 AFMA Management Report

- The MAC noted a verbal management report from the AFMA member. It was noted that an e-CDR trial is to start soon with a few ETBF operators and fish receivers. The rollout of e-CDRs has the potential to be a time saving feature in future. The MAC will be kept informed as the trial progresses.

2.2 Tuna Australia Update

- The Tuna Australia invited participant gave a verbal update on behalf of Industry.
- He noted that Tuna Australia has recently achieved Marine Stewardship Certification (MSC) in ETBF for four quota species - Yellowfin, Albacore, Bigeye tuna and Swordfish. This represents a significant achievement for the fishery.
- He also noted that TA was recently successful in its application for FRDC funding to address Workplace Health and Safety, but was unsuccessful in obtaining 'Our Parks' funding. The proposed project was looking to address wildlife interactions in the fishery and TA will be looking at other avenues to have the project funded.
- He described an increasing demand for TA comment on FADs by various states, and noted that TA would be attending a Department of Agriculture, Water and the Environment stakeholder Workshop on resource allocation.
- The TA invited participant and Industry participants at the meeting raised the ongoing issue of labour shortages which continues to be a challenge for fishing fleets. In recent years the fishing industry has tried with mixed success to attract Australian workers and so has used international people to keep vessels crewed. International (skilled) crews went home at the start of the Pandemic because they did not have access to government assistance and businesses now face complications trying to bring crew back into Australia because of Visa costs and Covid-19 travel restrictions. They face the Worksafe issues in using unskilled, inexperienced locals.
- Market access is still extremely challenging, trying to get catch into markets involves making fishing trips occur when freight is available – not weather or advantageous fishing conditions.

3. Consideration / Decision items

3.1 EBTF TACCS and over/undercatch

- THE AFMA member gave a brief background to the TACC setting process with the MAC noting that:
- The TACC setting for ETBF quota species has returned to a yearly cycle (from previous 2 yearly cycle).
- WCPFC will be held as a teleconference meeting this year and it is difficult to forecast what the outcomes from this process will be.

- Over/undercatch recommendations made at this meeting will relate to the 2021 fishing season. There is a separate agenda item to discuss variation to the Swordfish undercatch provisions for the 2020 season.
- For the ETBF quota tuna species, the Australian proportion of the regional catch is low and precludes use of RBCCs, instead a series of indicators are used to assist consideration of TACC recommendations
- The newly approved Harvest Strategy (HS) was used to develop a recommendation for Swordfish
- The Striped Marlin HS still under development, therefore indicators were used by TTRAG to develop a recommendation for this species.
- In recommending TACCs, TTMAC needs to also consider WCPFC requirements and FFA albacore limits signed by Minister.
- The AFMA member reminded TTMAC of the need to consider the following when developing recommended TACCs for the fishery:
 - a) Requirements of the ETBF Management Plan, including:
 - i. Other interested Australian and international bodies and other interested persons;
 - ii. The total estimated catch by the commercial, recreational, Indigenous and other users of the fishery;
 - iii. Information about the sustainability of marine species in the area of the fishery;
 - iv. The Commonwealth Harvest Strategy Policy and ETBF Harvest Strategy;
 - v. The precautionary principle;
 - vi. Any decisions made by the Minister or an intergovernmental Ministerial Council about resource sharing in the fishery; and
 - vii. The likely effect, for the fishing season, of any over-catch permitted under section 4.5 of the ETBF Management Plan.
 - b) The Recommended Biological Commercial Catches (RBCCs) under the ETBF Harvest Strategy¹, where that applies, and/or subsequent advice on stock status and fishery indicators, were captured by the Tropical Tuna Resource Assessment Group (TTRAG) in an Indicators Paper which was provided to TTMAC prior to the meeting ; and
 - c) Australia's obligations to the Western and Central Pacific Fisheries Commission (WCPFC).
- TTMAC noted the information in the background paper and information from TTRAG.

Albacore Tuna

- The MAC noted advice from the Scientific Member that Australian catch represents less than 2% of the total albacore catch across the Pacific in last 10 years. He further noted

¹ Noting that in 2018 the 2011 ETBF Harvest Strategy was removed from operation and an indicators approach adopted. In 2020, a new Swordfish Harvest Strategy was adopted, all other quota species have remained under an indicators approach.

that there are much larger catching nations and that Australia would be well served to reserve decision making on domestic TACCs for this species until regional catch quotas at multi-lateral level are negotiated.

- The majority of TTMAC supported AFMA Management's recommendation that the Albacore TACC remain at 2500 tonnes for the 2021 fishing season. However one member did not support the recommendation on the basis that the TACC has not been taken in recent times and they do not believe that setting this TACC is consistent with the requirements of the Management Plan or Fisheries Management Act.

Bigeye Tuna

- The 2020 Bigeye Tuna stock assessments conclusions on the status of Bigeye Tuna confirm the optimistic outlook from the 2017 and 2018 stock assessments compared to previous stock assessments (which had indicated the WCPO stock was overfished and overfishing was occurring).
- AFMA management recommended that the Bigeye Tuna TACC remain at its present level of 1056 tonnes.
- TTMAC noted AFMA management advice in relation to the Bigeye tuna TACC recommendation and agreed that while it would be necessary to continue to monitor the regional stock assessment, the MAC supported keeping the Bigeye Tuna TACC at its present level of 1056 tonnes for the 2021 fishing season.

