TORRES STRAIT PRAWN **MANAGEMENT ADVISORY COMMITTEE**	**Meeting No. 21** **29-30 November 2022**
PRELIMINARIES **Chairs opening remarks, opening prayer and traditional owner welcome and apologies**	**Agenda Item No. 1.1** **FOR NOTING**

RECOMMENDATIONS

1.1.1 That the TSPMAC **NOTE**:

a) an acknowledgement of Traditional Owners;
b) the Chair's welcome address;
c) apologies received from members unable to attend.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
PRELIMINARIES **Adoption of agenda**	**Agenda Item No. 1.2** **FOR DISCUSSION**

RECOMMENDATIONS

1.2.1 That the TSPMAC consider and **ADOPT** the agenda.

BACKGROUND

1. A draft agenda was sent to TSPMAC for comment on 27 September. No comments were received.

TORRES STRAIT PRAWN
MANAGEMENT ADVISORY COMMITTEE MEETING No. 21
Date: 29-30 November 2022
Venue: Novatel Oasis, 122 Lake Street Cairns

AGENDA		DETAILS	Combined doc page numbers
1	**Preliminaries**		
1.1	Chairs opening remarks, opening prayer and traditional owner welcome and apologies		
1.2	Adoption of agenda		
1.3	Declarations of interest	Previous declaration of members will be reviewed and updated where required. New members will provide any possible declarations of interest, and committee to consider where declared interests have any clashes with specific agenda items.	
2	**Meeting Administration**		
2.1	Actions and/or business arising from previous TSPMAC meetings (EO)	**For Noting.**	
3	**Reports**		
3.1	Native Title update.	**For Noting.** Verbal update.	
3.2	a) Industry update. (Industry) b) PNG update. (PNG verbal update)	**For Noting.** Verbal update. **For Noting.** Verbal update.	
3.3	Management update. **For Noting** 3.3a AFMA 3.3b QDAF 3.3c TSRA	**For Noting.** Updates will be provided on staffing changes, ERAs, Environment reporting, legislative amendments, observer coverage, research and any other relevant small management updates since the last meeting.	
3.4	Data report. (Clive Turnbull)	**For Noting.** Clive Turnbull will present and explain results and trends in catch and effort data for the 2020 season and 2021 season and 2022 season to date.	
4	**Management**		
4.1	BRD review (AFMA)	**For Discussion/ recommendation.** Discuss final results of three trials, and put forward recommendations (on how AFMA thinks we should introduce the new BRD). Discuss QLD fisheries concerns regarding seasnakes and logistics around mandating a new BRD in the TSPF and need to consider it in the Queensland East Coast Otter Trawl Fishery where boats are dual endorsed.	
4.2	Harvest Strategy review. (AFMA)	**For Recommendation**. The HS trigger review has now been incorporated into the HS with a number of changes throughout the document. TSPMAC to	

		review the changes and discuss, as well as make recommendations for appropriate consultation methods with licence holders and Torres Strait communities.	
4.3	Total Allowable Effort limit. (AFMA)	**For Recommendation**. Discuss how the TSPMAC thinks the TAE setting process (due every 3 years) should be managed under the new harvest strategy with a continuous TAE proposal. Proposal is to consider a longer TAE setting period of 5 years, and an ongoing TSPMAC recommendation for a 9,200 night TAE.	
4.4	Management Strategy Evaluation testing of different season dates effect on stock and economic yield (Clive Turnbull)	**For Discussion.** Clive Turnbull will provide results from MSE testing of a range of season dates for the TSPMAC to consider. This issue was raised several years ago trying to identify whether season dates have an effect on profit as a result of catch rates and prawn grade.	
4.5	Management Plan Amendments	**For Discussion.** AFMA have been reviewing the TSPF Management Plan, to determine any smaller administrative amendments that may be warranted, while changes are made to clarify wording around requirements for licences to be held by Australian Citizens.	
4.6	Remaking of Torres Strait Fisheries (Furnishing of Logbooks) Instrument 2020	The Torres Strait fisheries logbook instrument expires on 31 August 2023 and requires remaking. Changes are suggested to allow TSPF licence holders to use e-logs or the current paper logbooks.	
4.7	Review of the bycatch and discard workplan	The bycatch and discard workplan 2015-2017 requires review and input from the TSPMAC on important bycatch actions moving forward.	
5	**Finance**		
5.1	TSPF draft budget for 2023-24 (AFMA)	**For Noting.** Verbal update will be provided on progress of the draft budget.	
6	**Other business**		
6.1	Dates and location for next meeting.		
6.2	Closing remarks and closing prayer.		

Individuals wishing to attend the meeting as an observer are required to contact the Chair (Mr. John Glaister: care of Lisa Cocking TSPMAC Executive Officer; lisa.cocking@afma.gov.au), notifying him of your desire to attend.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
PRELIMINARIES **Declarations of interest**	**Agenda Item No. 1.3** **FOR DISCUSSION**

RECOMMENDATION

1.3.1 That TSPMAC members and observers:

a) **NOTE** the previously declared real or potential conflicts of members and update this list with current real or potential conflicts of interest (**Table 1**);

b) **DETERMINE** whether the member may or may not be present during discussion of or decisions made on the matter which is the subject of the conflict;

c) **ABIDE** by decisions of the TSPMAC regarding the management of conflicts of interest; and

d) **NOTE** that the record of the meeting must record the fact of any disclosure, and the determination of the TSPMAC as to whether the member may or may not be present during discussion of, or decisions made, on the matter which is the subject of the conflict.

BACKGROUND

1. Consistent with the *Protected Zone Joint Authority (PZJA) Fisheries Management Paper No. 1* (FMP1), which guides the operation and administration of PZJA consultative forums, members are asked to declare any real or potential conflicts of interest.

2. TSPMAC members are asked to confirm the standing list of declared interests (**Table 1**) is accurate and provide an update to be tabled if it is not.

3. FMP1 recognises that members are appointed to provide input based on their knowledge and expertise and as a consequence, may face potential or direct conflicts of interest. Where a member has a material personal interest in a matter being considered, including a direct or indirect financial or economic interest; the interest could conflict with the proper performance of the member's duties. Of greater concern is the specific conflict created where a member is in a position to derive direct benefit from a recommendation if it is implemented.

4. When a member recognises that a real or potential conflict of interest exists, the conflict must be disclosed as soon as possible. Where this relates to an issue on the agenda of a meeting this can normally wait until that meeting, but where the conflict relates to decisions already made, members must be informed immediately. Conflicts of interest should be dealt with at the start of each

meeting. If members become aware of a potential conflict of interest during the meeting, they must immediately disclose the conflict of interest.

5. Where it is determined that a direct conflict of interest exists, the forum may allow the member to continue to participate in the discussions relating to the matter but not in any decision making process. They may also determine that, having made their contribution to the discussions, the member should retire from the meeting for the remainder of discussions on that issue. Declarations of interest, and subsequent decisions by the forum, must be recorded accurately in the meeting minutes.

DISCUSSION

Table 1. Declaration of interest formally declared by members at past meetings. To be updated at TSPMAC 21.

Name	**Position**	**Declaration of interest**
example		TIB fisher/ commercial fisher. No specific conflicts of interest against this agenda (or state which agenda item a conflict may exist for).
John Glaister	Chair	Chair NORMAC, Chair Torres Strait Rock Lobster Working Group, Member Parks North Management Advisory Group.
Lisa Cocking	Executive Officer (AFMA)	Australian Fisheries Management Authority employee. No specific conflicts of interest against this agenda
Jeremy Smith	AFMA member	Australian Fisheries Management Authority employee. No specific conflicts of interest against this agenda
Darren Roy	QDAF member	Queensland fisheries Employee. No specific conflicts of interest against this agenda
Edwin Morrison	Industry member	TSPF Licence Holder and operator.
Shawn McAtamney	Industry member	
Clinton Farman	Industry member	Holder of TSPF licence.
Glen Duggan	Industry member	Licence holder in TSPF and QLD East Coast Otter Trawl Fishery.
Jim Newman	Industry member	Holds 1 Torres Strait licence.
Clive Turnbull	Scientific member	Independent scientist employed to undertake TSPF annual data work. No perceived conflicts of interest are associated with this though.
Nicholas Richards	TSRA member	Torres Strait Regional Authority employee. No perceived conflicts of interest are associated with this though.
Gavin Mosby	TIB Industry member	Traditional inhabitant member for Masig. Traditional fisher for BDM, TRL and Finfish. No specific conflicts of interest against this agenda.

Horace Baira	TIB Industry member	
Charles David	TIB Industry member	
Rocky Stephen	TIB Industry member	TIB fisher. ZK Fisheries member. Ugar Councillor.
James Akiba	TIB Industry member	
Yen Loban	TSRA Fisheries portfolio member	
Observers		
Ian Butler	ABARES	
Quinten Hirakawa	TSRA	
Emma Freeman	AFMA	Australian Fisheries Management Authority employee. No specific conflicts of interest against this agenda
Ben Liddell	AFMA scientific observer	Australian Fisheries Management Authority employee. No specific conflicts of interest against this agenda
TBA	Malu Lamar/ GBK?	
TBQA	PNG?	

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 21 29-30 November 2022
MEETING ADMINISTRATION **Actions arising**	**Agenda Item No. 2.1** **FOR DISCUSSION**

RECOMMENDATION

2.1.1 That Torres Strait Prawn Management Advisory Committee (TSPMAC) members **NOTE:**

a) the progress against action items arising from previous TSPMAC meetings as detailed in the table below.

b) the final meeting record for TSPMAC 21 held in Cairns on 29-30 January 2020 (Attachment 2.1A).

BACKGROUND

1. The TSPMAC 20 meeting record was sent to TSPMAC for comment on 11 March 2020, and the final ratified version sent on 22 April 2020.

ATTACHMENTS

Attachment 2.1A – TSPMAC 20 minutes

Actions arising from past TSPMAC meetings

Item number	Action	Responsibility	progress
ACTION 20.1	Australian Fisheries Management Authority (AFMA) to assist Torres Strait Regional Authority (TSRA) to provide list of season closure dates and areas in next update to communities.	TSRA and AFMA	**Complete.** The closure information is on the Torres Strait Prawn Fishery (TSPF) handbook. A copy was sent to TSRA for easy reference.
ACTION 20.2	AFMA to work with Mr Turnbull and the AFMA logbook team to identify what the ungraded category is and update before putting in the data summary.	AFMA	**Complete**. Most of the "UG" records are due to fishers not filling out this field. Data summary plots were changed to reflect this ie, "ungraded and no data".
ACTION 20.3	Present results of Bycatch Reduction Devices (BRD) trials to communities, following the second trial. This may be best done during TSRA or AFMA community visits.	AFMA and TSRA	**Ongoing.** The results of the second and third trial will be presented at this meeting, and this action item will be progressed following. The TSPMAC should discuss the best avenues for communicating these results to communities.
ACTION 20.4	AFMA to check with compliance that they are measuring nets during compliance boardings on TSPF boats.	AFMA	**Complete.** Refer to AFMA compliance report at agenda item 3.4.
ACTION 20.5	Consult with TSPMAC following section BRD trial to decide on a	AFMA	**Complete (this meeting).** The BRD trail was delayed due to limited fishing occurring during

	way forward for amending allowable BRDs.		COVID. A third trial has now been completed. Refer to agenda item 4.4.
ACTION 20.6	AFMA to finalise the draft amended harvest strategy which will be sent for consultation to TSPF licence holders and used for consultation with communities in 2020.	AFMA	**Ongoing.** The TSPF harvest strategy changes were endorsed at TSPMAC 20, and the harvest strategy redrafted to include these changes. This process was put on hold due to COVID. TSPMAC will consider the redrafted harvest strategy and consultation at agenda item 4.2.
ACTION 20.7	AFMA to set TAE limit at 9,200 days for the 2021, 2022 and 2023 fishing seasons.	AFMA	**Complete.** The TAE was determined for three years (2021-2023) in December 2020.
ACTION 20.8	Ask the TRLWG to report back to the TSPMAC with a data plan, so we have an understanding of the data they are trying to gain, so we can work out the best methods for collecting this data in the fishery.	AFMA	**Complete.** The TRLRAG discussed this at their 32nd meeting in December 2021. They agreed that Subject to future resourcing, the RAG recommended to continue further analysis of the available observer data from the TSPF with the aim of getting an annual assessment of likely TRL catch to be included in the TRL stock assessment and eHCR, noting that the extrapolation method will need to be revised, and noting that further analysis presents opportunities for potential investigation of other species of interest in other Torres Strait fisheries such as sea cucumbers. The data currently sought by TRLRAG are simply numbers, fate (dead, alive, etc) and length of TRL caught. They will report in future if they would like more or different data.
ACTION 20.9	AFMA to further develop protocols for an indigenous community member (or crew member) to collect data on TEPs and species of interest,	AFMA	**Ongoing.** This item has not yet been progressed. AFMA and TSRA were having discussions about options for Torres Strait observers in 2021, however this discussion did not progress into any specific outcome. The TSPMAC should discuss whether this

	including deciding on target levels.		is still consider a desirable action to follow, and if TSRA still have possible funding available towards such an initiative see meeting 20 minutes at Att 3.1B (section 3.6 (p10) and 4.6 p21-24).
ACTION 20.10	TSRA to identify the best contact for TSPF licence holders to seek Torres Strait crew when needed.	TSRA	**Ongoing.** TSRA to provide advice at meeting.
ACTION 20.11	AFMA to update the five year fisheries rolling research plan and send to TSPMAC for review out of session.	AFMA	**Complete.** The plan was sent in both 2020 for the 2020-21 research plan, and on 27 September 2021 for the 2021-22 plan.
ACTION 20.12	TSPF industry members to provide fuel and beach product price data to Clive Turnbull for use in the data summary and future harvest strategy monitoring	Industry and AFMA to follow up	**Ongoing.** One TSPMAC industry member provided fuel and beach product prices for the 2020 data summary. TSPMAC should discuss how we can encourage more licence holders to provide data, to create a more robust data set.
Actions from past meetings			
ACTION 18.19	AFMA to work to review the observer protocols to be sure the data being collected is still relevant.	AFMA	**Ongoing**. This action has not been progressed due to other higher priority work.

ACTION 18.12	AFMA to consider steps to remove the five boat rule policy for TSPF as industry are not generally concerned. Send a letter of question to industry.	AFMA	**Ongoing.** The five boat rule is a policy which is applied across all Commonwealth fisheries. Given the five boat rule applies broadly, AFMA is reticent to cease its application in just one fishery. It is more likely that AFMA would need to review the policy and consult with the industry in order to determine the status of its future value across all Commonwealth fisheries.

Torres Strait Prawn Management Advisory Committee

Meeting 20 Record

29-30 January 2020

Northern Fisheries Centre Cairns

Note all meeting papers and record available on the PZJA webpage: www.pzja.gov.au

Australian Government
Australian Fisheries Management Authority

Box 7051, Canberra Business Centre, ACT 2610 / Ph (02) 6225 5555 / Fax (02) 6225 5500 / AFMA Direct 1300 723 621 afma.gov.au

Meeting participants

Members

Name	Disclosures of interest
Members	
John Glaister (Chair)	Chair NORMAC, Chair Torres Strait Rock Lobster Working Group, Member Parks North Management Advisory Group.
Lisa Cocking (EO)	Australian Fisheries Management Authority employee.
David Power	No conflicts of interest to report.
Darren Roy	Queensland fisheries Employee.
Edwin Morrison	TSPF Licence Holder and operator. Has declaration of interest for agenda item relating to TPC licences, as he currently has an application in for one.
Clinton Farman	Holder of TSPF licence.
Glen Duggan	Licence holder in TSPF and QLD East Coast Otter Trawl Fishery.
Jim Newman	Holds 1 Torres Strait licence.
Clive Turnbull	Independent scientist employed to undertake TSPF annual data work. Also currently contracted to undertake 1 research project in the TSPF. No perceived conflicts of interest are associated with this though.
Allison Runck	Torres Strait Regional Authority employee.
Gavin Mosby	Traditional Owner, Traditional fisher for BDM, TRL and Finfish. TSSAC member.
William Stephen	Traditional owner. TIB fisher.
Mark David	Traditional owner. TIB fisher. Member of TRL Working Group.
Mr Francis Pearson	Traditional Inhabitant Industry Member. TIB fisher. Kulkalgal RNTBC chair, TSIRC Councillor for Poruma.
Mr Gavin Mosby	Traditional Inhabitant Industry Member.

Name	Position
Observers	
Robert Curtotti	ABARES economist and observer of TSPF Harvest Strategy Working Group
Ian Butler	ABARES stock assessment team

Apologies

Name	Position
Mr Marshall Betzel	Industry Member
PNG representatives	PNG representatives
Maluwap Nona	Malu Lamar representative

1 Preliminaries

1.1 welcome and apologies

1. The meeting was opened in prayer at 09.40am on Wednesday 28 January.
2. The members were welcomed to the first face to face meeting since the new membership was elected/ re-elected. The Chair stated an Acknowledgement of Country.
3. Attendees at the TSPMAC are detailed in the meeting participant tables at the start of this meeting record.
4. Apologies were received from Marshall Betzel (industry member), Maluwap Nona (Malu Lamar (Torres Strait Islanders) Corporation RNTBC), Chairperson and representatives of the Papua New Guinea National Fisheries Authority.

RECOMMENDATION 1.1.1
That the TSPMAC **NOTED**:
a. an acknowledgement of Traditional Owners;
b. the Chair's welcome address;

c. apologies received from Marshall Betzel (industry member), Maluwap Nona (Malu Lamar (Torres Strait Islanders) Corporation RNTBC), Chairperson and representatives of the Papua New Guinea National Fisheries Authority, unable to attend.

1.2 adoption of agenda

5. The committee agreed to adopt the agenda as it stands.

1.3 declarations of interest

6. The Chair advised members and observers, that as provided in PZJA Fisheries Management Paper No. 1 (FMP1), all members of the MAC must declare all real or potential conflicts of interest in Torres Strait Prawn Fishery (TSPF) at the commencement of the meeting. Where it is determined that a direct conflict of interest exists, the MAC may allow the member to continue to participate in the discussions relating to the matter but

may also determine that, having made their contribution to the discussions, the member should leave the meeting for the remainder of the discussions on that issue.

7. Declarations of interests were provided by each meeting participant. These are detailed in the meeting participant table at the start of this meeting record.

8. The MAC followed a process whereby each group of members with similar interests were asked to leave the room to enable the remaining members to:
    a. Freely comment on the declared interests;
    b. Discuss if the interests precluded the members from participating in any discussions; and
    c. Agree on any actions to manage declared conflicts of interests (e.g. the member may be allowed to participate in the discussions relating to the matter but not in the formulation of final advice).
9. One TVH licence holder, Ed Morrison declared an interest against agenda item 4.1 - Grant of carrier boat licenses in the Torres Strait, as he currently has an application in for a TPC-B licence in with AFMA. Mr Morrison left the room and the committee agreed it would be useful for him to be a part of initial discussions in order to provide some information on his specific application.. The committee agreed he should leave the room while the final recommendations were developed..
10. The remaining commercial TVH fishing licence holders left the room while the committee considered their interests. The MAC members agreed that although the excused members have pecuniary interests in the fishery, given they hold commercial fishing rights, their expertise is critical in the development of advice. On this basis, it was agreed that the TVH licence holders (industry members) be permitted to participate in discussions under all agenda items in the formulation of MAC recommendations.
11. All traditional Inhabitant industry members left the room while the committee considered their interests. It was agreed that the excused members be permitted to participate in discussions under all agenda items in the formulation of MAC recommendations.
12. Clive Turnbull's declarations of interest were discussed, and no potential conflicts were identified for this agenda.
13. The TSPMAC agreed that aside from Ed Morrison relating to agenda item 4.1, all members could be present for each of the agenda items.

RECOMMENDATION 1.3.1
That TSPMAC members and observers:
a. **NOTED** the previously declared real or potential conflicts of members and update this list with current real or potential conflicts of interest (**Table 1**);
b. **AGREED** that Mr Morrison should take part in discussions relating to the issue of TPC licences, however, not be a part of the final discussions or recommendation noting his declared interest, having an application for a TPC-B licence with AFMA.
c. **NOTED** that the record of the meeting must record the fact of any disclosure, and the determination of the TSPMAC as to whether the member may or may not be present during discussion of, or decisions made, on the matter which is the subject of the conflict.

2 Meeting Administration

2.1 Actions and/or business arising from previous TSPMAC meetings

14. The TSPMAC went through the progress against actions arising from previous TSPMAC meetings. Progress can be found in the actions arising agenda paper, and for a number of items, in detailed agenda papers presenting against these actions.
15. The committee further discussed the following action item: **Action 18.3 – AFMA and TSRA to work together to discuss the membership and consultation with traditional inhabitants regarding Torres Strait management.** The committee noted that the TSRA have introduced an annual visit to communities, to support PZJA forum members to visit their cluster islands to discuss fishery and RAG and WG matters. This visit is likely to occur in October/ November this year.

RECOMMENDATION 2.1.1
That TSPMAC members **NOTED:**
a) the progress against action items arising from previous TSPMAC meetings.

b) the final meeting record for TSPMAC 19 held via teleconference on 17 September 2019 (**Attachment 2.1a**). These minutes were sent for comment on 23 September 2019, and the final ratified version sent to TSPMAC out of session on 10 December 2019.

3 Reports

3.1 Native title update

16. No native title update could be provided in the absence of a Malu Lamar representative.
17. 3.1.1 That the TSPMAC NOTED that an update could not be provided for native title in the absence of Malu Lamar, the representative body.

3.2 a) Industry update

18. The TSPMAC noted updates provided by industry members on the performance of the TSPF during the 2019 season, in particular:
    - There have been some difficulties with mother shipping – specifically around difficulties unloading and getting fuel. The motherships were running out of space, and even though fishers were pre-booking, it was sometimes difficult to know exactly what quantity of product they would have to unload.

- There were quite large fluctuations in the number of boats throughout season with vessels attracted to the region due to the good catch rates but also experiencing difficulties unloading and shipping product to market.
- The committee acknowledged that Seaswift generally perform transhipping of product, which is then taken to mainland ports for offload.

19. One TIB member raised concern regarding potential quarantine issues for product being brought into the Torres Strait. AFMA explained that quarantine rules are more a concern with product going to the mainland from Torres Strait than the other direction.
20. The committee discussed the desire from communities to be able to buy prawn straight from the TSPF boats, which also helps with building relationships between communities and the industry. Sometimes boats do not sell product directly to communities. The committee noted that it is difficult for some skippers to sell product when they are employees, not owner/ operators, as often the owner give strict rules that no product can be sold directly from the boat.
21. The committee noted that the larger numbers of boats fishing in the 2019 season were largely a result of better catch rates in the TSPF compared to the QLD East Coast fisheries.
22. There was also an issue with prawn prices being low this year. Fishers were attracted by the good catch rates but prices were likely depressed due to high catches and supply during 2019.

b) PNG update

23. No PNG update could be provided, as PNG were unable to attend the meeting.

RECOMMENDATION 3.2.1 - That the TSPMAC **NOTED**
a) the updates provided by the TSPF industry members.
b) that PNG were unable to attend the meeting and provide an update.

3.3 Management update

TSRA update on fisheries specific matters.

24. The TSRA have been undertaking a project to set up a company to hold the sunset fishing rights on behalf of the Beche de Mer and finfish fisheries.
25. These fishing rights are currently held in trust, by the TSRA, however they project will transfer them to a community run and owned company. The company will probably be set up by July this year. They are still waiting to get community consensus on the format, and a large forum is being held before July to try to reach this.

26. The TSRA are also exploring ways to better support the outreach and engagement of the traditional inhabitant industry members in the PZJA committees. This has included more support around community outreach to the islands in the clusters they were elected to for, and organising cultural awareness training to assist with improving collaboration and understanding between all PZJA committee members, and thus assist with making PZJA advice more collaborative.

AFMA Management update

27. The TSPMAC noted that AFMA is currently assessing the cost efficiency of continuing to use the current TSPF Ecological Risk Assessment methodology (the sustainability assessment) including what would be required to update that assessment type, compared to moving to the standard AFMA ERA. AFMA will provide advice to the TSPMAC once it has undertaken this comparison.
28. The TSPMAC noted that the TRLRAG has raised some concerns with the unknown level of TRL catch, given TRL are currently not required to be reported in the TSPF logbooks.
29. TIB members noted the importance of fishers being honest about what they are catching, as it creates bad blood when they are dishonest, more than if they catch something and are honest about it.
30. The committee noted that industry is not allowed to retain TRL, and past studies have also shown a high survivability of individuals that are caught and released. A catch, tag recapture study showed TRL being picked up in PNG long after tagging and release.
31. The committee also noted it would be difficult for TSPF fishers to mix cray in with prawns, as the vendors receiving the product would need to report this.
32. The committee agreed to discuss the matter of TRL catches more deeply under agenda item 4.6, relating to species of interest catches.

3.4 Compliance report

33. The TSPMAC noted the compliance report for the TSPF, including that 6 at sea boarding's occurred in the 2018-19 financial year, and no breaches were reported.
34. A TIB industry member noted that they believe trawl boats seem to be coming closer and closer to warrior reef.
35. The committee note the east of warrior reef seasonal closure (1 February to 1 August each year), which was implemented by industry, to protect small prawns, and the permanent closure west of warrior reef.
36. TIB members agreed it would be useful to provide information to communities again about the dates and range of seasonal closures, so they understand when boats are able to fish certain areas and when they can't.

ACTION: AFMA to assist TSRA to provide list of season closure dates and areas in next update to communities.

RECOMMENDATION 3.4.1

That the Torres Strait Prawn Management Advisory Committee (TSPMAC) **NOTED**:

a) the update on compliance activities for the Torres Strait Prawn fishery for 2018 and 2019.

b) that 6 at sea boards were undertaken in the TSPF and no breaches were reported.

3.5 Data report

37. Mr Turnbull presented a summary of data for the TSPF for the 2019 season. The tiger prawn CPUE in 2019 was the highest since 2013 and the endeavour prawn CPUE was the highest since 2008. Taken together this resulted in the highest combined prawn (tiger + endeavour + king + mixed) CPUE since the start of full logbook records in 1989.
38. Fishing effort (around 2600 days) was the highest since 2015 and is likely a result of the record prawn CPUE encouraging TSPF licenced vessels to spend more time in the fishery. This is 38% of the available Australian fishing days.
39. The tiger prawn (514t) and king prawn (11t) catches were the highest since 2015 (tiger 553t, king 17t) while the endeavour prawn catch (298t) was the highest since 2008 (420t).
40. The committee noted that both the mackerel and TRL fisheries, and some others, had poor catch rates in 2017 after a very warm 2016. So the low effort and CPUE values in 2017 are not only for this fishery. This may be due to some environmental factor effecting recruitment into the fisheries.
41. The committee noted that effort in the fishery is generally further in the north, around Yorke Island nowadays. However, there was a bit of effort further south, in the outside but near area in 2019, where there used to be more effort in the past.
42. One TIB member questioned whether we could close areas for a period to give the stock a rest. The TSPMAC noted that we already have a number of closures in place, and the stock is short lived, and replenishes every year, so there is no real need to put more closures in place at this time.
43. The committee noted the monthly effort was low in 2018, until many boats came during June, when they heard catch rates were very good. Fishing started earlier in the season in 2019 based on expectations that good catch rates would continue.

44. The committee discussed the prawn grades caught since 2004, which has had fairly consistent division of grades, with mainly 10/20s. There was also an ungraded category, which AFMA would clarify with the data team, as there was uncertainty of why there were ungraded prawns reported. In the past when catches were really high, they would use the ungraded category when they ran out of time to sort product, but this shouldn't be an issue with catch levels today.
45. The committee agreed the new data including grades could be included in the data summary, once we clarify what the ungraded selection were.
46. The committee also noted the need to get more prawn price data from more licence holders for future assessment around fishery economics.

ACTION: AFMA to work with Mr Turnbull and the AFMA logbook team to identify what the ungraded category is and update before putting in the data summary.

RECOMMENDATIONS
3.5.1 The TSPMAC **NOTED** and **DISCUSSED** the trends in catch and effort for the 2019 fishing season and the updated fishery analysis and figures for the 2019 Data Summary.

3.5.2 The TSPMAC DISCUSSED the new grade and price data, and **agreed** for it to be added to the TSPF data summary, once AFMA clarify the category relating to "ungraded" product and update if needed.

3.6 Comparison of logbook and observer data for Threatened, Endangered and Protected species

47. The TSPMAC considered a presentation on the comparison of logbook data with observer data for TEP species in the fishery. This presentation was designed to provide an indication of the level of reporting that is happening in logbooks for TEP species, and where AFMA may need to continue educating fishers around mandatory reporting of TEP species, to improve the level of reporting.
48. During 2007-2019 the logbook and observer data show very low levels of interactions with sawfish, turtles in the Torres prawn fishery. This is expected given the lower numbers of sawfish in the area and that Turtle Excluder Devices are mandatory and allow turtles to escape easily.
49. There is sporadic reporting of sygnathids, and higher reporting of sea snakes in logbooks. When compared to observer data the rate of reporting for sea snakes and sygnathids is much lower in logbooks
50. Based on the observer data it is likely that fishers are not reporting all sygnathids (seahorses and pipefish) in their logbooks. The committee noted that sygnathids are much more difficult to identify due to their size and appearance and it is difficult for fishers to report them all.

51. This agenda item was closed, noting the presented data, and the TSPMAC discussed ways to improve data on TEP species under agenda item 4.6 on the next meeting day.

4 Management

4.1 Grant of carrier boat licences in the Torres Strait

52. The committee discussed the PZJA wide issue relating to applications to grant carrier and or processor licences to non-traditional inhabitants in any Torres Strait fishery. This matter has come up in other fisheries in the past, with a few parties enquiring about gaining either a processor, or processor carrier licence on the Finfish or BDM fisheries.
53. There is some uncertainty around the PZJA policy to grant these licences, because the PZJA licensing policy discusses only issuing new licences to traditional inhabitants.
54. The committee noted the PZJA, under the Torres Strait Fisheries Act 1984, has an objective: "to have regard, in developing and implementing licensing policy, to the desirability of promoting economic development in the Torres Strait area and employment opportunities for traditional inhabitants."
55. Also, the PZJA licensing policy states that 'carrier licences may be granted to boats which are legitimate cargo vessels'. Another section of the Guide states 'all new fishing licences and carrier licences are only to be granted to Traditional Inhabitants' (tropical rock lobster, Spanish mackerel, pearl shell, finfish, beche-de-mer, trochus and crab fisheries, pp.19). This has created ambiguity on AFMA knowing how to apply the PZJA licensing policy.
56. The committee also noted that the above policy specifically excludes the TSPF, so there appears to be no policy against issuing carrier or other licenses in the TSPF, to non-traditional inhabitants.
57. The committee noted that as well as discussing this broadly, and how to apply it to the TSPF going forward, there is also a currently application in from Ed Morrison, to gain a TPC-B (carrier only) licence for the TSPF, and other fisheries if possible.
58. Mr Morrison explained some of the drivers around his application for the licence:
    - there has been ongoing concern with the uncertainty around the future of Seaswift operations in servicing the TSPF.
    - There have been logistical difficulties the last several years, since Seaswift reduced their services and changed the boats servicing the Torres Strait, as they can no longer take crew, and it is harder offloading product as the Seaswift vessels have less space.
    - Mr Morrison noted there is a need for additional cargo capacity and for a boat that can operate in a similar way to Seaswift but also transport people, and offer mechanical, refrigeration specialists and electricians to both service the fleet and Torres Strait communities.

- The proposed new cargo vessel would be available to support all TSPF vessels as well as other fisheries and communities if there is interest.
- Mr Morrison explained to the committee that having another body providing cargo services in the Torres Strait may reduce costs (of freight and fuel), as currently with only one provider, there is no competition, and prices have continued to increase.

59. Mr Morrison left the room, given his conflict of interest, for the remainder of this discussion.
60. The committee noted there were some concerns from TIB members, which reflect some community members more generally, around servicing the TVH fishers in other TVH fisheries such as finfish, BDM and TRL. They are concerned that this may make it easier for them to catch product more quickly, and they are worried it could create a localised depletion, and effect the local community that may want to fish that area as well.
61. However, these TIB members were generally supportive about Mr Morrison's proposal, servicing the TSPF fishery, and could see broader possible benefits to communities through employment opportunities, the ship being able to service communities including large items due to cranes.
62. The Chair noted that constraining new endeavours unreasonably may stifle competition and hence change for the better
63. Because these licences are also renewed annually, the PZJA can make a different decision in the future if they want to cease offering these licenses, such as if a local community started providing the service as well.
64. The member for Masig acknowledged and thanked Mr Morrison for all of the community outreach he does, to build relationships with communities. He is supportive of his specific proposal, as it can improve services and accessibility for communities, and may offer additional employment opportunities.
65. AFMA were supportive of the application provided compliance risks are able to be managed. As with increased catches and difficulty getting product out, considering management and economic objectives for the fishery, this could be helpful.

66. Traditional inhabitant industry members were generally supportive of the proposal, noting competition should lead to reduced costs. They did note the risk that Seaswift could pull out their service when faced with competition, which would then leave with 1 operator again with less experience. However given fuel doubled when the competition left 10 years ago, and freight costs increasing, they are hoping a competitor will help reduce costs.

RECOMMENDATION 4.1.1
That the TSPMAC **NOTED**:
a) the PZJA Standing Committee recommendation to consult with the PZJA forums alongside Native Title Notification on the grant of Carrier B licences to freight vessels, which may be owned by non-traditional inhabitants, in light of the ambiguity with PZJA licencing policy on the issue of new licenses to non-traditional inhabitants;
b) a pending application for a Carrier B licence from a non-traditional inhabitant looking to provide services to the TSPF and other fisheries, including mechanical, electrical and other services to these fisheries and communities.

RECOMMENDATION 4.1.2

The TSPMAC **SUPPORTED** the PZJA to issue new TPC-B licences for the TSPF generally, noting greater competition can lead to efficiency, and there may be a better consistent supply of freight services.

RECOMMENDATION 4.1.3

The TSPMAC **SUPPORTED** Mr Morrison's application specifically because it may have additional benefits including:

- Possible benefits to community from increased access to services, including shipping facilities and freight and potential employment and training opportunities.

RECOMMENDATION 4.1.4

TSPMAC **NOTED** that this advice only relates to the TSPF, and recommends other committees provide advice on the other fisheries, noting some of the concerns from TIB members around other fisheries.

4.2 BRD Review

67. The committee discussed the current progress regarding the trial of new, more effective BRDs in the TSPF, with the aim of reviewing the allowable BRDs in the fishery, to remove those less effective and introduce new more effective BRDs.
68. The trial has found around a 14% average reduction of bycatch when comparing the Toms fisheye and a standard fisheye, and a very small increase of prawn catch (however this may not be significant). This can't be compared to the NPF

results, as they were comparing the new BRD to the square mesh panel, which is far less effective than the regular fisheye.

69. They also discussed the need to have consistent arrangements across both the TSPF and Queensland East Coast Otter Trawl Fishery, as all but 2 boats are dual endorsed. Without this consistency it would be very difficult for fishers, who fish both fisheries in a year.
70. The QLD member confirmed they only need confidence that any new BRD is effective for seasnakes, and fisheyes have been the most effective at this. However, new fisheye versions should still be effective.
71. The NPF boats dual endorsed in the TSPF tend not to change their nets, so they will want to be able to use the same BRDs as the NPF.
72. The committee noted AFMA is considering the best approach to introduce the new BRD over a staged period, to ensure the most effective BRDs are used.
73. This is similar to the approach taken in the NPF where they are introducing the new BRD in two stages. The Tom's fisheye was required in half of all nets deployed during each shot by a vessel during 2019 and from 2020 all nets must have one of the new approved BRDs.
74. The committee noted there were some concerns from Industry in having only the Tom's fisheye allowed, given the high cost of this device. They discussed the option of allowing the other four devices that were trialled and found to be effective.
75. The committee agreed we should get the additional data from the second trial before making a decision on a way forward. This may include allowing a series of fisheyes, and removing other BRDs that are less effective. This will likely sit well within the QLD East Coast Trawl Fishery legislation.
76. They agreed to provide results of the BRD trials to communities, once the second trial is complete.

ACTION: Present results of BRD trials to communities, following the second trial. This may be best done during TSRA or AFMA community visits.

77. Following on from this issue, a TIB member, asked for information regarding the outcomes of the season dates changes to a 1 February season start. Communities were consulted on this change, and it was noted it would be useful to provide information back to communities on the effects it has had on the fishery. The committee supported providing feedback after the results of the new season dates management strategy evaluation project are available, including the information on observed fleet changes..
78. The committee discussed whether the AFMA compliance team are checking BRD measurements etc when they are doing compliance trips. AFMA were not certain and agreed to check this was happening. It isn't as easy to check BRDs as in the NPF, where they have pre-season briefings and check all boats before they go out.

ACTION: AFMA to check with compliance that they are measuring nets during compliance boarding's on TSPF boats.

79. The committee agreed we should get the additional data from the second trial before making a decision on a way forward. This may include allowing a series of fisheyes, and removing other BRDs that are less effective. This will likely sit well within the QLD East Coast Trawl Fishery legislation. They agreed to provide results of the BRD trials to communities, once the second trial is complete.

ACTION: Consult with TSPMAC following section BRD trial to decide on a way forward for amending allowable BRDs.

RECOMMENDATIONS
4.2.1 The Torres Strait Prawn Management Advisory Committee (TSPMAC)
NOTED:
a) the preliminary results of the TSPF Toms Fisheye BRD trial in the 2019 fishing season, and intention to undertake another trial early in the 2020 season on a different boat.
b) AFMA will provide results of the second BRD trial out of session for discussion following the trial.
c) the need to mirror any future changes to BRDs in the QLD ECOTF and any risks of introducing a device in the TSPF before Queensland have trialled/ agreed to the device.

4.2.2. The TSPMAC **RECOMMENDED:**

a) the additional data from the second trial be considered before making a decision on changes to allowable BRDs in the TSPF, and how the changes should be implemented.

b) that the results of the BRD trials be presented to communities, once the second trial is complete.

4.3 Stock Assessment

80. Mr Turnbull presented the results of the updated tiger prawn stock assessment for the TSPF. The results of the 2019 stock assessment show that tiger prawn stocks in the Torres Strait are in a healthy state with high CPUE and biomass levels ranging between 60-88% of virgin biomass. The assessment update required a new gear survey to update the fishing power for the fishery. The gear survey which collected information on around 90% of boats fishing since 2000.
81. The survey was updated to collect information on headline length (accounting for any "net effect"), hull units, and whether a boat is licenced to fish in the NPF, as part time TSPF fishers effects fishing power.
82. The main results from the gear survey, showed that overall fishing power remained steady, with the following changes recorded to inputs:
    - Horse Power increased substantially up to early 2000s but has stabilised at around 400HP since 2005. It is difficult to measure horsepower today,

as its computer controlled. Some people have larger motors running at lower revs, which may decrease costs on fuel/ increase fuel economy. This is because they aren't necessarily using the whole available horsepower, so using that in fishing power calculations may not be accurate.

- There may be an issue with changing fishing power with the implementation of new BRDs. The stock assessment model counts a reduction in catch rates from their initial implementation around 1999 but doesn't consider future changes. It is possible to test the effect on fishing power by adding information on BRD which result in less prawn loss.

83. The ABARES stock assessment specialist (meeting observer) questioned how fishing power could remain steady given technology improvements such as sonar. Industry members considered the results are accurate, as sonar is not used in the fishery due to cost, and there has been very little changes to gear and boats given there is a boat length limit. There have probably been some minor improvements due to improvements to TEDs and BRDs, resulting in less prawn loss, but this would be minor.
84. Mr Turnbull went on to explain the major results of the stock assessment update:

- Both the Beverton-Holt (BH) and Ricker (R) stock recruitment curve (SRC) were used.
- Both the BH and R SRC had very similar biomass curves, however, the R curve had slightly lower biomass levels predicted. The R curve has a slightly higher estimate of Biomass at Maximum Sustainable Yield than the BH curve.
- When we start to translate this data into an estimate of the effort associate with maximum sustainable yield (E_{msy}), it becomes more difficult.
- The 2004 estimates were based on the CPUE of the fleet in 2003. If you apply that 2003 CPUE to the new assessment, they still find an E_{msy} value at a similar range. However, this reduces down when we apply the current fishing effort, which is higher, so takes less time to catch (so results in a lower number of days to fish).
- This is why Dr Penney, who was engaged to assist with redrafting our harvest strategy. He suggested we change our triggers to CPUE triggers instead of effort triggers because there was a good correlation between annual CPUE's (both standardised and nominal) and the annual stock biomass estimate

85. The AFMA member discussed this point, noting that the stock is currently in a very healthy state, with very high numbers and CPUE. So the results of the stock assessment, indicating a lower effort level of fishing is more sustainable, isn't necessarily the best way to manage the fishery. This will be discussed further under the harvest strategy agenda item.
86. The committee concluded that the stocks are in a very healthy state, as a result of lower fishing effort, which has allowed the stock to build up. We will discuss options for managing the stock going forward under the harvest strategy agenda paper.

87. The committee also noted that the fleet used to be able to fish at much lower catch rates, because they took endeavour and tiger prawns. However now endeavour prices are so low, they are only taking tiger prawns, meaning they need higher tiger prawn catch rates to be viable economically.

RECOMMENDATION 4.3.1
That the Management Advisory Committee **NOTED:**
a) a stock assessment for tiger prawns in the Torres Strait was completed in 2019 and is available at **attachment B**.
b) that the 2019 stock assessment has shown that tiger prawn stocks in the Torres Strait are in a healthy state with high CPUE and biomass levels ranging between 60-88% of virgin biomass.

4.4 Harvest Strategy trigger review

88. AFMA explained the process that has been undertaken to draft the new recommended harvest strategy triggers, following the TSPMAC recommendation (to go ahead with this drafting) at its teleconference in 2019.
89. The committee noted the components of a harvest strategy include:
    - target and limit reference points for the fishery. These are associated with the stock being at a certain level of biomass.
    - The target reference point should be set at a biomass level where we would like the stock to be. That is, with good sustainable catch rates that ensure the vessels that vessels can fish with good economic returns.
    - The limit reference point is the level that we do not want to allow the stock to go below, as it will pose an unacceptable risk of recruitment failure.
    - The second part of the harvest strategy requires us to identify an indicator of population biomass, which is used to monitor and assess the stock. In this case we are proposing to use CPUE as the indicator given the good alignment with biomass.
    - The third component is to specify trigger levels and decision rules, based on the biomass indicator, which we follow when the stock biomass decreases. So we know what steps to take if the triggers are hit and thus the stock is declining.
90. The current TSPF Harvest Strategy has a limit reference point of B_{20} (20 percent of virgin biomass), which is the amount recommended in the Commonwealth harvest strategy policy.
91. The target in the past was set at Bmsy, which corresponded to B_{28} in the old stock assessment. This level is quite low, and has low catch rates, which isn't ideal for good economic return for the fishery. Industry members noted that if the stock were at this level, it would be unviable to fish.
92. The committee noted that the current Harvest Strategy uses effort based triggers, and the HSWG are recommending (on advice from stock assessment consultant

Andrew Penney), that it should move to a CPUE based trigger system. The effort based triggers we are currently using don't give us a clear ability to monitor declines in the stock, which is what we want for the fishery.

93. CPUE triggers are more effective as they allow us to measure declines in the stock and ensure the stock biomass doesn't drop from good levels down to low and potentially unsustainable levels. This new system would also require us to specify the decision rules that define the management response if the stock does down.
94. The TSPAC considered it was beneficial to have two sets of triggers:
    a. The first trigger should tell us when the stock is moving away from our optimal stock level (the target); and
    b. The second trigger is an alert which indicates when we are at risk of approaching and breaching the limit reference point.
95. The committee agreed that the second trigger should be set at a level above the limit the reference point to ensure that there is sufficient time to take action.
96. The committee noted that using nominal CPUE would be suitable, as nominal and standardised CPUE have a very close correlation.
97. The committee recommended that a three year rolling average of CPUE should be used as the indicator, instead of single years. This minimises natural fluctuations in the stock, and highlights large variations and trends. For the lower trigger, the committee recommended that a more precautionary trigger approach is used that ensures the trigger is met when either the three year rolling average is hit, or the trigger is hit two years in a row.
98. The TSPMAC discussed the levels that the triggers should be set at, and what decision rules should sit around. Industry had some concern that there would be drastic action taken when we hit the first trigger, which could close the fishery. AFMA clarified that the first trigger is conservative and designed to start a conversation with the MAC, about what actions we do need to take, and to explore why the trigger may have been hit.
99. Following some discussion, the chair agreed the committee should consider the suggestions overnight, and return to finalise them with a formal recommendation on day 2 of the meeting.
100. Industry had some concern with how we would manage the fishery if there is a change towards targeting endeavours rather than tiger prawns. This could reduce the CPUE for tiger prawns, and may affect indicator of abundance for the tiger prawn stocks. Mr Turnbull pointed out that it is still ok to use tiger prawn as an indicator in these situations, as there is an overlap in the species. We would just need to be aware that it would likely be slightly depressed, and take this into account when interpreting the data.
101. This will only be an issue if they are targeting endeavours for a whole season or multiple seasons, as its looking at annual CPUE.