Yellowfin Tuna

- Yellowfin Tuna continues to be not overfished, nor subject to overfishing. It is a species that has demonstrated very high inter-annual variability in ETBF catch levels.
- AFMA Management recommended a TACC of 2400 tonnes be maintained for this species.
- TTMAC supported keeping the Yellowfin Tuna TACC at its present level of 2400 tonnes for the 2021 fishing season.

Broadbill Swordfish

- The new ETBF harvest strategy was applied for the first time to swordfish in 2020. The result of this harvest strategy is a TACC recommendation of 1163 tonnes. As part of the TTRAG process, no exceptional circumstances (that the adopted Swordfish harvest strategy requires are checked) were identified.
- Therefore AFMA Management recommended a TACC of 1163 tonnes.
- TTMAC supported the recommendation to reduce the Broadbill Swordfish TACC to 1163 tonnes for the 2021 fishing season.

Striped Marlin

- AFMA Management has noted that the stock assessment indicates a trend of declining fishing mortality since about 2010 and indicates a slight increase in spawning biomass in recent years. Given these small but positive trends in the stock assessment and the fact that Striped Marlin is typically not targeted. AFMA Management recommended maintaining the current TACC of 351 tonnes.

- During discussion, the AFMA Member explained that the TACC for this species has been reduced in recent years to the point where it now essentially deters targeting and discarding but allows for bycatch.
- TTMAC supported keeping the Striped Marlin TACC at its present level of 351 tonnes for the 2021 fishing season.
- AFMA management recommended an overcatch and undercatch of 10% and a determined weight of 2,000kg for all quota species in the ETBF for the 2021 season and a majority of the TTMAC supported this recommendation.

OUTCOME: ETBF TACCS and over/undercatch recommendations:

TTMAC recommended TACCs for 2021

Quota species	Total Allowable Commercial Catch (t)	Overcatch %	Undercatch %	Determined weight (kg)
Albacore Tuna	2,500	10	10	2,000
Bigeye Tuna	1,056	10	10	2,000
Yellowfin Tuna	2,400	10	10	2,000
Broadbill Swordfish	1,163	10	10	2,000
Striped Marlin	351	10	10	2,000

3.2 WTBF TACCs and over/undercatch

- In the absence of an IOTC agreed allocation, an agreed whole of government position on TACCs in the WTBF or sufficient catch data to operate the domestic harvest strategy, AFMA management considers setting the TACCs consistent with the previously agreed TACCs is appropriate for next season.
- While the current levels of effort in the WTBF remain low there is little chance that the full TACCs will be caught. However, if effort was to significantly increase this should produce sufficient data with which to operate the domestic harvest strategy and provide advice for establishing more robust TACCs.
- AFMA considers that the existing catches are unlikely to cause sustainability concerns in the short term. AFMA management recommends the following TACCs for the 2021/22 WTBF fishing season.
- The Scientific member explained that the TACCs currently set in the fishery are not arbitrary and have taken into account Australian catch relative to regional stock status and fishing effort in early 2000s when there were around 40 boats in the fishery. The TACCs are consistent with the Commonwealth Harvest Strategy Policy that provides guidance on jointly managed international stocks and are consistent with an agreed Australian position going into multi-lateral negotiations in the region.

- The majority of TTMAC supported AFMA Management’s recommendations for the following TACCs, undercatch and overcatch amounts to the AFMA Commission, for 2021/22, however one member did not support the recommendation:

OUTCOME:

Quota species	TACC	Overcatch %	Undercatch %	Determined weight (kg)
Bigeye tuna	2,000t	10	10	2,000
Yellowfin tuna	5,000t	10	10	2,000
Broadbill Swordfish	3,000t	10	10	2,000
Striped marlin	125 t	10	10	2,000

3.3 Coral Sea Zone hook proposal

- Under this agenda item, TTMAC discussed the industry proposal to restrict the 500 hook limit condition on longline fishing in the Coral Sea Zone (CSZ) to the area west of 148°E during the period of 1 September to 31 December each year.
- TTMAC noted that it had previously considered the proposal at TTMAC 22.

OUTCOME: Coral Sea Zone hook proposal

TTMAC agreed that a two-year trial, with sufficient safeguards to ensure Blue and Black Marlin interactions are managed be implemented from early 2021; and

To form a small working group to determine the exact specifications of the trial.

3.4 Potential revisions to seabird conditions

- The Tropical Tuna Fisheries Manager provided an update on the current status of ETBF seabird interactions, mitigation and management. He noted that there was a lot of consultation prior to the implementation of these conditions at the start of 2020.
- The MAC noted that AFMA has now reviewed the working of these conditions during the first year of implementation, and is proposing a number of revisions to improve the effectiveness of the conditions.
- TTMAC noted and accepted the proposed revisions to the current ETBF seabird conditions which AFMA intends to implement in time for the 2021 ETBF fishing season.