RECOMMENDATIONS

4.4.1

That the Management Advisory Committee **NOTED**:
a) advice form the Harvest Strategy Working Group to amend the Torres Strait Harvest Strategy to remove effort based triggers and replace them with catch rate based triggers that reflect changes in biomass within a season.

4.4.2 The TSPMAC **RECOMMENDED** the following draft amendments to the target and limit reference points, triggers and decisions rules for the TSPF:

Target reference point: B_{60} (equivalent to CPUE 142kg/day/boat)

Trigger 1 – B_{40} (equivalent to CPUE of 95kg/day/boat).

CPUE for trigger one is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns.

Decision rules for trigger 1:

- MAC meets to consider the implications and management advice including:
    - Consider if a stock assessment is necessary (*noting a minimum base level stock assessment (without fishing power updates) should be undertaken at least every five years*).
        - Consider whether a fishing power survey should be undertaken, as a part of a harvest strategy if one is completed (noting these are probably not required every five years, unless significant changes to the fleet are known).
    - Review factors that may have led to lower CPUE, including but not limited to:
        - What are the economic and market conditions impacting fishing behaviour? (e.g. changes in fuel prices and prawn prices, low number of vessels etc resulting in lower CPUE, are fishers changing target species – e.g. targeting endeavour prawns rather than tiger prawns?).
    - Consider if a Management Strategy Evaluation is required to test management options.

Trigger 2 - B_{25} (equivalent to CPUE of 60kg/day/boat)

CPUE for trigger 2 is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns, OR the trigger being reached 2 consecutive years in a row (whichever occurs sooner).

Decision rules for trigger 2:

- The MAC shall recommend measures to limit fishing mortality to levels that will rebuild stock levels.
- Measures shall be modelled through stock assessment or management strategy evaluation to assess their effectiveness.

102. This highlights the importance of industry being willing to provide product prices and economic behaviour to AFMA and the MAC, so this reasoning can be validated.
103. When the TSPMAC returned to the discussion on Thursday, the following triggers and decision rules were agreed to, which could be presented as draft changes when consultation occurs with licence holders and Torres Strait communities.
104. The TSPMAC agreed to these triggers and decision rules in principle, noting AFMA would need to do some more work finalising the wording, which the TSPMAC could comment on out of session with the minutes.
105. The TSPMAC noted that the higher costs of operating in the fishery have resulted in fishers being unable to operate at the same CPUE levels as they have historically. This is why effort, and the number of active boats are now a lot lower. This also results in the fishery being somewhat self-regulating, as fishers are unlikely to go to the TSPF to fish if CPUE drops significantly, as it won't be economically viable to fish under current market conditions.

The committee discussed the methods of consultation that should be undertaken with both licence holders, and Torres Strait communities regarding the suggested changes. They agreed that it would be enough to consult the four communities in the main area of the TSPF, and start with a letter to licence holders describing the change. Further consultation with licence holders could be carried out through phone calls or meetings if needed.

RECOMMENDATION 4.4.3 - The TSPMAC **RECOMMENDED** that AFMA undertake consultation with the four main Torres Strait communities in the area of the TSPF (Iama, Masig, Ugar and Poruma) regarding the suggested changes to the harvest strategy.

RECOMMENDATION 4.4.4 - The TSPMAC **RECOMMENDED** that further consultation with licence holders could include a letter notifying them of the suggested changes to the harvest strategy, and further consultation be conducted if requested.

ACTION: AFMA to finalise the draft amended harvest strategy which will be sent for consultation to TSPF licence holders, and used for consultation with the four main Torres Strait communities during 2020.

4.5 Total Allowable Effort limit 2021-2022

106. The TSPMAC discussed the total allowable effort limit for the TSPF, which needs to be set by November 2020, for the 2021 fishing season.

107. The committee noted that Andrew Penney, the stock fisheries consultant assisting with the harvest strategy review, recommended that we consider leaving the TAE at the current level, noting that the suggested changes to the harvest strategy will ensure sustainability is taken care of using the new reference points, triggers and decision rules.
108. The 2019 stock assessment indicates that the TSPF tiger prawn stocks are not overfished and not subject to fishing with the stock biomass levels between 60-88% of unfished levels. Given the healthy stock status, the committee supported maintaining the TAE at the current level and recommended applying the TAE for three years, subject to monitoring CPUE against the recommended trigger levels.
109. ABARES raised discussion around the outputs of the stock assessment which had suggested a TAE reduction based on effort levels associated with maximum sustainable yield. It was noted that it doesn't make sense to reduce the TAE when the stock is increasing and well above target levels. Industry and AFMA acknowledged that this would force a lot of pressure onto industry for a restructure of the fleet when it isn't really needed.
110. AFMA explained that the new harvest strategy rules will allow us to continue to manage the fishery sustainably, within the current TAE. AFMA and the TSPMAC will monitor CPUE annually and consider further management action if the CPUE declines and the proposed harvest strategy triggers are reached.
111. The TSPMAC agreed to set the level at 9,200 days for 3 years, 2021, 2022 and 2023, noting it can be changed any time during, or between seasons if there is a risk to sustainability.

RECOMMENDATIONS

4.5.1 The TSPMAC **RECOMMENDED** that the PZJA set the Total Allowable Effort in the TSPF at 9,200 days for the 2021, 2022 and 2023 seasons.

4.5.2 The TSPMAC **NOTED** the Total Allowable Effort can be changed by the PZJA if needed within or between seasons by determination or emergency determination, if the stock assessment indicates a new Total Allowable Effort is required.

ACTION: AFMA to set TAE limit at 9,200 days for the 2021, 2022 and 2023 fishing seasons.

4.6 Species of interest and logbooks

112. The TSPMAC discussed options for collecting additional information on species of interest to the traditional sector.
113. The committee noted that there was an action from the last TRL working group (TRLWG) meeting, where the group raised concerns with the unknown

level of TRL that is taken (and their survival rates) by TSPF boats. The TRLWG are concerned with any unreported sources of mortality that may need to be taken into account in the stock assessment for the TRL fishery.

114. The committee clarified that it would be useful to know the numbers of TRL caught, including the month and location, even if they are released alive (noting that may not be a mortality source needing to be added to the TRL stock assessment), because it could add additional data to the stock assessment, knowing more about the migration patterns.

115. Despite the survivability study undertaken for TRL in the past, using catch, tag, recapture methods, there was concern from TIB members that more individuals may die than we currently know of. In their experience, TRL are very sensitive, and some that are hand caught die easily. AFMA reiterated that months later these individuals were found alive in the Gulf of Papua, but acknowledged there was still some uncertainty around individuals that may be injured in the trawl nets. Mr Turnbull also noted that they witness very little surface mortality during the study, when TRL were released, as sharks were more interested in the bycatch than TRL, which tended to go straight to the bottom.

ACTION: Ask the TRLWG to report back to the TSPMAC with their data needs, so we have an understanding of the data they are trying to gain, so we can work out the best methods for collecting this data in the fishery.

116. The committee agreed that AFMA should contact industry asking them to begin recording TRL take in their logbooks. There are only a small number of fishers so this should be fairly simple.

RECOMMENDATION

4.6.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC) **DISCUSSED** the species of interest to the traditional sector and consider the best way to monitor catch and release for these species.

4.6.2 The TSPMAC **RECOMMENDED** that AFMA contact fishers asking them to begin reporting TRL in their logbooks, including how many TRL are caught and released.

The chair closed day 1 of the meeting at 515pm.

Day 2 of the meeting was opened with a prayer.

117. The chair brought the focus of the meeting back to discussions about collecting better data on Threatened, Endangered and Protected Species (Agenda item 3.6) and species of interest, noting the observer program only

collects a small subset of data, which is indicating there is less reporting happening in the logbooks than we should expect.

118. The committee discussed the option of having crew member observers, similar to the Northern Prawn Fishery. Industry acknowledged it may be unlikely skippers would be willing to do this work, and we would more need to target owner/ operators. They also questioned if AFMA could rely on the data collected by crew. AFMA noted that we do rely on this data in the NPF, and do comparisons across trips and looking at species catch rates to check data.

119. AFMA noted that for this fishery, we are mainly wanting to get broad data on numbers of seasnakes, sygnathids and any take of sawfish. We could also add TRL, or the species of interest into this data collection. Because we wouldn't be doing measurements or weights, just a good estimate of numbers of individuals it's less onerous training, less costly, and less work for the data collectors.

120. The committee noted it may be difficult organising crew member observers in the TSPF, because there are only around 15 active boats, and no industry association to coordinate something like this.

121. They acknowledged the past discussions around training indigenous observers, and noted that this may be a good for collecting this data. The indigenous observer program was never progressed, as AFMA acknowledged they were welcome to apply for the observer program in the same was as other applicants, noting there are only around 30-50 days each year in the TSPF, which doesn't provide a lot of work for someone only working in this fishery.

122. This may be a good avenue to get a similar sort of program happening, but which is tailored specifically to the TSPF.

123. TIB members noted that the local communities have common and local knowledge of their species, so if we use the right names (local names), and there could be a lot of interest from younger people on the islands that are interested in marine science but aren't sure how to start. This could be a good avenue, and good for relationship building, and flow of benefits to communities. This will help them to have some ownership in the fishery to. They may also have opportunity to learn about fishing while they are onboard.

124. TIB members also acknowledged it may be good to have more senior community members initially to do this work, so they can then share the experience with young community members to explain what is involved, noting in the past there has been some difficulty maintaining interest from younger people working on trawlers. Mr Mosby and Mr David were both interested in this.

125. TSPMAC agreed the role would require collection of data on species of interest and TEP species, and AFMA would need to do some work to decide on a suitable target of days (i.e. 10%), and a training/ data collection protocol.

126. The TSRA noted that they may be able to co-fund TIB observers to undertake this role.

ACTION: AFMA to further develop protocols for an indigenous community member (or crew member) to collect data on TEPs and species of interest, including deciding on target levels.

4.6.3 The TSPMAC **RECOMMENDED** that AFMA work with the TSRA to further pursue options for an indigenous data collection program, which would collect basic data (quantities / individuals) on species of interest and TEP species.

4.7 Preliminary results of management strategy evaluation of different season dates

127. The TSPMAC noted progress against the research project exploring how changes to the start of the season impact on the value of the fishery, catches and profitability.
128. The project has come from differing views on the best time period for season dates in order to maximise profitability for the fleet.
129. The aims of the project are to:
    - build a stochastic length based tiger prawn stock size simulation model that can be used to investigate the impact of different season lengths and start/end dates.
    - Simulate different start/end dates to assess the impact on the relative value of the catch throughout the season and the possible effect that catching small prawns at the start of the season could have on catches later in the season.
130. The model will test the annual mean tiger prawn CPUE and convert it to dollars per night (using prawn grades and price data). We need to know dollars per night for different months, so as to suggest season dates that can maximise profitability across a range of scenarios (high or low effort seasons etc).
131. The project will use the stock recruitment relationship to calculate forward projections into 2019, based on different scenarios, with different data parameters.
132. Mr Turnbull is suggesting 4 scenarios be run,
    - Use the mean of the years 2016-19 to simulate a February season opening.
    - Use the mean of years the 2008-15 to simulate a March season opening.
    - Use (b) with the March effort redistributed into April and May; 80% to April and 20% to May, to simulate an April season opening.
    - Simulate a February season opening but with the highest proportion of effort in February then March. This simulates the “pulse fishing” at the start of a season that has frequently occurred after the introduction of a seasonal closure. This scenario has 0.2 as a proportion (or 20%) of the annual total in

February. March to October use the proportions from scenario (b) x 0.8 to scale them down and the remainder (1 – sum (February to October) is in November.

133. Mr Turnbull noted we could also look at high and low effort for each of these four options, making 8 options.

134. The Chair questioned whether the model would take into account the market being inundated with product, which generally leads to a large drop in product price. This level of information isn't taken into account in the model, but is looking at the best value we can get out of the fishery based on the current economics and prawn prices. It's designed to determine if an earlier opening could be putting a pressure on the stock and then reduce profits overall for the season. And could a later opening be better or worse, in this same regard.

135. Mr Turnbull explained that the size growth of the prawns is calculated using growth data from an old tagging study. It also in a sense, tracks individual prawn growth including males and females noting their differences in growth. This allows for variability, so this is more detailed than the other models used in the stock assessment.

136. The committee agreed the scenarios presented were suitable, and no others were suggested.

RECOMMENDATIONS

4.7.1 The TSPMAC **NOTED** the progress on a Management Strategy Evaluation of different season
opening dates for the TSPF.

4.7.2 The TSPMAC **DISCUSSED** the simulation scenarios and criteria being used to evaluate the
effect of varying the seasonal closure opening.

4.7.3 The TSPMAC **RECOMMENDED** the season dates MSE be progressed with the scenarios suggested by Mr Turnbull.

4.8 Outcomes and future potential extension work from research project "Improved TSPF profitability and pathways for a sustained flow of TSPF benefits to Torres Strait Island Communities"

137. The TSPMAC discussed the outcomes from the past research project exploring ways to improve profitability and pathways for a sustained flow of TSPF benefits to Torres Strait communities. The project listed a number of possible outcomes, and noted that most were considered unlikely to improve flow of benefits to communities.

138. At TSPMAC 18, the committee agreed that AFMA should present the results for discussion at this meeting, to see whether any suggested projects could be progressed, and how. The committee agreed that any suggested projects related to bycatch collection, for fishmeal or other purposes (bait) would not be feasible for industry or communities. The level of bycatch taken would be very hard to get to communities, and the profits from such an endeavour would likely be low if any.
139. The committee noted the desire from communities to have good access to fresh product directly from the boat.
140. The seafood branding project was pursued by the TSRA, and they are looking to tie this into the setup of the company discussed earlier in the meeting (the company looking after sunset licences for finifish and TRL).
141. The project suggested considering indigenous observers, and the committee noted it would be very beneficial to employ indigenous observers in data collection programs focusing on TEPS and species of interest. This will be explored further based on data needs and in accordance with actions under agenda item 4.6.3.
142. The TSRA discussed a year 11 and 12 program called growing our own, for people in school interested into going into maritime careers, to put them onto that pathway. They also have a year 13 traineeship.
143. TIB members also acknowledged that it could be good having a group of youths ready if they are short of crew at any time that could jump on board to work and help out. They shouldn't only limit the opportunities to these observer type roles, but as fisherman and crew.
144. Industry asked if there is an organisation they can call to get deckies. TIB members said they are unsure of the exact number right now because there has been a restructure. Mypathways is the main agency but it has recently rebranded itself. They also acknowledged going through the fishers association would be a good way of getting decent employees, as they can recommend reliable people for work. This is helpful for industry as sometimes they lose staff at the last minute, and it can be hard to get new crew from the mainland at short notice

ACTION: AFMA to work with TSRA to identify the best contact for TSPF licence holders to seek crew when needed.

RECOMMENDATIONS
4.8.1 That the TSPMAC **NOTED** the outcomes of the past research project "*Improved TSPF profitability and pathways for a sustained flow of TSPF benefits to Torres Strait Island Communities".*
4.8.2 The TSPMAC **DISCUSSED** the possible initiatives for improving flow of benefits in the fishery, identified through the research project, and their feasibility for progression.

4.8.3 The TSPMAC **RECOMMENDED** that three main ideas would be pursued:

- Ways to implement a community data collection program for the TSPF.
- Ways to improve pathways of communication for TSPF fishers to find crew from communities when needed, through using the local employment agencies and fishers associations.
- The seafood branding project which is already underway through the TSRA.

5 Finance

5.1 TSPF draft budget for 2020 season levies

145. AFMA explained that that draft budget would probably be available in a few weeks, and would be sent to TSPMAC out of session.

RECOMMENDATION 5.1.1 - The TSPMAC **NOTED** the draft budget would be distributed out of session for advice.

6 Other Business

6.1 Date and location of next meeting

146. The TSPMAC noted that the next meeting would be in 12-18 months, depending on progress for consultation and the draft amendments for the Harvest Strategy. There would be an out of session paper relating to the draft budget coming soon for consideration.

6.1.1

147. The TSPMAC **NOTED** that the TSPMAC Executive Officer will send dates for the next meeting once progress on consultation with the draft harvest strategy amendments are made.

6.2 Research priorities

148. The TSPMAC discussed the research priorities for the TSPF, which go into the five year rolling research plan. The next face to face meeting will be after the

next call for research, which occurs in November each year, so the plan needs to be updated now.

149. The TSPMAC made the following recommendations regarding research priorities:

- We should remove the current research project “Environment drivers of prawn recruitment in the TSPF and biomass including the impacts of climate change”, noting a broader Torres Strait climate change project is being carried out. They also noted catch rates are strong again so the question is not as relevant as when the project was raised.
- A TSPMAC ecological risk assessment also needs to be in the plan for the next five years. This may either use the AFMA standard ERA methodology, or an updated sustainability assessment.
- A management strategy evaluation (MSE) of the harvest strategy triggers and decision rules should be added on year five, noting it can be moved back if it isn’t needed. An MSE is recommended at some stage regarding the proposed HS triggers and decision rules.
- The committee agreed that the proposed community (indigenous) data collection program should be placed in the research plan, as a pilot study. This could include the training program and salary component. AFMA would need to explore whether this is something that could be funded through the TSSAC, and the best way to seek funding, as generally any TSPF projects seeking TSSAC funding have to be paid 75% by industry. TIB members commented that because the project is benefiting communities, maybe we can explain it should be treated differently other TSPF projects. The TSRA acknowledged they may be able to co-fund the project.

ACTION: AFMA to update the five year fisheries rolling research plan and send to TSPMAC for review out of session.

150. The Chair thanked members and observers for being in attendance at the meeting.

151. The meeting was closed with a prayer at 1145am.

ACTIONS arising from TSPMAC 20 and ongoing actions from past TSPMAC meetings

Item number	Action	Responsibility	prog
ACTION 20.1	AFMA to assist TSRA to provide list of season closure dates and areas in next update to communities.	AFMA	
ACTION 20.2	AFMA to work with Mr Turnbull and the AFMA logbook team to identify what the ungraded category is and update before putting in the data summary.	AFMA	
ACTION 20.3	Present results of BRD trials to communities, following the second trail. This may be best done during TSRA or AFMA community visits.	AFMA and TSRA	
ACTION 20.4	AFMA to check with compliance that they are measuring nets during compliance boarding's on TSPF boats.	AFMA	
ACTION 20.5	Consult with TSPMAC following section BRD trial to decide on a way forward for amending allowable BRDs.	AFMA	
ACTION 20.6	AFMA to finalise the draft amended harvest strategy which will be sent for consultation to TSPF licence holders, and use for consultation with communities in 2020.	AFMA	
ACTION 20.7	AFMA to set TAE limit at 9,200 days for the 2021, 2022 and 2023 fishing seasons.	AFMA	
ACTION 20.8	Ask the TRLWG to report back to the TSPMAC with their data needs, so we have an understanding of the data they are trying to gain, so we can work out the best methods for collecting this data in the fishery.	AFMA	
ACTION 20.9	AFMA to further develop protocols for an indigenous community member (or crew member) to collect data on TEPs and species of interest, including deciding on target levels.	AFMA	
ACTION 20.10	AFMA to work with TSRA to identify the best contact for TSPF licence holders to seek crew when needed.	AFMA	
ACTION 20.11	AFMA to update the five year fisheries rolling research plan and send to TSPMAC for review out of session.	AFMA	
ACTION 20.12	TSPF industry members to provide fuel and beach product price data to Clive Turnbull for use in the data summary and future harvest strategy monitoring	Industry	
Actions from past meetings			

ACTION 18.19	AFMA to work to review the observer protocols to be sure the data being collected is still relevant.	AFMA	**Ongoing** progress work.
ACTION 18.12	AFMA to consider steps to remove the five boat rule policy for TSPF as industry are not generally concerned. Send a letter of question to industry.	AFMA	**Ongoing** which is Common boat rule reticent t one fishe would ne consult w determin across al

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
REPORTS **AFMA management update**	**Agenda Item No. 3.3a** **FOR NOTING**

RECOMMENDATIONS

3.3.1 That the TSPMAC **NOTE** the updates provided by the Australian Fisheries Management Authority (AFMA) member, in particular:

a) The update on the legislative amendments to the *Torres Strait Fisheries Act 1984*.
b) The update on the most recent Australian Bureau of Agricultural and Resource Economics (ABARES) fisheries status report for the Torres Strait Prawn Fishery (TSPF).
c) Information on the Commonwealth Minister for Agriculture, Fisheries and Forestry, and Chair of the Protected Zone Joint Authority (PZJA).
d) The update on observer coverage for the 2019 to and 2021 fishing seasons for the TSPF.
e) Update on compliance activities for 2020 to 2023.

KEY ISSUES

Legislative Amendments

1. AFMA continues to progress amendments to the *Torres Strait Fisheries Act 1984* and *Torres Strait Fisheries Regulations 1985* as resources and priorities permit. The amendments will provide improvements to the efficiency and effectiveness of fisheries administration in the Torres Strait.

2. AFMA intends to undertake public consultation on the amendments in early 2023.

3. The intention is to introduce the *Torres Strait Fisheries Amendment Bill 2023* into Parliament in the Winter sittings of 2023, subject to government approval. A summary of the amendments will be provided at that time.

ABARES Fishery Status Reports

4. Each year, the ABARES compiles fishery status reports which provide an independent assessment of the biological status of fish stocks and the economic status of fisheries managed, or jointly managed, by the Australian Government (Commonwealth fisheries).

5. The most recent ABARES Fishery Status Reports were released in 2021 and summarise the performance of the TSPF in 2019 and 2020 and over time, against the requirements of fisheries legislation and policy. The reports assess all key commercial species from Commonwealth fisheries and examines the broader impact of fisheries on the environment, including non-target species.

6. In summary, the most recent biological status for the TSPF are below. It should be noted that the "uncertain" rankings against endeavor prawn are related to the absence of a recent stock assessment, despite the stocks appearing at a healthy level when catch rates are considered.

7. AFMA and ABARES have suggested working with Clive Turnbull, the TSPF stock assessment scientist, to determine simple analysis that could be completed to allow ABARES to assess the endeavor prawn fishery, to remove the uncertainty around the stock.

8. ABARES fishery status reports can be accessed on the ABARES website at: Torres Strait Prawn Fishery - DAFF (agriculture.gov.au).

Stock	2019		2020		Comments
	Fishing mortality	Biomass	Fishing mortality	Biomass	
Biological status					
Brown tiger prawn (*Penaeus esculentus*)	Not subject to overfishing	Not overfished	Not subject to overfishing	Not overfished	Latest assessment indicates that catch is below maximum sustainable yield. Biomass is above the limit reference point.
Blue endeavour prawn (*Metapenaeus endeavouri*)	Uncertain	Uncertain	Uncertain	Uncertain	Uncertainty in estimates of biomass and fishing mortality because of the significant time since the last stock assessment.
Economic status					
Recent estimates of NER are not available. High latent effort due to prevailing market conditions suggests NER for the fishery are likely low. Biomass for key species relatively high. The low-cost approach to managing fishing effort with triggers appears appropriate.					

New Assistant Minister

9. On 01 June 2022, Senator the Hon. Murray Watt was sworn in as the Minister for Agriculture, Fisheries and Forestry Minister and Minister for Emergency Management. In his position, Senator Watt will serve as the Chair of the PZJA.

Observer program update

10. The TSPF observer program aims to complete observer days which equate to 2.6% of the actual effort that occurs in the fishery each season. As observer days are budgeted based on financial year, not season (calendar year) AFMA monitors days to achieve the target as closely as possible.

11. Budgeted versus actual observer sea days for the past three financial years are shown in table 1. Observer sea days have been down against budget over this period due to the impacts of COVID-19. In 2020 AFMA prioritised observer deployments on high priority and/or high-risk trips as a primary mechanism to mitigate the risk of observers contracting and/or spreading COVID-19. In 2021 deployments continued to be disrupted due to restricted movement within Australia, in particular into remote and vulnerable communities. With the reduction of COVID-based restrictions for the 22/23 financial year, it is anticipated that the program will meet coverage requirements.

Table 1. Actual observer sea days for the financial years 19/20, 20/21 and 21/22. Note around 50 days have been budgeted since the 2020-21 financial year, however due to COVID-19 were not achieved the last three years.

Fishing season	Observer Sea Days Achieved	Days Fished	Percentage of Days Fished
2019	51	2627	1.94
2020	21	1033	2.03
2021	21	1246	1.69
2022	20	~1315 to date	1.52

Observer coverage

AFMA would like to thank license holders who continue to accommodate the observer program. Three previously unobserved vessels were able to carry observers between 2019 and 2022. Crew were very accommodating and assisted wherever possible to enable the observer to carry out their duties.

The ongoing cooperation of license holders, and gaining a broad reach of observer coverage across vessels has the following purposes:

- Observer data is required to maintain approval to export product to the United States of America (2.6% observer coverage is a requirement of this).
- To provide data for the fishery to assist in making management decisions, particularly around Threatened, Endangered and Protected (TEP) species.
- Collect information on species of interest to the traditional sector to manage interactions with these species.

Table 2. Boats that have participated in the TSPF observer program in 2007-2022.

BOAT	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Judy B	X															
Advantage													X	X		
Angelina S					X							X				
Aquarius 6	X															
Avenger1										X						
Barbarian															X	
Relentless		X		X		X	X									
Danny B										X	X					
Darden Star	X															
Samantha J	X	X														
Bounty	X		X													
Gulf Bounty						X										
Vandarlia		X	X													
Proteus							X		X							
Kamissa Lee							X									
Shell-Lee-N								X		X			X			
Bollanger								X								
Noalimba K											X					
CP Jane												X				
Markina												X				
Iron Cassia																X
Maggie Jo											X		X			

Species of interest to the traditional sector

In 2010, a list of 10 species of interest to the traditional sector was compiled (Table 2) by the TSRA and traditional inhabitant members on TSPMAC. Observations of these species are now recorded during observer trips. In addition to the nine species listed in Table 3 below, interactions with TEP species such as turtles are also recorded (Table 4).

At TSPMAC 13 in December 2012, the TSPMAC agreed that a report should be provided on interactions with these species at each meeting. Tables 3 and 4 list the interactions with these species of interest, and other TEP species during the 2019-2022 fishing season.

Table 3. Species of interest to the traditional sector – interactions during observer trips in 2019-2022. **Note:** 2022 data is not yet available noting the season is still in progress and may include one more observer trip.

Scientific Name	Common Name	2019			2020			2021		
		Number Caught	Alive	Dead	Number Caught	Alive	Dead	Number Caught	Alive	Dead
Panulirus ornatus	Ornate Crayfish	518	509	9	0	0	0	25	25	0
Mugil cephalus	Sea Mullet	0	0	0	0	0	0	0	0	0
Siganus lineatus	Goldlined Rabbitfish	0	0	0	0	0	0	0	0	0
Choerodon Schoenleinii	Black spot Tusk Fish / Parrot fish	0	0	0	0	0	0	0	0	0
Epinephelus quoyanus	Gold Spot Rockcod / Long fin rockcod	0	0	0	0	0	0	0	0	0
Plectorhinchus chrysotaenia	Painted Sweetlip / Goldlined Sweetlips	0	0	0	0	0	0	0	0	0
Diagramma labiosum	Painted Sweetlip / Slatey Bream	4	0	4	0	0	0	0	0	0
Cephalopholis sonnerati	Tomato Cod	0	0	0	0	0	0	0	0	0
Acanthurus dussumieri	Pencil Surgeonfish	0	0	0	0	0	0	0	0	0
Naso unicornis	Bluespine Unicornfish	0	0	0	0	0	0	0	0	0

Table 4. Recorded interactions with TEP species during 2019-2022 fishing season observer trips. *2022 data is not yet available noting the season is still in progress and may include one more observer trip.

Scientific Name	Common Name	2019			2020			2021		
		No. Caught	Alive	Dead	No. Caught	Alive	Dead	No. Caught	Alive	Dead
Anoxypristus cuspidata	Narrow Sawfish	2	1	1	0	0	0	0	0	0
Pristidae sp.	Sawfish	0	0	0	1	0	1	0	0	0
Hydrophis elegans	Elegant Sea Snake	5	3	2	25	14	11	5	4	1
Hydrophis ornatus	Ornate Sea Snake	21	12	9	0	0	0	5	3	2
Disteira major	Olive Headed Sea Snake	1	1	0	1	0	1	1	1	0
Disteira kingii	Black Headed Sea Snake	3	2	1	0	0	0	0	0	0
Acalyptophis peronii	Horned Sea Snake	1	0	1	4	4	0	4	4	0
Aipysurus eydouxii	Stagger Banded Sea Snake	1	1	0	0	0	0	0	0	0
Hydrophis stokesii	Stokes Sea Snake	1	0	0	1	0	1	1	1	0
Aipysurus laevis	Olive Sea Snake	2	2	0	0	0	0	0	0	0
Trachyrhamphus longirostris	Slender Pipefish	3	0	3	2	0	2	0	0	0
Halicampus sp.	Pipefish	1	1	0	0	0	0	0	0	0

AFMA Compliance report for Torres Strait Prawn Fishery 2020-22

1. AFMA has been delivering domestic compliance functions in the Torres Strait in accordance with the National Compliance and Enforcement Program. There were four compliance officers based in the Thursday Island office delivering both domestic and foreign compliance outcomes through-out the 2 years.
2. In March 2020, all AFMA field duties were suspended due to COVID-19, however AFMA continued to monitor fishing operations via electronic means including vessel monitoring systems (VMS), remote monitoring, surveillance, intelligence and other sources of data.
3. In late 2021 AFMA recommenced BAU operational field activities and continues to conduct these activities in accordance with best practise, mandatory social distancing, and hygiene and in accordance with guidelines developed for field activities.
4. During 2021 5 TSP vessels committed offences against the TSFA. 4 vessels were alleged to be fishing in PNG waters, and another offence relating to vessel tracking. After further investigation, these matters were dealt with through education and cautions.
5. One (1) at sea inspection was conducted during 2021 of a TSP vessel. Five (5) at sea and port inspections were conducted in 2022 of TSP vessels. Future targeted operations planned.
6. To target priority risks in Torres Strait fisheries, AFMA have established a specialised multi-disciplinary Compliance Risk Management Team (CRMT). Identified priority risks specific to the Torres Strait include; unlicensed fishing, unlicensed fish receiving and non-compliance with catch/landing reporting to AFMA. Retaining/Catching no take/restricted species.
7. Compliance continues to educate and raise awareness of retention of by-product and legislative requirements in particular;
   - Retention of Tropical Rock Lobster (TRL) and shark is prohibited
   - Moreton Bay Bug (75mm minimum carapace width)
   - 20kg max bag limit of finfish
   - BRD's and TED's to be fitted as per legislation.
   - Report all interactions with certain species as per legislation
8. Further details are contained in AFMA's National Compliance and Enforcement Program document accessible on the AFMA website at: https://www.afma.gov.au/domestic-compliance. This document explains AFMA's compliance program priorities and objectives for the 2021-2022 financial year.
9. All stakeholders are encouraged to report any suspicious or illegal fishing activity involving your fisheries to AFMA, either directly to our Torres Strait office or CRIMFISH (1800 274 634)

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21 29-30 November 2022**
REPORTS QDAF update	**Agenda Item No. 3.3b FOR NOTING**

RECOMMENDATIONS

3.3.1 The TSPMAC **NOTE** the update provide by the QDAF member

KEY ISSUES

1. Reforms to the East Coast otter Trawl fishery commenced on 1 September 2021 and established the regionalisation of the fishery
2. Scallops are a no take species along the majority of the east coast of Queensland
3. Further reforms to the fishery commenced on 1 November 2022 and included changes to effort caps and regional closures.
4. Four new stock assessments have commenced for tiger prawns, endeavour prawns, red spot king prawns and Moreton bay bugs.

DISCUSSION

Queensland East Coast Otter Trawl Fishery

Reforms to the trawl fishery commenced on 1 September 2021

Sustainable catch limits

- five management regions established based on target species.
- Existing effort units reallocated into regions.
- regional effort caps set based on at least achieving maximum sustainable yield and adjust these as needed through approved harvest strategies to achieve 60% biomass targets.
- Routine stock assessment processes in place with Scallops, Eastern King Prawns and Tiger Prawn assessments completed. Red Spot King Prawns and Moreton Bay Bugs to be completed in 2022.

Reduce unnecessary regulations

- 120 hull unit maximum (but maintain the 20m maximum length) to allow for greater vessel safety and extend the current effort unit / hull unit relationship beyond 70 hull units
- remove the current horsepower limit.

- Vessels measured according to NSCV requirements

Scallops

- The 2021 stock assessment (using data up to October 2021) found the scallop biomass to be 15 per cent of unfished levels. According to the Government's Harvest Strategy Policy, and consistent with the Sustainable Fisheries Strategy 2017-2027, a biomass below 20 per cent is the limit reference point at which targeted fishing for the stock must cease and a rebuilding strategy be developed to rebuild the biomass to a sustainable level that would enable fishing to recommence.
- From 1 November 2021 the following management arrangements were implemented:
  - no take or possession of scallops in the Southern Inshore and Central Trawl Regions until the conditions within the rebuilding harvest strategy, including (amongst other conditions to be determined through a review of the harvest strategies) a minimum of 30 per cent biomass level is reached
  - access to scallops in the Southern Offshore Trawl Region will be from 20 January to 1 May (a shorter season) with no scallop effort cap in place
  - fishers required to land scallops before fishing in the Southern Inshore or Central Trawl Region and will be able to steam across the Southern Inshore and Central trawl regions with scallops on board if they always remain above a speed of 5 knots
  - fishing for other trawl species (e.g., prawns, bugs) would continue in all regions and be managed under the new harvest strategies commencing on 1 September 2021
  - the Southern Inshore Trawl Region will have a no fishing closure in place from 20 September until 1 November and from 23 December until 3 January
  - the existing 20 September to 1 November Southern Regional Regulated Waters closure will continue in 2021. The deepwater area (outside 50 fathoms) will not be closed during this period. This means fishers can fish for other species (except scallops) from 1 November in the Southern Offshore region inside 50 fathoms and they are able to retain scallops from 20 January
  - the Scallop Replenishment Areas remain closed.
  - Fisheries Queensland has committed to ongoing fishery-independent surveys and stock assessments to track stock recovery and inform the process to re-open the take of scallops once biomass targets and reopening conditions are reached.

Fishery Changes for 2022/2023

Trawl region	Description	Details
Northern	2023-24 effort cap	250,178 effort units commencing 1 March 2023
Central	2023-24 effort cap	318,584 effort units commencing 1 March 2023
Southern inshore	2023-24 effort cap	204,102 effort units commencing 1 November 2022
	70% 24-days-per-month trigger	When 70% of the effort cap is reached, fishers in the region will be restricted to 24 days per month.
Southern offshore	Deep water (full region) closure	Closure of the whole southern offshore region from 20 September to 31 October, commencing 20 September 2023.
	Strip closure change	Amendment of the Caloundra-Moreton strip closure.
	Strip closure change	Amendment of the South Stradbroke Island closure and change to 1 January to 1 March only.
	Strip closure change	Introduction of the North Reef closure from 20 September to 1 March.

Stock Assessments

Four new stock assessments have commenced for Tiger prawns, red spot king prawns, endeavour prawns and moreton bay bugs. Outputs of these assessments will be available in early 2023 and used to set regional effort caps for the 2023/2024 fishing seasons predominantly in the northern and central trawl regions.

Ecological Risk Assessments

The WTO approval now requires the ECOTF ERA to be updated using protocols outlined in the Queensland Ecological Risk Assessment Guidelines. This update needs to be completed and published by 30 November 2023.

The ERA Guidelines (the Guideline) were released in March 2018 and describe a four-stage ERA process that progresses from descriptive scoping studies to

qualitative whole-of-fishery (Level 1) assessments, species-specific semi-quantitative (Level 2) assessments and fully quantitative (Level 3) assessments where necessary.

As there is already a good understanding of the broader (fishery-wide) risks posed by trawl fishing activities, the ECOTF was progressed directly to a Level 2 or species-specific assessment. This assessment will be supported by an updated Scoping Study which will provide baseline information for the fishery.

Fisheries Queensland has adopted a staged assessment approach for the ECOTF ERA update. A staged-ERA approach has been used effectively in other fisheries and priorities risk assessments for key species or species complexes.

Phase 1 of the ECOTF ERA update will focus specifically on Threatened, Endangered and Protected (TEP) species and other non-target species with ongoing conservation concerns. These species were viewed as assessment priorities for the ECOTF and include marine turtles, sea snakes, syngnathids and a range of sharks, skates, rays and stingarees.

When and where appropriate, Phase 1 of the ECOTF ERA will be built on through additional assessments examining the risk posed to a more diverse group of species. While these assessments may include a more diverse array of bycatch, byproduct and target species, the scope and extent of these assessments will depend on a range of factors e.g. their conservation status, sustainability trends, cumulative fishing pressures and harvest strategy effectiveness.

In accordance with the Guidelines, the ECOTF ERA will be updated using a Productivity & Susceptibility Analysis (PSA). The PSA considers the biology / life-history constraints of each species (Productivity) and how a species interacts with the fishery (Susceptibility).

Fisheries Queensland has now commenced work on Phase 1 of the ECOTF ERA update. A preliminary list of 161 species were identified as potential inclusions in an updated ECOTF ERA. This list was subsequently refined to 64 species that Fisheries Queensland now recommends be progressed to an initial assessment.

Wildlife Trade Operation Approval

The Commonwealth Government have declared the fishery an approved Wildlife Trade Operation (WTO) under Part 13A of the EPBC Act until 20 December 2024.

Significant conditions are included such as the requirement to have independent data validation programs for the fishery in place by 2024.
https://www.awe.gov.au/environment/marine/fisheries/qld/east-coast-otter-trawl

FINANCIAL IMPLICATIONS
N/A

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21 29-30 November 2022**
REPORTS TSRA update	**Agenda Item No. 3.3c FOR NOTING**

RECOMMENDATIONS

3.3.1 The TSPMAC **NOTES** the items raised by TSRA member under KEY ISSUES below.

KEY ISSUES

1. A series of Torres Strait fishing workshops was recognised as a finalist at the National Seafood Industry Awards 2022 in Brisbane. The Torres Strait Regional Authority (TSRA) and Fishwell Consulting progressed from state to national finalists in the People and Development category for their fisheries workshops with Traditional Owners from across the region. They received the People Development Award for this work focussed on capacity building of local people and communities to support sustainable seafood stock and fishing industries in northern Australia waters. The workshops were funded by TSRA and the Department of Climate Change, Energy, the Environment and Water.
2. The WAPIL project (Fishing for our Future) has slipped significantly mostly due to land access issues for facilities and is being reviewed. Suggested improvements in implementation and approaches will be discussed at the WAPIL Steering Committee meeting November 17th. The potential benefits for the FF and RL fisheries relate to improved and increased capacity for cold chain sea food storage, processing, and transport; commercial fishing operations and skills development; business planning and development and increased employment opportunities.
3. *The Torres Strait Regional Adaptation and Resilience Plan 2016-2021* is being updated and details how climate change will impact the region's communities and land and sea country, and what steps can be taken to reduce the likely impacts to ensure the region has a strong viable future. The report focuses on the impacts and vulnerabilities across five dimensions of climate change resilience including human, financial, natural, physical, and social capital climate change adaptions, and mitigations. This updated report will complement the CSIRO scoping study and proposal for funding on climate change and variability, and the AFMA planned climate change data incorporation into fisheries management.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
Reports **Data report (Clive Turnbull)**	Agenda Item No. 3.5 **FOR DISCUSSION**

RECOMMENDATIONS

4.6.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC)

[CONTENT TO BE FINALISED]

KEY ISSUES

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TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
MANAGEMENT **Outcomes of the Tom's Fisheye bycatch reduction device (BRD) trials and changes to allowed BRDs in the TSPF**	**Agenda Item No. 4.1** **FOR DECISION**

RECOMMENDATION

That the Torres Strait Prawn Management Advisory Committee (TSPMAC):

4.1.1 **NOTES** the summary of results from the three Torres Strait Prawn Fishery (TSPF) Tom's Fisheye (TFE) Bycatch Reduction Device (BRD) trials undertaken in 2019, 2020 and 2022 (Attachment 4.1A).

4.1.2 **NOTES** the trials occurred following a recommendation from the TSPMAC at meeting 18 in January 2018.

4.1.3 **DISCUSSES** whether the TFE should be approved as a BRD in the TSPF, and how it should be introduced.

4.1.4 **DISCUSSES** whether the other three BRDs approved for the Northern Prawn Fishery (NPF) (Kon's covered Fisheyes, FishX and Popeye Fishbox) should be introduced to the TSPF, and if data collection of effectiveness should be undertaken.

4.1.5 **DISCUSSES** and **RECOMMENDS** which existing TSPF BRDs should remain as allowable devices and which should be removed.

4.1.6 **DISCUSS** the steps needed to mirror any future changes to BRDs in the Queensland East Coast Otter Trawl Fishery (ECOTF).

KEY ISSUES

1. Some of the BRDs used in the TSPF are known to be less efficient than BRDs approved in other fisheries targeting similar species, for example, the Northern Prawn Fishery (NPF).

2. The *TSPF Management Plan 2009* (the management plan) requires BRDs to be efficient in reducing bycatch while minimising prawn loss in addition to regular BRD reviews. To meet these requirements AFMA stated, at TSPMAC 18, an intention to introduce more effective BRDs to the TSPF, like those approved for the NPF, and remove less effective BRDs.

3. Four industry tested BRDs have been approved for the tiger prawn fishing season (August-December) in the NPF. These include Kon's Covered

Fisheyes (KCF), FishEX 70, Popeye Fishbox (when within 70 meshes of the cod-end drawstrings) and TFE.

4. NPF BRDs have been demonstrated to reduce bycatch by at least 30% when compared to square mesh panel (SMP) BRDs, without loss of prawn catch (see Attachments 4.1B and 4.1C). Of the 4 approved NPF BRDs, the TFE has been found to be the most effective, with a mean reduction of 44% compared to the SMP.

5. Although the TSPF would be expected to have similar results to the NPF (in reducing bycatch and maintaining prawn catch levels), the TSPMAC recommended *"that a trial be undertaken in 2019, using the most effective BRD identified (Tom's Fisheye) through the NPF trial this year. The trial should be completed on one or two licence holders' boats".* This recommendation was made in recognition of the different areas the fisheries operate across and slightly different gear.

6. Trials of the TFE were undertaken on three different boats in the TSPF in 2019, 2020 and 2022. Two trials compared the BRD to standard Fisheye excluder device (FIS), and one to the SMP, similar to the NPF trials.

7. The effectiveness of the TFE varied between each boat trial for bycatch reduction, prawn retention and sea snakes (results for sea snakes discussed below).

8. Combined results from the three trials demonstrated bycatch reduction of 18.98% when using the TFE compared to the FIS or SMP, a prawn differential of -2.83% and a reduction in sea snake observations.

9. Results for sea snake interactions varied across the trials. Two of the trials observed 1 additional sea snake in the TFE nets compared to the control nets. The third trial observed a much lower number of sea snakes in the TFE net (10) compared to the control net (21).

10. As expected with BRDs designed to specifically reduce fish bycatch, the TFE was more effective in areas where finfish bycatch was predominant, compared to areas where benthic species were observed (e.g. crabs and scallops). Benthic species are less likely to escape through the TFE.

11. In order to ensure the PZJA is meeting its obligations under the management plan, and objectives of the Bycatch and Discard Workplan, the TSPMAC is asked to discuss steps to introduce the TFE BRD and/or other approved NPF BRDs in the TSPF (and remove old less effective BRDs). Alternatively, TSPMAC should discuss other mechanisms to continually improve methods of manage bycatch in the fishery.

12. The committee should also discuss steps and timings necessary to adopt similar arrangements in the Qld ECOTF. As most TSPF boats are dual endorsed, licence holders will have difficulties operating in fisheries with different BRD requirements.

BACKGROUND

13. It is mandatory for all licence holders to have one of the 6 approved BRDs fitted to all fishing nets when fishing in the TSPF (*Fisheries Management Notice No. 82*). Approved BRDs in the TSPF including;

    a) Square mesh cod-end

    b) Square mesh panel

    c) Fisheye

    d) Bigeye

    e) Popeye fishbox (max 95 meshes from the cod-end drawstring),

    f) Radial escape section

14. These BRDs were all removed from the NPF tiger prawn fishing season when new BRDs (see dot point 3. above) were introduced. The Popeye fishbox is approved in the NPF providing it is a maximum of 70 meshes from the cod end. These BRDs were introduced to the NPF in a staged approach, where one of the four new BRDs were required in 50% of their nets as a trial in 2018 and 2019. They were then mandatory in all nets from 2020 onwards in the tiger prawn fishery.

15. The BRDs approved for the tiger prawn fishery in the NPF have been demonstrated to decrease bycatch volume and weight which increases vessel fuel efficiency, increases area swept (by maintaining doors at optimal spread) and reduces damage to commercial product. Product and bycatch processing times are also reduced, reducing the time period for freezing commercial product.