OUTCOME: Potential revisions to seabird conditions

TTMAC noted the proposed revisions to the current ETBF seabird SFR conditions which AFMA intends to implement in time for the 2021 ETBF fishing season.

3.5 Proposal to increase Swordfish Undercatch

- The AFMA member noted a proposal has been received from Tuna Australia to increase the Swordfish undercatch carry over allowance. The TTMAC noted they were being asked to consider recommending a 20% increase to the Swordfish undercatch allowance that would apply to the 2020 season.
- The MAC noted that the Tuna Australia letter to AFMA requested an increase in Swordfish undercatch at the end of the current 2020 season. The TA letter outlined that due to COVID-19, access to the United States market has been significantly reduced by air freight availability and price and the impacts of COVID response on internal US market demand.
- TTMAC noted that AFMA Management has considered several requests from industry groups across Commonwealth fisheries to extend undercatch as a response to COVID. The AFMA Commission has agreed to extend undercatch provisions in the Southern Bluefin Tuna Fishery but not the Southern and Eastern Scalefish Fishery.
- The MAC heard from the TA representative that some operators leased in quota for this year and then due to Covid-19 haven't been able to catch and would like to access it next year.
- One Industry MAC member did not support the proposal, noting that considerations regarding timing/purchase or leasing quota are business decisions.
- TTMAC was unable to reach consensus on the proposal as the majority (AFMA/environment/ scientific/recreational/one Industry member) agreed with maintaining the status quo of 10% carryover/under.
- Two MAC Industry members, the Tuna Australia invited participant and an Industry invited participant requested that the proposal for an exceptional circumstance undercatch allowance of 30% at the end of the 2020 season be considered by the AFMA Commission.
- The AFMA Member gave an undertaking that the Industry position on this issue would be put to the AFMA Commission.

OUTCOME: Proposal to increase Swordfish Undercatch

The AFMA Member gave an undertaking that the MAC majority and Industry position on this issue would be put to the AFMA Commission.

4 Information Papers

Prior to the meeting, members were asked to note agenda items 4.1 to 4.4 and they were taken as read during the meeting however the Chair asked participants if there were any questions and these are covered under the relevant agenda item.

4.3 Electronic Monitoring Update

- TTMAC Members noted a powerpoint presentation update provided prior to the meeting.
- An Industry member queried if there was any further update on the Internal Review of the AFMA Electronic Monitoring Program referred to in the powerpoint presentation as it did not give an indication of timing or outcomes. The AFMA member explained that the AFMA

Commission will be discussing the review in 2 weeks' time and then at its March 2021 meeting, with consultation to occur with Industry from Nov to March.

Summary of Action items for TTMAC meetings 21 – 24

Item	Meeting raised	Issues	Action	Responsibility	Status
1	TTMAC 20 - action arising	4.4	AFMA draft up a simple report card, undertake a cost benefit analysis and review where the fishery sits now relative to the required performance bench marks across each category being proposed.	AFMA	Not complete Still to be done. A review of the priority of this project against other fishery projects will be conducted in 2021.
2	TTMAC 21 – action arising		AFMA to include EPBC listed species interaction rates (particularly for seabirds and turtles) in future environment updates.	AFMA	Complete Rates were circulated out of session after the last meeting.
3	TTMAC 21 – action arising	3.4	Japanese catches in the WTBF during the 1990s to the WTBF indicators document.	CSIRO	Data not readily available To be added to the WTBF indicators document for future TACC discussions.
4	TTMAC 21 – action arising	3.4	Limit reference points to be added to the ETBF and WBTF Indicators documents.	CSIRO/AFMA	Complete Relevant reference points were included in the TACC advice paper prepared by TTRAG and presented to the MAC.
5	TTMAC 24 – action arising	3 Electronic monitoring	AFMA to contact operators still using paper logs to notify of possibility to continue using paper logs.	AFMA	Complete All ETBF operators are now using e-logs

Item	Meeting raised	Issues	Action	Responsibility	Status
6	TTMAC 24 – action arising	2.2	AFMA to circulate Protected Species Interactions table rates to TTMAC.	AFMA	Complete
7	TTMAC 24 – action arising	2.1	Coral Sea Zone hook proposal: TTMAC agreed that a two-year trial with sufficient safeguards to ensure Blue and Black Marlin interactions are managed be implemented from early 2021.	AFMA	Complete See agenda item 3.4
8	TTMAC 24 – action arising	2.2	Coral Sea Zone hook proposal: To form a small working group to determine the exact specifications of the trial.	AFMA	Complete See agenda item 3.4
9	TTMAC 24 – action arising	3.4	Potential revisions to seabird counts: TTMAC noted the proposed revisions to the current ETBF seabird and SFR conditions which AFMA intends to implement in time for the 2021 ETBF fishing season.	AFMA	Complete Seabird measures were updated in SFR conditions.
10	TTMAC 24 – action arising	3.5	Proposal to increase Swordfish Undercatch: the AFMA member gave an undertaking that the MAC majority and Industry position on this issue would be put to the AFMA Commission.	AFMA	Complete The AFMA Commission considered the request and wrote to Tuna Australia outlining their decision.