16. The TFE was found to be the most effective of the four devices in the NPF with a mean reduction of 44%. There was no significant difference in prawn catch found between the new BRDs and square mesh panel (i.e. no notable decrease or increase in prawn catch, despite an actual small but statistically insignificant decrease in prawn catch (Attachments 4.1 B and C)).

17. At TSPMAC 20, the committee discussed "*the need to have consistent arrangements across both the TSPF and Qld ECOTF, as all but 2 boats are dual endorsed. Without this consistency it would be very difficult for fishers, who fish both fisheries in a year*".

18. The Qld member confirmed "they (QDAF) only need confidence that any new BRD is effective for seasnakes, and fisheyes have been the most effective at this. However, new fisheye versions should still be effective".

DISCUSSION

19. The PZJA and TSPF industry has an obligation to continue to improve bycatch reduction in the TSPF, in line with the Management Plan objectives and bycatch and discard workplan.

20. Although the data from the three trials in the TSPF has not undergone statistical analysis, raw data and the simple summary suggests the TFE BRD is consistently more effective at reducing bycatch than the SMP and FIS BRDs in the TSPF. In addition, prawn loss (when it does occur) tends to be minimal, and/or less than the natural variation in prawn catch observed between the port and starboard net placements. More information on these concepts is detailed in the summary report (Attachment 4.1C).

21. Although only one of the four approved NPF BRDs has been trialled in the TSPF, it may be reasonable to assume that the NPF trial outcomes would apply to the TSPF. The TSPMAC should discuss this idea, and whether all four BRDs could be introduced, and if so, whether the PZJA should require some simple data collection by fishers who adopt either the KFC, FishX, Popeye fishbox (installed at 70 meshes from the cod-end drawstrings) devices. If these devices are allowed in the TSPF without formal testing, AFMA recommend licence holders be required to collect basic data on their effectiveness for 1-2 seasons. This data could be similar to that which was required for the boats that continued to use the TFE BRD following formal observer trial as detailed in Attachment 4.1D.

22. Given the low effort and thus fishery profits, using NPF BRD research, where appropriate, will also provide cost efficiencies for fisheries management in the TSPF.

FINANCIAL IMPLICATIONS

23. A TFE BRD costs around $500-600 per BRD. BRDs do not need replacing regularly, however may require replacing periodically due to damage or lost gear. This cost is born by individual licence holders.

ATTACHMENTS

4.1A – TSPF BRD trial summary

4.1B – Kon's covered fisheyes NPF BRD trial report

4.1C –BRD trial results NPF

4.1D – data which could be collected with information BRD trails

Attachment 4.1 D – questions to be completed by boats continuing to use the Tom's Fisheye following completion of AFMA observer led trial

Informal trial of bycatch reduction devices

Thankyou for providing some information to AFMA about how your trial of the Tom's Fisheye BRD is going. We would like to get this information from you twice during the season (half way and in December) if you are using the AFMA provided Tom's Fisheye BRDs. If you'd rather speak to AFMA than write your responses, contact Lisa Cocking on 02 6225 5451 or email lisa.cocking@afma.gov.au to arrange a time to chat.

Could you please provide the following information twice a year (in June/ July and December):

1. Which BRDs have you been using in how many nets?
2. Have the BRDs swapped sides (port and starboard) or stayed in the same place? If they were swapped, did you notice a difference on each side?
2. Did you notice an overall reduction in bycatch using the Tom's Fisheye BRD, compared to your regular BRD?
3. Did you notice an overall noticeable increase in prawn catch (reduced prawn loss) when compared to your regular BRD? Conversely, did you notice you had greater prawn loss in the test BRD?
4. Were there any anomalies you noticed during the fishing period. For example, there may have been an overall decrease in bycatch using the trial BRD, however on 1 or 2 occasions you noticed a lot more fish bycatch in the net with the test BRD than the other nets. If so, provide a little bit of information about what you noticed, and if you have any ideas about why this may have occurred (ie a blockage in the net).
5. Did you notice any change to the number of seasnakes you catch in the Tom's Fisheye (more or less overall)?

6. Is there any feedback you have about whether you like the test BRD or not, or anything you've noticed about how well it works for you?

TSP BRD TRIAL SUMMARY (DRAFT)

Ben Liddell and Henry Wilson

An experimental bycatch reduction device (BRD) (approved in the NPF) known as Tom's Fisheye (TFE) was trialled in the Torres Strait Prawn (TSP) fishery. These trials spanned a three year period, across three separate trips on three different vessels.

Two trials (vessels 'Maggie Jo' and 'Advantage') compared the TFE with a standard fisheye (FIS) and the third trial (vessel 'Iron Cassia') compared the TFE with a square mesh window (SMW) BRD.

Experimental design and data collection protocols aimed to assess the effectiveness of the TFE device in reducing unwanted bycatch and assess if the device resulted in any significant gain/loss of retained product compared to the currently approved (FIS and SMW) devices.

All vessels were fitted with quad otter trawl gear and during the trials it was impractical to weigh and sort each codend separately. Therefore, catch was separated by side (two codends combined).

TFE's were fitted to two nets on one side of the vessel and the control (FIS or SMW) fitted to the other two nets on the opposite side.

Total retained catch and discarded bycatch was weighed from each side of the vessel to facilitate BRD catch comparison.

To account for variation in net fishing efficiency, BRDs were rotated from nets on one side to the other after a sufficient number of valid shots were conducted on each side.

RESULTS

It should be noted that the following figures were taken from the raw data (excluding a number of shots where gear malfunction or TED obstruction resulted in catch loss) and further statistical analysis may be required to provide more accurate results.

'MAGGIE JO' TRIAL (TFE vs FIS)

Bycatch

- 27 valid shots
- 11 valid shots with TFE's on port side and 16 with TFE's on starboard.
- Random number generator employed to remove 5 shots from starboard side to ensure even number of shots for comparison (shots 1, 3, 10, 12 and 13 removed).
- Bycatch total TFE = 2486.5kg
- Bycatch total FIS = 2960kg
- Overall bycatch reduction 16%

Retained Catch (Prawns)

- 27 valid shots.

- 11 valid shots with TFE's on port side and 16 with TFE's on starboard.
- Random number generator employed to remove 5 shots from starboard side to ensure even number of shots for comparison (shots 1, 3, 10, 12 and 13 removed).
- Retained prawn total TFE = 814.5kg
- Retained prawn total FIS = 810kg
- Overall prawn differential = + 0.56% with TFE
- Prawn % of catch
    - TFE = 24.67%
    - FIS = 21.49%

Additional Notes

- The reduction in bycatch weight variance between the two devices in shot 26 and 27 could likely be attributed to the area the vessel moved to after shot 25. The substrate was harder, with less pelagic finfish (eg. trevally, ponyfish) which are typical of the species excluded with the TFE. The area contained more crabs, catfish, and scallops which are less likely to escape through the TFE.

'ADVANTAGE' TRIAL (TFE vs FIS)

Bycatch

- 42 valid shots.
- 20 valid shots with TFE's on port side and 22 with TFE's on starboard.
- Random number generator employed to remove 2 shots from starboard side to ensure even number of shots for comparison (shots 8 and 18 removed).
- Bycatch total TFE = 5768.56kg
- Bycatch total FIS = 7086.09kg
- Overall bycatch reduction 18.59%

Retained Catch (Prawns)

- 42 valid shots
- 20 valid shots with TFE's on port side and 22 with TFE's on starboard.
- Random number generator employed to remove 2 shots from starboard side to ensure even number of shots for comparison (shots 8 and 18 removed).
- Retained prawn total TFE = 1580.54kg
- Retained prawn total FIS = 1681.8kg
- Overall prawn differential = -6.02% with TFE
- Prawn % of catch
    - TFE = 21.51%
    - FIS = 19.18%

Additional Notes

- It was noted that the TFE had varying effectiveness over different fishing grounds. For example, whilst fishing the grounds around Dalrymple Island, the bycatch included more fish and the TFE nets on average had 21% less bycatch than the standard FIS. However, whilst fishing grounds in the vicinity of Aureed Island the TFE nets on average had a 7% reduction in bycatch. This is likely attributed to less fish bycatch within the Aureed fishing grounds and the presence of more scallop and crustacean species, which are unlikely to escape through the BRD's. When scallops

were caught in large quantities, an estimated weight was recorded in the trial data to allow for further analysis if required.

'IRON CASSIA' TRIAL (TFE vs SMW)

Bycatch

- 44 valid shots
- 23 valid shots with TFE's on port side and 21 with TFE's on starboard.
- Random number generator employed to remove 2 shots from port side to ensure even number of shots for comparison (shots 15 and 31 removed).
- Bycatch total TFE = 5795kg
- Bycatch total SMW = 7295.8kg
- Overall bycatch reduction 20.57%

Retained Catch (Prawns)

- 46 valid shots
- 23 valid shots with toms on each side.
- Retained prawns total TFE = 1111.4kg
- Retained prawns total SMW = 1116.7kg
- Overall prawn differential = -0.474% with TFE
- Prawn % of catch
    - TFE = 16.28%
    - SMW = 13.4%

Additional Notes

- It is important to note that catch levels of prawns were naturally higher on the port side of the vessel when no TFE's were fitted. Four control shots (SMW's only) conducted after the trial period showed an increase in bycatch of 10.39% on the port side compared to starboard. Seven control shots (three before and four after the trial) showed an increase in prawn catch of 16.09% on the port side compared to starboard. The first two prawn control shots showed an overall increase of 34.62%. Adjustments were made to the boards after this, and when those results are omitted, the prawn increase was 10.11% on the port compared to the starboard. This aligns with the 10.369% increase in bycatch mentioned previously.
- To limit the influence of these fishing differences it was necessary to ensure there was an equal number of shots with the TFE's on each side. A random number generator was used to omit the excess shots.

COMBINED TRIAL RESULTS

- Total bycatch reduction = 18.98%
- Total prawn differential = -2.83% with TFE
- Although fishing efficiency differences between the TFE and control nets are accounted for in the trials, it must be noted that variation between the 2 sides with control BRDs fitted to both sides in the Iron Cassia trial varied considerably (average of 16% in one trial). This is far greater than any prawn gain/loss caused by the BRD's. Although the control shots were only carried out in the Iron Cassia trial, observers reported that a similar phenomenon was noticed for the trial on the advantage.

- This variation means the nets on the port side of the boat retain more prawns (up to 16% more) than the starboard side. This percentage is much higher than the 2.83% average combined prawn loss found across all shots in all trials.
- It is evident from the trials that the TFE's effectiveness to reduce bycatch depends on the bycatch in the area fished. Bycatch reduction is significantly higher in areas where more finfish are present compared to an area containing more benthic species (crabs and scallops), which are less likely to escape through the TFE. This is also likely to be the primary reason the bycatch reduction percentages are not as high as the NPF trials.
- TEPs
    - 28% decrease in sea snake interactions with TFE compared with FIS and SMW

Table 1. TFE vs. approved BRD's (FIS and SMW) bycatch reduction and prawn gain/loss

Vessel	**Bycatch Reduction %**	**Prawn Differential %**
Maggie Jo	16	+0.56
Advantage	18.59	-6.02*
Iron Cassia	20.57	-0.47
Total	18.98	-2.83

ACKNOWLEDGEMENTS

These trials would not have been successful without the total cooperation and continual assistance of the master and crew.
We would like to extend our thanks to all involved, including:
Owner/skipper of 'Maggie Jo', Clinton Farman, and her crew
Owner of the 'Advantage', Kevin Reibel, skipper Rick Taylor, and crew
Owner of the 'Iron Cassia', Peter Lee, skipper Rick Taylor, and crew
Special mention must go to Rick Taylor for his enthusiastic and positive approach toward the trials.
AFMA Scientific Observers Steve Hall, Brandon Meteyard, Henry Wilson and Ben Liddell.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 21 29-30 November 2022
MANAGEMENT Harvest Strategy review	Agenda Item No. 4.2 FOR DECISION

RECOMMENDATION

4.2.1 That Torres Strait Prawn Management Advisory Committee (TSPMAC) **NOTE:**

a) a draft Torres Strait Prawn Fishery (TSPF) Harvest Strategy (HS), with revised triggers and decisions rules was agreed to at its 20th meeting in November 2020 (Attachment 2.1A). changes recommended at that meeting have been incorporated.

b) initial consultation regarding the changes was undertaken with the Iama, Poruma, Masig and Warraber communities during routine annual community visits in mid-2022. Engagement with Ugar may occur if a community visit takes place later in 2022 or early 2023. No concerns were raised by communities with the harvest strategy changes and some communities were uninterested in the changes.

c) TSPF licence holders will be consulted via letters, following TSPMAC endorsement of the redrafted HS.

4.2.2 The TSPMAC **DISCUSS** whether the consultation already completed with Torres Strait communities is considered sufficient, or additional engagement is recommended.

4.2.3 The TSPMAC **RECOMMEND** the amended HS (Attachment 4.2A) be provided to the Protected Zone Joint Authority (PZJA) for endorsement, providing there are no significant concerns raised during further stakeholder engagement which would require consideration of the TSPMAC.

4.2.4 The TSPMAC **NOTE** that any significant changes suggested by stakeholders during final consultation, will be presented to the TSPMAC out of session via teleconference for consideration of any changes required to the Harvest Strategy

KEY ISSUES

1. In 2019, the TSPMAC recommended (Attachment 4.2B) the triggers within the HS be amended, noting the original effort based triggers do not provide a reliable indicator of biomass to manage the stock effectively.
2. An independent consultant, Dr Andrew Penny, who worked with the TSPMAC Harvest Strategy Working Group (HSWG) was commissioned to develop new triggers, based on biomass instead of effort.

3. Biomass triggers based on nominal catch per unit effort (CPUE) were recommended, with consideration of economic conditions such as prawn and fuel prices, which can be monitored annually.
4. In the TSPF, nominal and standardised CPUE show a strong correlation (98.1%). This means nominal CPUE can safely be used to monitor stocks (that is, as an indicator) between stock assessments. Using nominal CPUE is much cheaper than calculating standardised CPUE, and can be monitored by industry, rather than requiring calculation.
5. The TSPMAC recommended that a three-year rolling average of CPUE should be used as the indicators, instead of single years. This minimises natural fluctuations in the stock and highlights large variations and trends.
6. For the lower trigger, the HSWG recommended a more precautionary trigger. The trigger can be met under two circumstances:
    a. when the three year rolling average CPUE weight reaches the limit trigger weight; OR
    b. when the average CPUE weight in any two consecutive years reaches the limit trigger weight.
7. The TSPMAC considered several options for new CPUE biomass triggers, as well as recommendations regarding other complementary HS elements in November 2020.
8. The TSPMAC recommended the following new levels for target reference points and precautionary and limit triggers:
    a. **Target reference point**: B_{60} (equivalent to CPUE 142kg/day/boat)
    b. **Trigger 1 –** B_{40} (equivalent to CPUE of 95kg/day/boat)
    c. **Trigger 2** - B_{25} (equivalent to CPUE of 60kg/day/boat)

9. B_{60} refers to the stock level being at 60% of the unfished stock level (i.e if the unfished stock level was 100kg of prawns, B_{60} would leave the stock at 60kg). Full details of the new recommended reference points and triggers, including the decision rules associated with each are at Attachment 4.2B.
10. The TSPMAC agreed the HS should be redrafted to include the amendments to the trigger rules, and the TSPMAC should consider the redrafted HS prior to stakeholder consultation of the new document.
11. The TSPMAC specifically recommended consultation occur with the four main Torres Strait communities in the area of the TSPF (Iama, Masig, Ugar and Poruma), and all TSPF licence holders via a letter.
12. Preliminary consultation with four Torres Strait communities was undertaken during community visits in mid-2022. The consultation explained the changes recommended by the TSPMAC and explained that the changes result in better safeguards and a more conservative approach for the fishery. Communities were informed that a copy of the redrafted HS would be provided to communities once it had been reviewed by the TSPMAC in late 2022.
13. No concerns were raised about HS changes by any of the four communities consulted. Communities generally had minimal interest in discussing the changes, noting they have little direct effect to Torres Strait communities. A summary of the community visits, including the feedback related to the harvest strategy will be available soon once the summary is finalised by AFMA.
14. The updated HS is at Attachment 4.2A.
15. The TSPMAC is asked to review the updated HS and endorse it for consultation with licence holders and , if required, any further community consultation..

16. The TSPMAC is also asked to consider recommending the amended HS to the PZJA for endorsement, providing there are no significant concerns raised during further stakeholder consultation which would require consideration by TSPMAC.
17. If any major comments or concerns are raised by stakeholders during consultation, a TSPMAC teleconference can be arranged.

BACKGROUND

18. The HS, first implemented in 2011, was reviewed by the HSWG in 2019 who recommended revised triggers and decision rules.
19. The triggers recommended by the TSPMAC in 2020 (Attachment 4.2B) offer additional protection beyond that provided by the old triggers, including a new precautionary trigger, as well as a limit trigger.
20. The precautionary trigger (B_{40}) is set at the halfway point between the target (B_{60}) and limit (B_{25}) stock levels. It indicates when the stock is moving away from optimal fishing levels and towards the unsafe, limit reference point where there is a high risk of recruitment impairment for the stock.
21. The use of these two trigger levels provides the TSPMAC, the PZJA and industry with early warning of when stocks are declining and a point where effective management actions can be applied. If only a limit trigger is used, management actions will be more urgent, and there would not be as much time for consideration, or understanding the decline in CPUE through looking into fishery economics or other possible factors, in addition to environmental.
22. Along with introducing Biomass triggers, the TSPMAC noted Dr Penny's recommendation to use a continuous TAE in the fishery, given the stock level will be managed by the new biomass triggers, which would be reached well before the TAE limit would be.
23. A TAE is still required in order to allow the allocation of the effort across the licence holders based on their fishing until holdings, as per section 4.3 of the *Torres Strait Prawn Fishery Management Plan 2009*.
24. Further background on the process for redeveloping the HS triggers can be found in TSPMAC 20 minutes at Attachment 2.1A.

ATTACHMENTS

Attachment 2.1A – TSPMAC 20 minutes (attachment from previous agenda paper)

Attachment 4.2A – revised TSPF Harvest Strategy

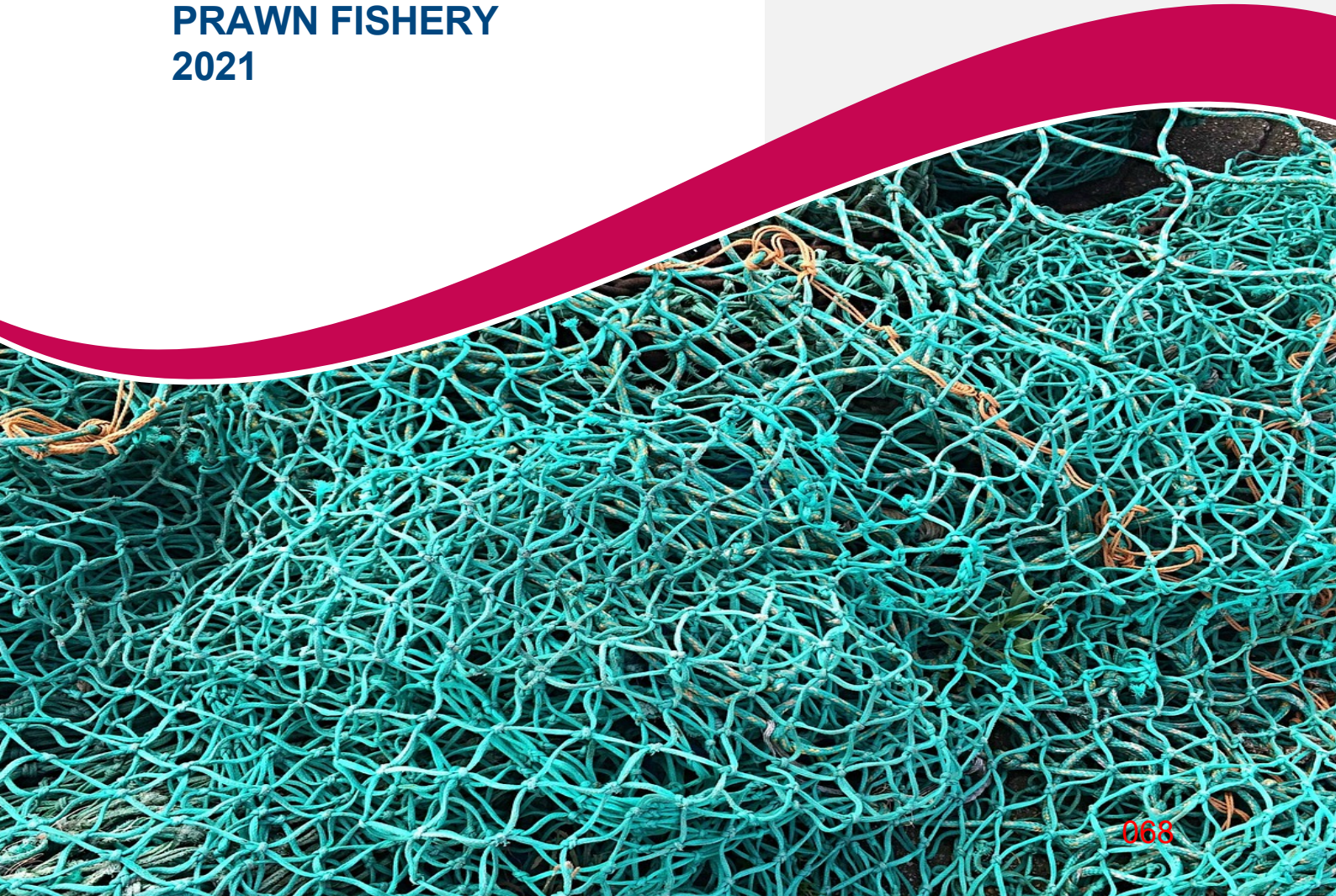
Attachment 4.2B - TSPMAC 20 recommendation regarding new TSPF HS triggers

Australian Government

Australian Fisheries Management Authority

Harvest Strategy

FOR THE TORRES STRAIT PRAWN FISHERY 2021



Contents

Version	Updates	Approver

1 Glossary of Terms

B_{MEY}: Biomass at maximum economic yield. The average biomass expected to provide maximum economic yield, as estimated from the assessment model applied.

B_{MSY}: Biomass at maximum sustainable yield. The average biomass expected to provide maximum sustainable yield, as estimated from the assessment model applied.

B_{LIM}: Biomass limit reference point. The biomass level below which there is a high risk of recruitment impairment and risk to the stock is unacceptably high.

B_{TARG}: Biomass target reference point. The desired biomass level of the stock, chosen to achieve MEY or MSY.

Byproduct species: species that are not targeted but are taken incidentally in a fishery that have some commercial value and are retained for sale.

CPUE: Catch per unit of effort, which for the TSPF is kilograms of targeted prawn catch per boat per day.

E_{MEY}: Effort at Maximum Economic Yield. The long term effort associated with maintaining the stock at or near B_{MEY}.

E_{MSY}: Effort at Maximum Sustainable Yield. The long term effort associated with maintaining the stock at or near B_{MSY}.

MEY: Maximum economic yield. The sustainable catch or effort level for a commercial fishery that allows net economic returns to be maximised. In this context, maximised equates to the largest positive difference between total revenue and total cost of fishing.

MSY: Maximum sustainable yield. The maximum average annual catch that can be removed from a stock over an indefinite period under prevailing environmental conditions.

Nominal CPUE: The raw, unprocessed, measure of CPUE reported by the fishery (kilograms per boat per day).

PZJA: Protected Zone Joint Authority.

Reference point: Specified level of an indicator used as a benchmark within a harvest strategy, such as B_{TARG} or B_{LIM}.

Standardised CPUE: There are many factors that affect or bias CPUE, which do not represent changes in abundance. Therefore, CPUE is often "standardised" using a variety of statistical techniques to remove or correct for the effect of those factors that are known not to be related to stock abundance, such as vessel characteristics, fishing area, period fished or depth.

TAE: Total allowable effort. The annual effort limit set for a stock, species or species group. Used to control fishing mortality to a predetermined optimum level to meet the management objectives for a fishery.

Target species: A species that is or has been, specifically targeted and is, or has been a significant component of a fishery, contributing much of the economic return of the fishery.

2 Overview

2.1 The Commonwealth Harvest Strategy Policy

The Commonwealth Fisheries Harvest Strategy Policy (CHSP) was first implemented in 2007 and updated in 2018 (DAWR 2018, a and b). The policy, together with a set of guidelines, are the framework used to guide the development of Commonwealth fisheries harvest strategies. Although Torres Strait Fisheries are not Commonwealth Fisheries, and thus not required to operate under the policy, this harvest strategy has been developed in accordance with the policy and guidelines.

The main objective of the CHSP is the ecologically sustainable and profitable use of Australia's Commonwealth commercial fisheries resources (where ecological sustainability takes priority) through implementation of harvest strategies. This harvest strategy reflects the obligations under the CHSP.

Further detail on design and implementation of harvest strategies is provided in the Guidelines to the Harvest Strategy Policy (*Commonwealth Fisheries Harvest Strategy Policy Guidelines, DAWR 2018b*).

2.2 The Torres Strait Harvest Strategy

The Torres Strait Prawn Fishery (TSPF) Harvest Strategy (HS) sets out the management actions necessary to achieve defined biological and economic objectives, and describes the indicators used for monitoring the condition of stocks, the types of assessments conducted and the rules applied to maintain the stock around the chosen reference points. The TSPF HS was first implemented in 2011. This updated (2021) HS has been developed in accordance with the new CHSP and is consistent with objectives of the *Torres Strait Fisheries Act 1984* (the Act) and the *Torres Strait Prawn Fishery Management Plan 2009* (the Plan).

The TSPF Tiger prawn stock is the main commercial target in the fishery and because Tiger prawns are more vulnerable to overfishing, this stock size is used as the measure for sustainability of the fishery. The Tiger prawn stock was assessed in 2019 to be at 60 – 88 percent of the pre-exploitation biomass level (B_0). This range is well above the estimated B_{MSY} for the fishery.

However, the 2011 TSPF HS, which has been used to monitor the Tiger prawn stock with fishing effort and catch triggers, is not appropriate for monitoring stock abundance and therefore does not meet the requirements of the CHSP.

The 2021 TSPF HS uses CPUE-based indicators and triggers to periodically monitor stock abundance trends under a constant total allowable effort setting (9,200 days). The triggers will provide appropriate warning of stock decline and allow effective measures to be taken to keep the stock at sustainable levels and trending towards the target reference point. Catch per unit of effort (CPUE) is commonly assumed to be proportional to stock abundance and is used, in standardised form, as an index of abundance in the TSPF stock assessment. Nominal CPUE is closely aligned with standardised CPUE for the TSPF Tiger prawn stock and is considered a very reliable indicator of abundance for TSPF tiger prawn stocks (Penney, 2019; Turnbull, 2019).

In addition to the target reference point, a precautionary trigger and a limit reference point are in place to prompt consideration of appropriate action should the stock decline significantly below the target. A summary of the reference points and triggers are below:

Target Reference Point: A biomass target at a nominal CPUE of 141kg/boat day, which corresponds to 60% of unfished biomass ($0.6B_0$). This level reflects the recent catch rates in the fishery that correspond to 60% of unfished biomass levels ($0.6B_0$). The fishery is considered stable and economically viable around this level under current market conditions and are considered to be delivering good economic returns in the fishery (Penney, 2019).

It is not currently considered necessary to conduct a management strategy evaluation (MSE) using a bio-economic analysis to determine an optimal target biomass reference point. A Target Reference Point of $0.6B_0$ at current levels of effort is considered to be a suitable target until further bio-economic analysis becomes warranted, for example, should effort levels increase markedly.

Precautionary Biomass Trigger: A biomass trigger at a nominal CPUE of 93kg/boat day which corresponds to 40% of unfished biomass ($0.4\ B_0$). This precautionary relative biomass trigger (B_{PA} – precautionary approach) indicates that the stock has moved away from the $0.6B_0$ target and is more than half way towards the limit reference point ($0.25B_0$). At this point further investigation is required to confirm the decline in CPUE, determine reasons for this decline and consider management action to prevent further declines and ensure a return to target levels.

Limit Reference Point: A biomass limit trigger at a nominal CPUE level of 58 kg/boat-day, corresponding to 25% of unfished levels ($0.25B_0$). This indicates that the stock has declined to the limit reference point and immediate management action is needed to halt further declines and to take corrective action to increase the stock. This limit reference point has been set above the default limit under the harvest strategy policy, to build extra precaution into the triggers.

Fixed Total Allowable Effort Limit: With the introduction of the CPUE based management triggers, this harvest strategy maintains a fixed effort Total Allowable Effort (TAE) at the current E_{MSY} level (9,200 days). Under the requirements of the *Torres Strait Prawn Fishery Management Plan 2009* (the Plan), the TAE is reviewed at least every three years by the PZJA. Under the harvest strategy, the TAE would also be reviewed if the CPUE triggers are breached. The introduction of the CPUE based triggers within this harvest strategy adds additional precaution and ensures that the stock is monitored regularly against reference points and triggers and with annual reviews of CPUE based indicators.

3 Background of the TSPF

The TSPF is managed under the Act by the Protected Zone Joint Authority (PZJA), which was established by the Act and encompasses the Commonwealth and Queensland Minister's responsible for Fisheries and the Chair of the Torres Strait Regional Authority. The purpose of the Act is to give effect, under Australian law, to the fisheries elements of the *Torres Strait Treaty*. In particular, section 8 of the Act which outlines objectives to be pursued in the management of Torres Strait fisheries. Section 8 states:

> "*In the administration of this Act, regard shall be had to the rights and obligations conferred on Australia by the Torres Strait Treaty.*"

The Torres Strait prawn stock is considered a straddling stock as it is found in both the Australian and Papua New Guinea (PNG) area of jurisdiction in the Torres Strait Protected Zone (TSPZ). The waters of the TSPZ and TSPF are divided into areas of Australian and PNG jurisdiction and the fishery is managed through the PZJA agencies comprising of:

- Fisheries Queensland, Department of Agriculture and Fisheries;
- The Torres Strait Regional Authority (TSRA);
- The Australian Fisheries Management Authority (AFMA);
- The Department of Agriculture, Water and the Environment (DAWE); and where appropriate
- In consultation with the Papua New Guinea, National Fisheries Authority (NFA).

The catch sharing arrangements for the fishery and stock are discussed annually at the Australian and Papua New Guinea Bilateral Fisheries meeting.

The TSPF Harvest Strategy has been developed in accordance with objectives outlined in the Act and the Plan. Further details of the legislation underpinning the TSPF can be found at www.pzja.gov.au.

A detailed history of the TSPF can be found in the 2009 TSPF Strategic Assessment on the PZJA Website (www.pzja.gov.au) and the Torres Strait Prawn Fishery Handbook on the PZJA website.

3.1 Current closures/Exclusion Zones

Management of the TSPF uses both seasonal closures and spatial closures to achieve a number of objectives including:

- protecting juvenile and smaller sized prawns in order to attain better economic yield from the prawns harvested in the fishery; and
- protecting areas of importance to the traditional sector such as fishing grounds for tropical rock lobster or pearl shell or breeding and feeding grounds for dugong and turtle.

The area of the fishery and closures can be found in the TSPF Handbook 2016, on the PZJA website.

4 TSPF Harvest Strategy

An independent review of the TSPF HS was initiated in 2019, when an update of the Tiger Prawn stock assessment revealed problems with the effort based triggers being used in the 2011 TSPF HS.

The independent review of the (Penney, 2019) 2011 TSPF HS noted that effort based triggers are not suitable for fisheries using an effort cap as the primary management tool, and that effort does not give any indication of the underlying stock biomass level and is not a useful indicator of sustainability.

Instead, triggers based on nominal CPUE were proposed. Tiger Prawn CPUE is closely correlated with stock biomass in the TSPF, and changes in CPUE reliably indicate changes in underlying stock biomass, and the risk of overfishing. CPUE triggers relate to changes in underlying biomass and are intended to prompt consideration of management options to halt the CPUE decline and rebuild the stock towards the target.

If triggers are breached, consideration will be given to reducing the TAE to lower fishing mortality and allow for stock rebuilding. This may include the development of formal harvest control rules that require the TAE to be reduced as CPUE declines below the B_{PA} ($0.4B_0$) or B_{LIM} ($0.25B_0$) levels. A full stock assessment update is conducted at least every five years to evaluate stock status and to inform the need to possibly revise the TAE and/or CPUE triggers. The stock assessment includes consideration of the catch rates in current and previous fishing seasons and changes in fishing power. A stock assessment may be brought forward if triggers are breached and the Torres Strait Prawn Fishery Management Advisory Committee (TSPMAC) consider the decline to be a result of stock status rather than economic factors. In the event of a breach of CPUE triggers, the MAC will also consider economic indicators and conditions to determine what further management action may be needed, depending on the likely cause of the changes to CPUE – economic or sustainability driven.

The review noted that the constant effort management approach effectively constitutes a harvest control rule, given the close correlation between CPUE and stock biomass. Further, due to the consistently low effort in the fishery, there is scope to manage the fishery using a constant TAE model, combined with CPUE based sustainability triggers. The E_{MSY} TAE cap (9,200 days) should not need to be revised unless the CPUE triggers are breached (see section 4.2.2), indicating substantial stock declines. The fishery is currently under-fished and the stock is at historically high levels. While the TAE may not require revision under the HS, it will require consideration by the PZJA every three years, as required under the Plan.

The E_{MSY} value of 9,200 days is based on the rounded estimate of E_{MSY} from the 2004 Tiger Prawn stock assessment (O'Neill & Turnbull 2006). The estimate of E_{MSY} was 9,197 days with a 90 percent

confidence interval of 7,116 to 12,231 days, based on catch and effort data from the years 1980 to 2003 and application of the Beverton-Holt stock recruitment relationship.

The biomass associated with B_{MEY} is higher than the biomass associated with B_{MSY}, so setting a harvest strategy based on B_{MEY} is more conservative than MSY.

4.1 Objectives

The objectives of the 2021 TSPF HS have been developed to align with the Commonwealth HSP. As well as economic and biological objectives, the TSPF HS has social objectives. Social objectives are of particular importance for fisheries operating in the Torres Strait Projected Zone, needing to consider the effects that management and operation of the fishery may have on Torres Strait communities.

4.1.1 Economic objectives

Short Term economic objective

a) Maintain catch rates at or around current levels, which equate to $0.6B_{0,}$ which deliver good economic returns.
b) Minimise the risk of catch rates dropping below economically viable levels (B_{40}).

Long Term Economic objective

Consider undertaking a Management Strategy Evaluation process or similar to test a range of Harvest Control Rules should effort in the fishery increase significantly and/or there is evidence of risk of the stock falling below the B_{MEY} target.

A fishery managed with a target of maximum economic yield (MEY) also ensures the sustainability of the stock, as allowable catch is lower for MEY than Maximum Sustainable Yield (MSY), in order to keep the stock biomass higher to improve catch rates and profitability.

Due to economic constraints, the risk of the TSPF stocks collapsing due to unsustainable fishing effort or over-exploitation of fishing is low, particularly at current stock size. The most recent stock assessment (Turnbull *et al.*, 2019) and trends in the commercial catch rates (Turnbull and Cocking, 2019) indicate that Tiger and Endeavour prawn stocks are in good condition. The PZJA therefore considers the biggest short-term risk to the fishery is continued decline in effort due to economic factors.

Setting a B_{MEY} target of $0.6B_0$ it allows the fishery to start to move towards management using MEY, and test this target level, while assessing the need for more formal management strategy evaluation to formally estimate B_{MEY} and develop formal harvest control rules, which would be a significant and currently unnecessary financial investment.

4.1.2 Biological objectives

a) To ensure tiger prawn stocks are maintained at or above the target reference point, $0.6B_0$, as a proxy target for B_{MEY}.
    - the agreed B_{TARG} is more precautionary than the default proxy B_{MEY} (biomass at maximum economic yield) of $0.4B_0$ as outlined in the HSP.

b) To maintain all stocks above the limit biomass level (B_{LIM}), of $0.25B_0$ at least 90 percent of the time.
    - the agreed B_{LIM} is more precautionary than the default proxy of $0.2B_0$ as outlined in the HSP

Separate triggers and reference points have not been set to monitor performance against the objectives for endeavour and red spot king prawns, because the Tiger and Endeavour prawn stocks have a very large spatial overlap. When species overlap to this extent, it is not possible to set different effort limits for the different species, as both species are caught within the same shot.

Performance measures from stock models indicate that Endeavour prawns are more resilient to fishing pressure than Tiger prawns at all levels of fishing effort. Therefore, as long as the more sensitive species the Tiger prawn is being fished sustainably under the harvest strategy, the less susceptible Endeavour prawns are also fished sustainably by default. The Red Spot King prawn is a by-product with relatively low levels of catch recorded. This species is also considered to be sustainable. In summary, although this harvest strategy does not set specific objectives, trigger points and decision rules to manage the Endeavour prawn (secondary target species) and the Red Spot King prawn (byproduct species) stocks, these stocks are indirectly managed by default due to the stock overlap and relationship to the Tiger prawn species discussed above.

4.1.3 Social objectives

a) Maintain a viable and flexible fishery to provide employment opportunities.
b) Maintain prawn stocks at a higher biomass than prescribed in the HSP, which should prevent overfishing in the fishery.
c) Ensure that the issues of significance to the traditional sector are considered when setting the TAE for the fishery, as per the objectives of the Plan and the Act.

4.2 Reference Points, Indicators and Triggers

Tracking Tiger prawn biomass against TSPF Harvest Strategy reference points will be monitored using CPUE, during each fishing season. A base line stock assessment will also be carried out at least every five years (sooner if the TSPMAC deem it necessary when a trigger is reached). The most recent stock assessment for the TSPF was completed in 2019, estimating biomass at around $0.32B_0$. The triggers below will allow the PZJA to monitor the stock between assessments and, if a trigger is breached TSPMAC can consider whether a stock assessment should be brought forward.

Using reference points and triggers in terms of nominal CPUE allows performance against triggers to be easily and rapidly assessed without the need for more regular stock assessment with standardised CPUE. Nominal CPUE is monitored by AFMA throughout the fishing season to track the status of the stock against the reference points, and results of this analysis are considered by TSPMAC at least once annually. The PZJA is notified as required. As well as monitoring nominal CPUE, factors that may influence CPUE will be monitored, including economic and market factors that may impact fishing behaviour and CPUE, to determine whether CPUE decreases are likely a result of a stock decline, or changed fishing behaviour.

4.2.1 Reference Points

Target reference point (TRP):

The target biomass reference point (B_{TARG}) has been set at $0.6B_0$ which is an estimate of B_{MEY}, and corresponds to a nominal CPUE of 141kg / boat day. The previous TRP of B_{MSY} (previously assessed at 28% of unfished levels) is not an economic target as it corresponds with low catch rates that would reduce economic returns in the fishery. Replacing it with a target reference point set at where the stock is currently, at around 60% of unfished biomass level (B_{60}), is considered to be an appropriate target in the absence of bio-economic modelling.

Performance measures from stock modelling indicate that Endeavour prawns are more resilient to fishing pressure than Tiger prawns under a variety of different scenarios so there is less likelihood that this species will fall below target levels when fishing effort is low. As the Endeavour Prawn price is significantly lower than the value of Tiger prawns so there is little incentive for the industry to target Endeavour prawns, particularly after the Tiger prawn spawning season closure is implemented (1 December to 31 July each year). The TSPF is considered to be biologically sustainable for both

species as long as the more susceptible Tiger prawn stock is managed sustainably. The Red-spot King prawn is not a target species, but a by-product in the fishery, with relatively low levels of catch, which is considered sustainable.

Limit reference point:

The limit reference point of $0.25B_0$ is a higher biomass limit than the default limit reference point, under the Commonwealth Harvest Strategy Policy, of $0.2B_0$ and is a more precautionary level designed to reduce the potential for overfishing.

4.2.2 TAE setting, CPUE indicators, triggers and management responses

Setting the TAE:

The TAE for the fishery will be set for the Tiger prawn stock at 9,200 days for the maximum period allowable under the Plan (3 years). This is a constant effort management approach that recognises fishers will tend to reduce fishing effort as CPUE decreases. While the HS does not include formal decision rules for revising the TAE, if triggers are breached, management actions will be considered. This may include the development of formal harvest control rules for TAE adjustments or other actions that can rebuild the stocks.

Precautionary CPUE Trigger: 93kg/day/boat – corresponding to the precautionary reference point of $0.4B_0$.

The nominal CPUE indicator for this trigger will be calculated as the 3 year preceding rolling average of nominal CPUE for tiger prawns.

The precautionary trigger is intended to indicate that the stock has declined below the target and is half way to the limit reference point ($0.25B_0$). Management action may be needed to prevent further declines and rebuild the stock to target levels.

Responses to breaching the precautionary trigger:

If the precautionary trigger is reached two years in a row:

- The TSPMAC meets to consider the implications and management advice including:
  - Consider if a stock assessment is necessary (*noting a minimum base level stock assessment (without fishing power updates) should be undertaken at least every five years*).
    - Consider whether a fishing power survey should be undertaken, as a part of a stock assessment, if one is completed (noting these are probably not required every five years, unless significant changes to the fleet are known).
  - Review non-stock factors that may have led to lower CPUE, including but not limited to:
    - Are the economic and market conditions influencing fishing behaviour *e.g.* changes in fuel prices and prawn prices, low number of vessels etc. resulting in lower CPUE? Are fishers changing target species *e.g.* targeting Endeavour Prawns rather than Tiger Prawns?
  - Consider whether a reduction in TAE or actual fishing effort is required to halt overfishing and facilitate rebuilding of the stock towards the target.

Limit CPUE Trigger: 58 kg/day/boat – corresponding to the limit reference point of $0.25B_0$.

The nominal CPUE indicator for this trigger will be calculated as the 3 year preceding rolling average of nominal CPUE for tiger prawns, and only needs to be reached in one year.

Commented [CL1]: Is this right?? 3 year average means much lower amount needed in 1 year to pull three year average down.

The limit trigger signals that the stock has declined substantially to the limit and immediate management action is needed to halt further declines below the limit reference point and to rebuild the stock towards the target.

Responses to breaching the limit trigger:

- The MAC shall recommend measures to limit fishing mortality to levels that will halt overfishing and rebuild stock levels towards the target.
- Consideration should be given to conducting MSE evaluation and developing formal harvest control rules that respond to future breaches of the CPUE triggers.

The target and triggers are shown in Figure 1 in relation to historical nominal CPUE trends.

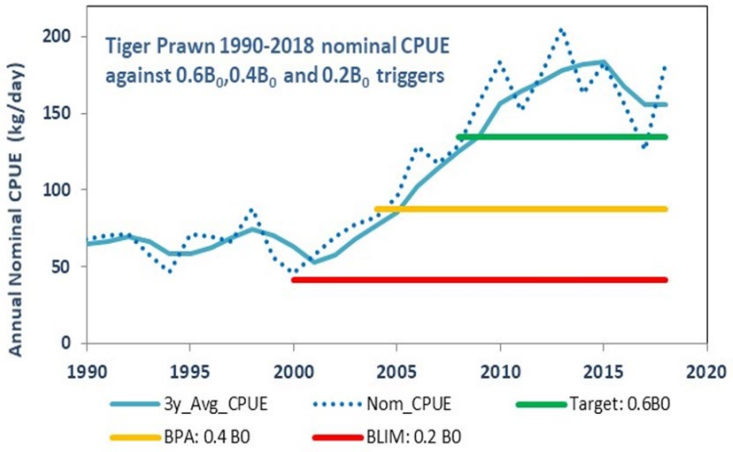


Figure 1. Target, precautionary trigger and limit trigger levels for Torres Strait Tiger Prawn fishery in relation to historical nominal annual and 3-year running average CPUE levels.

4.3 Monitoring

Collecting quality information about the fishery and undertaking periodic assessments is critical to monitoring the health of the prawn stocks. The monitoring regime described below outlines the data required to support the TSPF HS, particularly monitoring CPUE against the triggers, and undertaking stock assessments.

4.3.1 Logbooks

Logbook data are the primary source of information for applying the TSPF HS. It is necessary and mandatory for all Torres Strait prawn operators to complete prescribed logbooks. Logbooks are sent by operators to AFMA within two weeks after making port or two weeks after the season closes on 1 December. The logbook data are analysed to evaluate annual performance of the fishery. The statistics produced annually include:

- catch per unit effort;
- total catches throughout the season;
- total effort throughout the season (fishing days); and
- catch and effort trends, including catch composition (prawn species and grades)
- Basic fuel price and prawn value information.

As well as being used by AFMA to monitor the CPUE triggers described in this harvest strategy, these data are used to conduct stock assessments for the fishery.

4.3.2 Stock Assessments

The Tiger prawn stock assessment is used to calculate values for biomass B_{MSY} and fishing effort $E_{MSY,}$ which are used to evaluate the status of the stock against targets and to set the total allowable effort, if necessary.

Prior to the updated stock assessment, stock assessments were undertaken in 2004 and in 2006. The 2019 assessment was based on catch and effort data from logbooks for fishing years from 1980 to 2018. The 2019 assessment is undertaken using a Deriso-Schnute delay-difference model (used in previous assessments), coded in the statistical program "MATLAB", and the Beverton-Holt stock recruitment relationship.

The 2019 assessment estimated the stock level to be at 60 – 88 percent of pre-exploitation biomass (0.60B0 – 0.88B0) with BMSY estimated at 0.32B0 and 0.40B0 (Beverton-Holt and Ricker stock recruit curves respectively). Post 2008 the annual tiger prawn harvest has been well below the estimates for MSY and the biomass well above BMSY. The current tiger prawn harvest is sustainable and could be increased if the economics of trawling improved, allowing a higher level of fishing effort.

Under this harvest strategy, stock assessments will be conducted at least every 5 years. Assessments may be brought forward if deemed necessary by the TSPMAC in response to breaching of a trigger.

4.3.3 Vessel Monitoring System

It is a condition of licenses that each vessel in this fishery be fitted with a Vessel Monitoring System (VMS). VMS data validates fishing effort reported in the logbook.

AFMA uses VMS to verify and decrement days fished by licence holders against each holder's annual allocation of fishing effort under the TAE system.

4.3.4 Observer Data

Observer coverage in the TSPF is set at 2.6 percent of actual seasonal fishing effort. The primary objective of the TSPF observer program is to collect independent data on by-catch and interactions with threatened, endangered and protected (TEP) species. Biological information on commercial catch and species of significance to the traditional sector are also collected. This data is compared to data provided by fishers in logbooks and is used to monitor interactions with TEP species and species that may be at risk to fishing, included species important to Torres Strait communities.

5 Performance Reporting

Reporting on the performance of the TSPF is done on an annual basis mainly through the PZJA annual report and relevant accreditation processes.

In 2017, the TSPF was granted a Wildlife Trade Operation (WTO) and list of exempt native specimens (LENS) accreditation until 9 October 2026.

The TSPF also has a responsibility to report to the various consultative processes, including TSPMAC, the PZJA Standing Committee and the PZJA.

Reporting on the monitoring of triggers will occur annually to TSPMAC.

6 Review and Amendments

The TSPF HS will be reviewed at least every five (5) years.

Under certain circumstances, it may be necessary to amend the harvest strategy in between scheduled reviews. These circumstances include when:

- the precautionary or trigger limit is breached.
- there is new information that substantially changes understanding of the status of a fishery, leading to improved estimates of indicators relative to reference points.
- drivers external to management of the fishery increase the risk to fish stock/s.
- it is clear the strategy is not working effectively and the intent of the Harvest Strategy Policy is not being met.

Further explanation can be found in section 9 of the Commonwealth Harvest Strategy Policy Guidelines (DAWR 2018b). The consultative and technical processes for amending harvest strategies are set out in the Commonwealth Harvest Strategy Policy Guidelines in section 2.5.

7 References

Department of Agriculture and Water Resources (2018a) Commonwealth Fisheries Harvest Strategy Policy. Framework for applying an evidence-based approach to setting harvest levels in Commonwealth fisheries, Second Edition. Commonwealth of Australia, 21 pp.

Department of Agriculture and Water Resources (2018b) Guidelines for the Implementation of the Commonwealth Fisheries Harvest Strategy Policy, Second Edition. Commonwealth of Australia, 76 pp.

Die, D. J. (2003). Review of the stock assessment of the Torres Strait prawn fishery. Australian Fisheries Management Authority (AFMA): 33.

Penney A.J. (2019) Implementation of CPUE indicators and triggers in the Torres Strait Tiger Prawn fishery. Pisces Australia (Pty) Ltd, Report to the Australian Fisheries Management Authority, November 2019, 25 pp.

O'Neill, M. F. and C. T. Turnbull (2006). Stock assessment of the Torres Strait tiger prawn fishery (*Penaeus esculentus*). Queensland, Department of Primary Industries and Fisheries.

Turnbull, C.T., Tanimoto, M., O'Neill, M.F., Campbell, A. and Fairweather, C.L. (2009). Torres Strait Spatial Management Research Project 2007-09. Final Report for DAFF Consultancy DAFF83/06. Department of Employment, Economic Development and Innovation, Brisbane, Australia

Kertesz M., Cocking, L., Turnbull, C., Jacobsen, I., Hall, S., and Lui, S. (2010). Torres Strait prawn Fishery Handbook 2010. Australian Fisheries Management Authority. Canberra, Australia.

Attachment 4.2B – TSPMAC 20 recommendation regarding

The TSPMAC **RECOMMENDED** the following amendments to the target and limit reference points, triggers and decisions rules for the TSPF Harvest Strategy:

Target reference point: B_{60} (equivalent to CPUE 142kg/day/boat)

Trigger 1 – B_{40} (equivalent to CPUE of 95kg/day/boat).

CPUE for trigger one is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns.

Decision rules for trigger 1:

- MAC meets to consider the implications and management advice including:
    - Consider if a stock assessment is necessary (*noting a minimum base level stock assessment (without fishing power updates) should be undertaken at least every five years*).
        - Consider whether a fishing power survey should be undertaken, as a part of a harvest strategy if one is completed (noting these are probably not required every five years, unless significant changes to the fleet are known).
    - Review factors that may have led to lower CPUE, including but not limited to:
        - What are the economic and market conditions impacting fishing behaviour? (e.g. changes in fuel prices and prawn prices, low number of vessels etc resulting in lower CPUE, are fishers changing target species – e.g. targeting endeavour prawns rather than tiger prawns?).
    - Consider if a Management Strategy Evaluation is required to test management options.

Trigger 2 - B_{25} (equivalent to CPUE of 60kg/day/boat)

CPUE for trigger 2 is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns, OR the trigger being reached 2 consecutive years in a row (whichever occurs sooner).

Decision rules for trigger 2:

- The MAC shall recommend measures to limit fishing mortality to levels that will rebuild stock levels.
- Measures shall be modelled through stock assessment or management strategy evaluation to assess their effectiveness.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 21 29-30 November 2022
MANAGEMENT Total Allowable Effort limit	Agenda Item No. 4.3 FOR DECISION

RECOMMENDATION

That the Torres Strait Prawn Management Advisory Committee (TSPMAC):

4.3.1 **NOTES** the Torres Strait Prawn Fishery (TSPF) Total Allowable Effort (TAE) limit is currently set at 9,200 days each year for the 2021-2023 fishing seasons, in alignment with the maximum sustainable yield of tiger prawns determined by the tiger prawn stock assessment.

4.3.2 **NOTES** section 2 of the *TSPF Management Plan 2009* (the management plan) requires a TAE to be set at least every 3 years.

4.3.3 **NOTES** a TAE limit must be in place to facilitate the annual allocation of use entitlements (fishing nights) to licence holders under section 4.3 of the Management Plan.

4.3.4 **NOTES** the updated TSPF harvest strategy, under agenda item 4.1, recommends moving towards a continuous TAE limit for the TSPF in line with the new catch per unit effort (CPUE) triggers for management.

4.3.5 **NOTES** the TAE can be changed by the Protected Zone Joint Authority (PZJA) if needed within or between seasons by determination or emergency determination, if the stock assessment indicates a new TAE is required.

4.3.6 **DISCUSSES** and **RECOMMENDS** whether the 3-year maximum time period within the Management Plan for setting the TAE should remain or be amended to 5 years to align with 5 yearly stock assessment updates.

4.3.7 **RECOMMENDS** setting the TAE limit at 9,200 days from the 2024 fishing season, for the time period recommended by the TSPMAC above.

KEY ISSUES

1. Under subsection 2.5(1) of the management plan the PZJA must determine the TAE for the TSPF prior to the start of a season (1 February), “based on the reference points determined under section 2.4, or other management strategy”.

2. Section 2.5(1) of the management plan also stipulates that the TAE can be set for a maximum of three years. The PZJA has historically aimed to maximise the stability of the TAE where possible. Setting the TAE for multi-year periods reduces the administrative costs and provides greater certainty for industry.

3. Under section 2.6 of the management plan, the TAE can be increased during a season or within the 3-year period by determination. The TAE can also be decreased during a season or within the 3-year period by emergency determination. This acts as a safeguard if changes to the stock become evident during the TAE period or within a season.

4. Andrew Penny, an independent consultant recommended a continuous TAE of 9,200 nights for the TSPF, as per the updated harvest strategy. The recommendation was considered complimentary to the new CPUE based harvest strategy triggers (refer to agenda item 4.1 for detail).

5. A continuous TAE could be set by the TSPMAC in two ways:

	Option for setting the TAE	**Functioning of this option**	**Managing risks**
1	TSPMAC make a recommendation for the TAE be set at 9,200 days indefinitely. The TSPMAC would only be consulted on and provide a recommendation for a TAE if it needs to change from 9,200 days at any point (i.e. a trigger under the harvest strategy is reached).	If the TSPMAC has an ongoing recommendation for a 9,200 night TAE, the Australian Fisheries Management Authority (AFMA) would seek PZJA decision and TAE determination each time it is due for renewal (3 or 5 years depending on TSPMAC recommendation 4.2.6), without directly seeking a TSPMAC recommendation each period if the TAE is to remain at 9,200 days. This would reduce administrative burden and fishery costs associated with admin of a TSPMAC recommendation compared to option 2.	AFMA consider there to be few risks with this option, as the TAE can still be increased or decreased during seasons via a new legislative determination or emergency determination if required. The suitability of a 9,200 night TAE will continue to be monitored annually by AFMA. Annual catch rates are reviewed at the end of the season, and compared to the harvest strategy triggers. Annual catch rates will also be discussed at each TSPMAC meeting (every 12-18 months)
2	The TSPMAC would continue to be consulted on and provide a recommendation for the TAE every time a new determination is required (3 or 5 years depending on the TSPMAC recommendation 4.2.6). .	The TSPMAC will be consulted on a recommended TAE every time a determination to set the TAE is required (3 or 5 years depending on TSPMAC recommendation 4.2.6). This adds additional costs to the fishery due to more regular consultation with the TSPMAC. AFMA considers the costs of this approach outweigh the benefits, compared to option 1	This option will have increased costs through a requirement to engage the TSPMAC more frequently, prior to making a new TAE determination. The suitability of a 9,200 night TAE will still be monitored annually by AFMA when annual catch rates are reviewed at the end of the season, and compared to the harvest strategy triggers.

6. A longer term TSPMAC recommendation for a 9,200 night TAE does not stop the TSPMAC from recommending a different TAE at any time should it be required.

7. In order to support a continuous TAE model, the TSPMAC should discuss whether the current requirement to set the TAE limit a maximum of every three years should be changed to a maximum of five years to align with the recommended five-year update of the tiger prawn stock assessment, which is considered a suitable time to monitor TAE. Setting the TAE for a period of 5 years will also reduce administrative costs associated with management of the fishery.

BACKGROUND

8. The TSPF harvest strategy is the policy document which provides reference points, and guidelines for managing the TSPF, including setting of the TAE.

9. Historically the TAE for the TSPF was set, at 9,200 days, in accordance with the maximum sustainable yield of tiger prawns according to the tiger prawn stock assessment. The TAE has been 9,200 days since 2006.

10. The 2019 stock assessment indicated a healthy stock with biomass levels estimated to be 60-88% of virgin biomass and substantial increase in CPUE over the last 10 years.

11. Although there are no sustainability concerns for the fishery, the 2019 assessment model produced a lower TAE recommendation for the fishery. This is because the model uses CPUE as an abundance indicator, and due to increasing catch rates since the last assessment, the model recommends a lower TAE to maintain abundance at the maximum sustainable yield. When catch rates are higher, the TAE will be caught more quickly by the fleet.

12. However, given the healthy stock, relatively low effort in the fishery, the TSPMAC, at its 2020 meeting, noted (on advice from the TSPF Harvest Strategy Working Group), reducing the TAE would be counterproductive. Instead, new triggers were endorsed under the harvest strategy (discussed under agenda item 4.1), which detect declines in the stock to reduce risk of overfishing.

FINANCIAL IMPLICATIONS

13. A TAE of 9,200 days is cost neutral to fishers as the levy regulations are based on a flat rate per licence and per unit allocated, not on the number of days available to fish. There may be some costs associated with the determination of the TAE including staff time for administering a decision of the PZJA. If the maximum period for setting the TAE is changed from three to five years, the costs associated with this change to the management plan will be included in the suit of changes recommended under agenda item 4.5.

Attachment 4.2B – TSPMAC 20 recommendation regarding

The TSPMAC **RECOMMENDED** the following amendments to the target and limit reference points, triggers and decisions rules for the TSPF Harvest Strategy:

Target reference point: B_{60} (equivalent to CPUE 142kg/day/boat)

Trigger 1 – B_{40} (equivalent to CPUE of 95kg/day/boat).

CPUE for trigger one is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns.

Decision rules for trigger 1:

- MAC meets to consider the implications and management advice including:
    - Consider if a stock assessment is necessary (*noting a minimum base level stock assessment (without fishing power updates) should be undertaken at least every five years*).
        - Consider whether a fishing power survey should be undertaken, as a part of a harvest strategy if one is completed (noting these are probably not required every five years, unless significant changes to the fleet are known).
    - Review factors that may have led to lower CPUE, including but not limited to:
        - What are the economic and market conditions impacting fishing behaviour? (e.g. changes in fuel prices and prawn prices, low number of vessels etc resulting in lower CPUE, are fishers changing target species – e.g. targeting endeavour prawns rather than tiger prawns?).
    - Consider if a Management Strategy Evaluation is required to test management options.

Trigger 2 - B_{25} (equivalent to CPUE of 60kg/day/boat)

CPUE for trigger 2 is calculated based on a 3 year rolling average of nominal CPUE for tiger prawns, OR the trigger being reached 2 consecutive years in a row (whichever occurs sooner).

Decision rules for trigger 2:

- The MAC shall recommend measures to limit fishing mortality to levels that will rebuild stock levels.
- Measures shall be modelled through stock assessment or management strategy evaluation to assess their effectiveness.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 21 29-30 November 2022
MANAGEMENT **Management Strategy Evaluation testing of different season dates effect on stock and economic yield**	**Agenda Item No. 4.4** **FOR DECISION**

RECOMMENDATION

4.4.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC) **NOTES** and **DISCUSSES** the outcomes of the report *Management Strategy Evaluation of the Torres Strait Prawn Fishery* (the MSE) (Attachment 4.5A) modelling the effect of season start date scenarios on Torres Strait Prawn Fishery (TSPF).

4.4.2 The TSPMAC **ADVISES** on preferred TSPF season opening dates for implementation in for the 2026 season following the expiry of the agreed 01 February opening date in 2025

KEY ISSUES

1. In August 2015, the Protected Zone Joint Authority (PZJA) changed the TSPF opening date to 01 February[1]. This decision is in place until the 2025 fishing season. Following that a subsequent PZJA decision will be required to establish a season opening date into the future. In accordance with section 2.3(3)(a) of the TSPF Management Plan a determination, to establish a fishing season, must be made at least 2 weeks before the start of the season.

2. The PZJA's decision in 2015, followed considerable debate at the TSPMAC and with TSPF stakeholders. The closure over summer is not required for sustainability purposes but establishes a period where prawn trawlers are completely absent from the Torres Strait. The effort cap and spatial closures are used as the primary tools to manage the TSPF stock.

3. Cost benefits of different season openings relate largely to economic and social aspects of the fishery, including access to seasonal markets, changes to proportion of prawn grades and maintaining fishery support infrastructure (e.g. mothership services).

4. Since 2016, the proportion of fishing effort in February has been less than 10% with most effort generally observed during May-July.

5. In 2018, TSPMAC recommended research into the impacts of different season start dates impact on the TSPF. The research would inform future TSPMAC and industry discussions on stocks and profitability.

[1] the TSRA Chair did not support this recommendation as Torres Strait communities opposed the proposal.

6. Preliminary results were presented to TSPMAC, in January 2020, who recommended further analysis using 10 scenarios with various season start dates and effort levels (Attachment 4.4A). The final report is now complete, and the report is at Attachment 4.4A. Outcomes of the analysis will be presented to TSPMAC.

7. In summary, results of the analysis suggest:

    a. the differences between the 5 scenarios in terms of fishery economics (total harvest, total value and vessel income/day) are minimal.
    b. season length and season opening date alone do not have a measurable impact on the catch and stock biomass throughout the season.
    c. effects of different season start dates appears to be impacted more by the response of the TSPF fleet, the timing of prawn recruitment and the total annual fishing effort.

8. When the 1 February season opening was trialled, the TSPMAC noted that they would consider trialling a later season opening in future, as propsoed at the time by some other industry members.

9. The industry members who previously had interest in trialling an April opening have indicated they are no longer interested in exploring this, and are comfortable with the February opening, providing some flexibility for licence holders that do wish to fish earlier in the season.

DISCUSSION

Overview

10. The MSE uses an age and length-based tiger prawn simulation model. The monthly effort patterns of scenarios 2 (01 February opening), 4 (01 March opening) and 5 (01 April opening) are similar in that they all have the highest effort in the first two months of the season; (i.e. pulse fishing at season start). In contrast scenarios 1-3 are all February openings but with different monthly fishing patterns therefore these scenarios provide a comparison of the effect of “pulse fishing” versus fishing ramping up over the first few months of the season.

11. A sensitivity analysis of the results to the timing of prawn recruitment was conducted by running the 10 simulations (see Attachment 4.5B) according to the fitted recruitment pattern (Recruit), the recruitment pattern shifted one month earlier (Early) and one month later (Late).

12. Comparing the scenario 3 output (2019 monthly fishing effort) with the observed data for 2019 was used to validate the simulation model. Because the February 2019 fishing effort was so low, scenario 3 also serves as a pseudo 01 March opening but with effort ramping up to a maximum in May instead of pulse of fishing in March, which was the effort approach applied to scenario 4.

Results

Annual results

13. Table 1 summarises the results of the analysis across all scenarios. The results suggest that, within each effort level (2,624 and 6,000 days) the differences between the 5 scenarios across the different metrics are minimal.

14. Changing the total annual effort, from 2,624 days to 6,000 days, was observed to have the largest impact on the economics of the fishery (total annual catch and value). However, the higher effort simulations (6000 days) result in a lower average catch per unit effort (CPUE) and as a result lower "dollars per day".

15. The impact total annual effort is best shown by comparing the heights of the bars between the 2624- and 6000-day simulations in figures 12 and 13 on p.18 of the report (Attachment 4.5A).

Table 1 Annual simulation output for season opening dates of 1st February, 1st March and 1st April. The February opening was run with 3 effort patterns; 1- average of 2016-2019, 2- highest effort in February then March, 3- 2019 effort. The scenarios were run with 2624 and 6000 days of annual effort across three recruitment patterns; the fitted pattern, one month early and one month later.

Effort		**2624**					**6000**				
Scenario		1	2	3	4	5	1	2	3	4	5
Opening		Feb	Feb	Feb	Mar	Apr	Feb	Feb	Feb	Mar	Apr
Harvest (t)	Early	491	509	499	499	495	865	901	873	882	870
	Recruit	513	515	526	520	522	898	905	915	911	913
	Late	527	506	540	528	539	916	886	933	919	936
Value millions $	Early	7.59	7.66	7.67	7.66	7.65	13.12	13.28	13.19	13.27	13.2
	Recruit	7.84	7.68	7.96	7.88	7.96	13.45	13.22	13.6	13.55	13.66
	Late	7.94	7.5	8.03	7.9	8.08	13.54	12.86	13.65	13.49	13.79
$ per day	Early	2894	2918	2924	2921	2915	2186	2214	2198	2212	2201
	Recruit	2988	2927	3033	3004	3033	2242	2203	2267	2258	2277
	Late	3025	2859	3062	3012	3080	2257	2143	2275	2249	2299
CPUE (kg/d)	Early	187	194	190	190	189	144	150	146	147	145
	Recruit	196	196	200	198	199	150	151	152	152	152
	Late	201	193	206	201	205	153	148	155	153	156
Mean Biomass (t)	Early	934	899	923	926	935	779	714	765	765	785
	Recruit	924	889	911	915	924	760	695	742	744	764
	Late	906	877	889	896	902	733	678	710	717	731
Max Fishing Mortality	Early	0.07	0.11	0.11	0.09	0.13	0.16	0.23	0.24	0.2	0.27
	Recruit	0.07	0.11	0.11	0.09	0.13	0.16	0.23	0.24	0.2	0.28
	Late	0.07	0.11	0.11	0.09	0.13	0.16	0.23	0.24	0.2	0.28

16. Although the annual variation across the scenarios is minimal, consistent trends were observed in response to recruitment timing ("*early*" vs "*fitted*" vs "*late*" recruitment). All the scenarios, except scenario 2, show an increase in total harvest, CPUE and *$ per day* as recruitment shifts from *early* to *late* in the

season. In contrast, scenario 2 is flat in relation to recruitment timing. An explanation for this is that an early recruitment would result in more biomass that could be harvested in February.

17. The annual variation in the proportion of different prawn grades across the 10 scenarios is also relatively small (i.e. across scenarios 1-5 at 2,624 and 6,000 days) (see figure 15 on p. 19). Scenario 2 has the highest proportion of small prawn (30+ grade) thought to be because the highest proportion of fishing in February and March, would have higher catch of the smaller grades which recruit into the fishery early in the year.
18. However, the reports notes, the Scenario 2 simulation does not reflect actual observations in the TSPF. February grade proportions in 2016-19 contained a higher proportion of U10 and lower proportion of 21/30 than the simulation predicted. This may be due to vessels preferentially targeting areas with larger prawn in February.

19. As a result of the discrepancy between observed catch rates and those predicted by scenario 2, the report recommends interpreting this scenario with caution. Particularly given the current economic environment of prawn trawling in Australia.

20. If vessels targeting smaller grades close to the East of Warrior Closure (EWC), in February is considered a risk, an alternative approach, proposed by industry in 2005, is to implement a 1-2 month extension to the EWC (see report for details) rather than shifting the season date back to the 01 March.

Monthly results

21. All 10 scenarios show similar patterns across the months for proportion of different grades of prawn (U10, 10/20, 21/30, 30+). The highest proportion of U10 prawns generally occur in second half of the season. The lowest proportion of small prawns (21/30 and 30+) occur in the middle of the season (May-July). Variation of the proportion of prawn grades between scenarios, at different times of the season, is minimal (see fig 16 p.20,).
22. The monthly estimates of CPUE (Figure 19 p. 23, reproduced below as figure 1) and biomass (Figure 20 p. 24, reproduced below as figure 2) show the impact of the opening date scenarios throughout the season (2,624 days=black lines, 6,000 days= red lines).
23. The CPUE and biomass for each of the two effort levels (2,264 and 6,000 days) rapidly decreases post April-May into two compact set of trajectories, suggesting season opening date and fishing effort at the start of the season have minimal impact on both of these indices later in the season. The model predicts scenario 1 (solid black and red lines) produces the most consistently high rates of CPUE and biomass throughout the season. Although, scenarios 4 and 5 (March and April openings respectively) provide higher initial CPUE's the drop in CPUE is more rapid so these indices quickly drop below that observed in scenario 1.

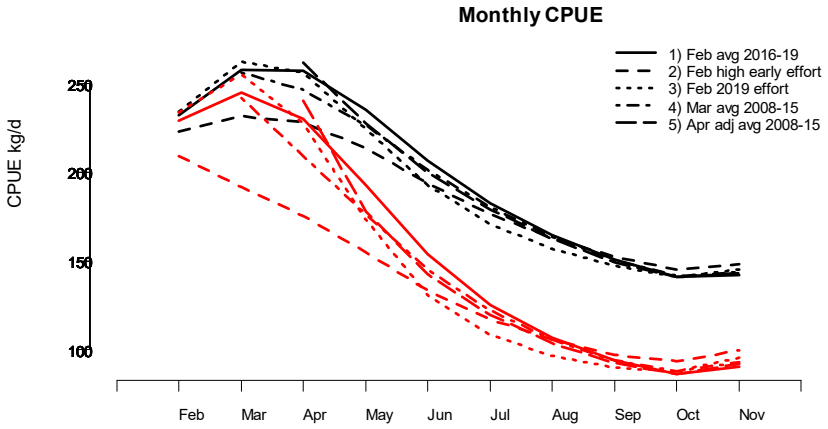


Figure 1 Monthly CPUE using the fitted recruitment timing. The 2624 day monthly effort patterns are "black" and the 6000 day monthly effort patterns are "red". Note that the y-axis (CPUE) starts at 100 kg/d. Legend shows abbreviations of fishing scenarios.

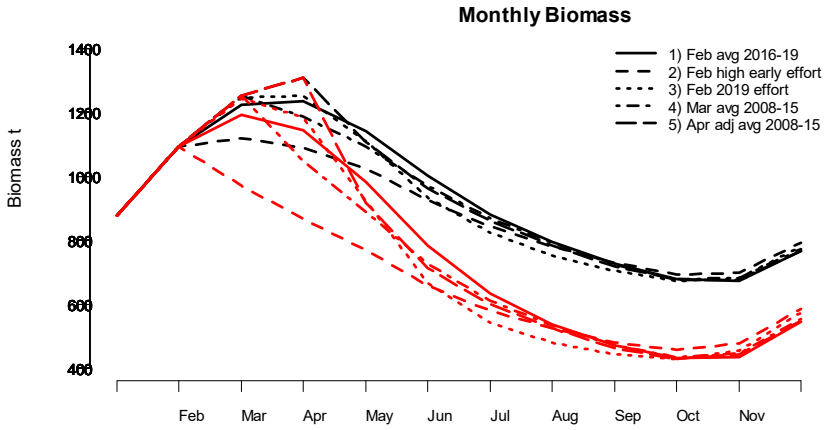


Figure 2 Monthly biomass using the fitted recruitment timing. The 2624 day monthly effort patterns are "black" and the 6000 day monthly effort patterns are "red". Note that the y-axis, biomass, starts at 400 t. Legend shows abbreviations of fishing scenarios.

ATTACHMENTS

Attachment 4.4A – MSE of the TSPF

Attachment 4.4B - TSPMAC agreed scenarios for MSE testing

ATTACHMENT 4.5B – TSPMAC agreed scenarios for MSE testing

Season Opening dates and monthly Fishing effort scenarios

Scenario	Description
Scenario 1	**01 February season opening** simulated using the mean monthly fishing effort of the years 2016-19 converted to proportions. All of these years opened on 01 February
Scenario 2	**01 February season opening** but with the highest proportion of effort in February then March. This simulates the "pulse fishing" at the start of a season that historically has often occurred after the introduction of a seasonal closure.
Scenario 3	**01 February season opening** using the observed 2019 monthly fishing effort where monthly fishing effort ramped up from 0.5% in February to a maximum of 21% in May.
Scenario 4	**01 March season opening** simulated using the mean monthly fishing effort of years the 2008-15 converted to proportions. All of these years had a 1st March opening.
Scenario 5	**01 April season opening** simulated using the monthly fishing effort proportions in scenario (4) with the March effort redistributed into April (80%) and May (20%).

The above opening date scenarios were simulated using two levels of annual fishing effort:

1. 2625 days-the 2019 effort in TSPF; (approx. average for 2009-2019 2220 days).
2. 6,000 days-slightly less than the maximum days of effort available to Australian operators (6,867).

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 21 29-30 November 2022
MANAGEMENT Torres Strait Prawn Fishery Management Plan 2009 amendments	**Agenda Item No. 4.5 FOR DECISION**

RECOMMENDATION

4.5.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC) **DISCUSS** the proposed amendments (Attachment 4.5A) to the *Torres Strait Prawn Fishery Management Plan 2009 (*TSPF MP).

4.5.2 The TSPMAC **AGREES** to the proposed amendments to the TSPF MP.

4.5.3 The TSPMAC **NOTES** a public comment period, including native title notification, will be undertaken for the draft amendments and any comments provided to the TSPMAC for consideration. The TSPMAC will then be asked to make a recommendation to the Protected Zone Joint Authority (PZJA) on the amendments.

4.5.4 The TSPMAC **DISCUSSES** an approach to seek input from Torres Strait communities and licence holders on the proposed TSPF MP amendments.

KEY ISSUES

1. Amendments are required to bring the TSPF MP up to date with the current management environment for the fishery, remove redundant clauses and amend some errors. A list of proposed amendments has been compiled and are attached for TSPMACs consideration (Attachment 4.5A). The proposed amendments are largely administrative and will not change the operations of the TSPF.

2. The principal amendment proposes to change who, in the TSPF, can be granted a licence (TSPF MP section 3.2) and who a licence can be transferred to (TSPF MP section 3.3).

3. Currently a licence can only be granted or transferred to an Australian citizen, which by definition is an individual, preventing licences being issued to incorporated companies commonly seen across fishing businesses in Australia.

4. The proposed changes to Sections 3.2 and 3.3 will make the TSPF MP consistent with the arrangements in the *Torres Strait Fisheries (Quotas for Tropical Rock Lobster (Kaiar)) Management Plan 2018* (TRL MP).

5. The TSPF will continue to be limited to 60 licences and the change will only apply to who will be able to hold these TSPF boat licences into the future.

DISCUSSION

6. While not defined in the TSPF MP or the *Torres Strait Fisheries Act 1984* (TSF Act), an Australian citizen is considered to have the same meaning as in the *Australian Citizenship Act 2007* (Citizenship Act). Under the Citizenship Act, an Australian citizen is an individual and not a *person*. Person as defined by *Acts Interpretation Act 1901* includes both an individual and a company.

7. The draft words proposed for section 3.2 and section 3.3 in Attachment 4.5A, reflect the operations observed in the TSPF and current management environment for the fishery. In drafting these words consideration was given to the words in the TRL MP. Proposed words have been drafted to ensure licences issued for the TSPF are managed consistent with Australia's obligations under the Torres Strait Treaty as required by section 19 (4) of the TSF Act.

8. Other proposed amendments, in addition to sections 3.2 and 3.3, are outlined in Attachment 4.5A.

Next Steps

9. Following consideration by TSPMAC the proposed amendments will be drafted into an amending instrument. The drafting of the amending instrument will be undertaken in liaison with Australian Fisheries Management Authority's (AFMA's) legal team.

10. AFMA's legal team may advise additional amendments where the proposed amendments in Attachment 4.5A require changes to other parts of the TSPF MP.

11. Once drafted, the amending instrument will be presented to the PZJA for agreement to release for public comment.

12. Funding for face-to-face consultation with stakeholders (licence holders and Torres Strait communities) is not currently available. It is proposed to undertake consultation with licence holders via a letter, and with Torres Strait communities using established networks provided through key representatives and community organisations.

13. Previous public consultation seeking Torres Strait community input on amendments to the TRL MP was undertaken directly with Prescribed Body Corporates, industry associations and community representatives, for example Torres Strait Regional Authority board members and mayors and councillors from the Torres Strait Island Regional Council. A similar process is proposed for the amendments to the TSPF MP. A formal native title notification process will also be undertaken.

14. Comments received during public consultation will be considered and integrated into the amending instrument where appropriate. Submissions received along with the updated amending instrument will be provided to TSPMAC for consideration, prior to making a recommendation to the PZJA on the amendments.

FINANCIAL IMPLICATIONS

15. There will be costs associated with making the minor amendments and publishing the amended legislation on the Federal Register of Legislative Instruments. If the amendments stay minor the drafting can be undertaken in house at a lesser cost.

ATTACHMENTS

Attachment 4.5A – proposed amendments for the TSPF MP

Attachment 4.5A proposed amendments for the Torres Strait Prawn Fishery Management Plan

Principal amendment

Amendment number	Management Plan Section	Suggested change	Rationale
1	3.2 (5) Torres Strait Prawn Fishery (TSPF) boat licences 3.3 (2) Transfer of TSPF boat licence	[delete] section 3.2 (5) *A TSPF boat licence may only be granted to an Australian citizen.* [delete] section 3.3 (2) *A licence may only be transferred to a person who is an Australian citizen.* Renumber sections 3.3 (3)-(5) to 3.3 (2)-(4) respectively, to account for deletion of section 3.3 (2)	Currently TSPF licences can only be issued or transferred to Australian citizens which, by definition, is an individual. Licences in Torres Strait and more broadly Commonwealth fisheries are often owned by incorporated companies. These amendments will allow a TSPF boat licences to be issued to Australian residents (individuals) or Australian companies. In addition, TSPF boat licences are issued under s. 19(2) of the *Torres Strait Fisheries Act (*TSF Act*)* and as such these licenses are subject to s. 19(4) of the TSF Act which includes obligations for the PSJA regarding article 27 of the Torres Strait Treaty. Additional amendments proposed below to Section 1.3 (1) *Interpretation* will require that TSPF Licences authorise the use of an Australian boat as defined in the TSF Act[1]. Licensing processes have been established to ensure that the granting and transfer of licenses across all TS fisheries comply with the Torres Strait Treaty and more specifically s. 19 of the TSF Act

[1] Under the section 3 of the TSF Act an Australian boat is a boat "…*which is wholly owned by a natural person who is a resident of, or by a company incorporated in, Australia*…"

Attachment 4.5A proposed amendments for the Torres Strait Prawn Fishery Management Plan

Additional amendments

Amendment number	Section of the Act	Suggested change	Rationale
2	1.3 (1) Interpretation[2]	Change several definitions to reflect other amendments including: *[delete]* ***TSPF Master Fisherman's Licence*** *means a licence granted under section 19(1) of the Act that has a prawn fishery entry that allows the holder to be in charge of the commercial fishing activities aboard a boat referred to on a TSPF boat licence.* ***TSPF boat licence*** means a licence granted under section 19(2) of the Act that has a prawn fishery entry that allows the *[insert] Australian* boat identified in the licence to be used for commercial fishing for prawn in the fishery. Insert new definition ***Protected species*** *means:* *a) a listed threatened species within the meaning of the Environment Protection and Biodiversity Conservation Act 1999 (other than a conservation dependent species within the meaning of that Act); or* *b) a listed marine species within the meaning of that Act; or* *c) a listed migratory species within the meaning of that Act; or* d) *a whale.*	**Master Fishermans Licence** is defined in the TSF Act and not required in the TSPF MP. ***TSPF boat licence*** will be amended to make the requirement for a boat in the TSPF to be an Australian Boat. Protected species definition will be moved from section 5.7 (2)(a) into interpretation section, consistent with other legislation, for example, see Section 5. *Fisheries Management Regulations 2019* (refer to amendment number 13).

[2] Legal advice may recommend additional amendments to the definitions to align with other changes in the suite of amendments

3	2.1 (1) (a) Who may fish in the fishery	2.1 (1) A person may fish commercially for prawn in the area of the fishery during a fishing season if, at the time the prawn are taken: (a) holds a [delete] ~~TSPF master fisherman's licence~~ [insert] TSPF boat licence; and i. The person is fishing from an Australian boat nominated on a TSPF boat Licence; and ii. the holder of the TSPF boat licence holds unused units; or	under the TSF Act a Master fisherman's licence is required to undertake commercial fishing (other than community fishing) in an area of Australian jurisdiction so reference to and requirement for a master fisherman's licence is unnecessary in the TSPF MP. It is a duplication of a rule across multiple legislation, which isn't recommended.
4	2.3 (2) and (3)	Numbering of sub sections is incorrect sections 2.4(2) and 2.4(3) will be renumbered to 2.3 (1) and 2.4 (2) respectively	To fix an error with the TSPF MP numbering
5	2.4 (2) Determination of reference points	2.4 (2) The PZJA will review the reference points at least every [delete] ~~two~~ [insert] 5 years to ensure that they remain appropriate.	To reflect the current arrangements for the fishery and to align with other assessment cycles in the fishery
6	2.5 (1) Determination of total allowable effort (TAE)	At least every [delete] ~~3~~ [insert] 5 years the PZJA will determine the TAE for the fishery, based on the reference points determined under section 2.4, or other management strategy.	To reduce the administrative burden of determining the TAE every 3 years despite not changing since the commencement of the plan. 5 years is considered sufficient to allow for periodic review while providing operational certainty to the fishery
7	3.1 (1) Grant of Licences	Delete Section 3.1 **Grant of licences** 1) As set out in section 19 of the Act, licences may be granted for commercial fishing from a boat in the fishery and for carrying, or for carrying and processing product in the fishery. [NOTE: by section 36 of the Act, the Minister's powers concerning licences are exercisable by the PZJA.]	This section duplicates a power provided by the TSF Act and it is not required in the TSPF MP
8	3.4 (1) TSPF TPC licence	A TSPF TPC licence remains in force for a period of [delete] ~~one year~~ [insert] for the period specified in the licence	Current 1 year restriction on TPC licences is an administrative burden and this change will make the TSPF MP consistent with proposed amendments to the TSF Act and Regs

9	3.6 Scientific and developmental permits	[delete] Section 3.6 **Scientific and developmental permits** 1) As set out in section 12 of the Act, permits for scientific or developmental purposes may be granted for an area of the fishery. 2) Developmental permits will only be granted to holders of TSPF boat licences. 3) The PZJA may determine guidelines for: a) the grant of and revocation of scientific and developmental permits; and b) the imposition, variation and revocation of conditions of those permits. [NOTE: For scientific and developmental permits generally, see s.12 of the Act.]	This section duplicates a power included in the *Torres Strait Fisheries Act 1985* and is not required in the TSPF MP
10	3.7 (6) Variation of TSPF boat licence – nominated boat	[delete] In spite of subsection (5), a boat may be nominated for a TSPF boat licence if on the commencement date, and at all times since that date, that boat has been recorded on that TSPF boat licence, and the length of that boat has not been increased.	delete, as this section is no longer required
11	4.4 Initial allocation of Australian units	[delete] section 4.4 **Initial allocation of Australian units** 1) The PZJA must allocate Australian units to TSPF boat licence holders. 2) The PZJA will make an initial allocation of Australian units to each TSPF boat licence holder after the commencement date on the following basis: a. the PZJA will ascertain the number of fishing days allocated to each TSPF boat licence holder: i. at the end of the fishing season in which this Plan commences; or ii. if this Plan commences after the end of a fishing season – at the end of the previous fishing season; and	Initial allocation is now complete, and section is no longer required

		iii. the PZJA will then allocate each TSPF boat licence holder a number of b. Australian units equivalent to the number of fishing days (that is to say, 1 fishing day equals 1 unit). 3) The reference in subsection (2) to fishing days allocated to a TSPF boat licence holder does not include temporarily allocated days.	
12	5.1 (1)(c) Licence and endorsement conditions - general	5.1 (1)(c) keep a logbook of the type specified in the current logbook instrument [insert] *and ensure that relevant information about fish taken with the TSPF licence is accurately and fully recorded and submitted in the logbook, in accordance with the instructions for completing the Logbook; and*	Additional wording included to improve logbook regulation and be consistent with the paper licence condition wording.
13	5.7 Licence and endorsement conditions – obligations about interactions with certain species and communities.	5.7 (2) In particular, the holder must take all reasonable steps to [delete]~~:~~ ~~a) avoid interaction with the following:~~ ~~i. cetaceans;~~ ~~ii. marine species listed for section 248 of the EPBC Act;~~ ~~iii. migratory species listed for section 209 of the EPBC Act;~~ ~~iv. threatened ecological communities listed for section 181 of the EPBC Act;~~ ~~v. threatened species listed for section 178 of the EPBC Act; and~~ ~~b) ensure that anything that may harm the marine environment is not disposed of at sea.~~ [insert] to avoid interactions with protected species 5.7 (3) If the fishing activities undertaken on the boat result in an interaction with a [delete] ~~species or community~~	5.7 (2) will be included in section 1.3 (1) interpretation as a definition 5.7 (3) (a) not required as TSF Regs (s.11) and logbook instruments includes requirements to fill out logbooks including protected species interactions.

		~~mentioned in subsection (2)~~ [insert] protected species the licence holder must: 5.7 (3)(c) if the interaction results in an injury to a [delete] ~~member of the species or~~ ~~Community~~ [insert] protected species, do everything that can practicably be done to give aid to it; and 5.7(3)(d) if the interaction results in the death of a [delete] ~~member of the species or~~ ~~Community~~ [insert] protected species]: 5.7(3)(e) if the interaction results in the death of, or an injury to, a [delete] ~~member of the species or community~~ [insert] protected species, report the interaction in accordance with any requirement imposed by regulations made for the purposes of this section.	Other changes to reflect the new definition ***Protected species*** in 1.3
14	6.4 Transitional	Delete Section 6.4 **Transitional** 1) A TSPF licence in force immediately before the commencement date remains in force until the following 25 February. 2) If the PZJA exercises its powers under Part 4 before 25 February, nothing done in exercise of those powers has effect until after that 25 February. 3) The holder of a unit is not entitled to transfer a unit temporarily until after 25 February. In this section, 25 February means the first 25 February that occurs after the commencement date.	This section is no longer required as it provides for transitional arrangements associated with effort allocation across the TSPF
15	Schedule 4- Size Limits	Delete Schedule 4 – **Size Limits**	Currently only includes a size limit for Moreton Bay Bugs 75mm Carapace width.

		1) In this Schedule: ***Moreton Bay Bug*** means fish of the genus Thenus. 2) The size limit for taking, processing or carrying of Moreton Bay Bugs is a carapace width of at least 75 millimetres when measured at the widest point of the carapace.	Bug size limits and other requirements (e.g. berried females) will be implemented in a legislative instrument issued under Section 16 of the *Torres Strait Fisheries Act 1985.* This will allow size limits to be updated if required as new science becomes available.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
MANAGEMENT **Remaking of Torres Strait fisheries logbook instrument**	Agenda Item No. 4.6 **FOR DISCUSSION**

RECOMMENDATIONS

4.6.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC)

[CONTENT TO BE FINALISED]

KEY ISSUES

[CONTENT TO BE FINALISED]

BACKGROUND

[CONTENT TO BE FINALISED]

ATTACHMENTS

[CONTENT TO BE FINALISED]

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21 29-30 November 2022**
MANAGEMENT Review of the bycatch and discard workplan	**Agenda Item No. 4.7 FOR DISCUSSION**

RECOMMENDATIONS

4.7.1 The Torres Strait Prawn Management Advisory Committee (TSPMAC) **NOTES** progress towards meeting the objectives and actions in the Torres Strait Prawn Fishery (TSPF) Bycatch and Discarding Workplan 2015-2017 (bycatch workplan) at Attachment 4.7A and 4.7B.

4.7.2 The TSPMAC **DISCUSSES** priorities and actions for management of bycatch in the TSPF to be implemented through a revised bycatch workplan to be drafted and presented to the TSPMAC for consideration our of session or at its next meeting

KEY ISSUES

1. Objective 4 of the *TSPF Management Plan 2009* (TSPF MP) requires that the fishery manage interactions with the marine environment including the incidental capture of non-target species and impacts on demersal habitats.

2. The bycatch workplan is one of the tools that gives effect to this requirement of the TSPF MP. The current draft of the bycatch workplan included actions for implementation between 2015-2017.

3. Some actions in the workplan are complete and some are ongoing. However, developing a revised workplan is necessary to ensure that the fishery can meet its legislative requirements.

4. The existing bycatch workplan for the TSPF and the Northern Prawn Fishery (NPF) Bycatch Strategy 2020-2024 (NPF bycatch strategy; Attachment 4.7C) may provide useful insights into priorities and actions to include in a revised workplan for the TSPF.

BACKGROUND

5. The bycatch workplan details actions to address priority bycatch issues in accordance with legislative and policy responsibilities.

6. The aim of the workplan is to:

    a. Respond to ecological risks assessed through the Ecological Risk Assessment for the Effect of Fishing and other assessment processes.

b. Avoid interactions with species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and species listed under the Torres Strait Species of Interest list.

c. Reduce discarding of target species to as close to zero as practically possible.

d. Minimise overall bycatch in the fishery.

7. Table 1 details the objectives from the 2015-17 BDWP in the TSPF and progress against these:

Possible objectives or performance criteria	**Progress**
Reduce the risk to key high priority species, TEPs and species of interest in the TSPF.	This objective was pursued through review of the BRDs for the fishery. The objective still seems relevant to continue to pursue in the next BDWP for the TSPF.
Provide protection for areas that are important habitat for vulnerable species of marine life.	This objective wasn't actively pursued during the last plan. Because prawn trawling occurs in the same areas, and occurs on sandy bottom with little substrate (no coral etc) over and over, risks to habitats may be lower than in other fisheries and methods.
Get a better understanding of the current BRDs used in the TSPF, and improve the uptake of the most effective BRDs. Continue to improve the quality of scientific data collected by scientific observers;	A review was completed, and trials have been underway for new devices, as discussed in agenda item 4.4. The TSPMAC could provide advice on what sort of quality improvements they may want on scientific data collection.
Improve reporting of bycatch and TEP interactions.	AFMA sent a letter to licence holders reminding them of the requirement to report interactions with TEP species. The TSPMAC also discussed at its last meeting, ideas around trying to introduce Torres Strait community observers that may be able to collect data on TEP and species of interest. This action didn't progress to date due to COVID-19. The TSPMAC should discuss this options relevance again at this meeting.

Clarify gear specifications in the relevant legislative instruments.	The legislative instrument relating to gear for the TSPF as updated in 2017, to ensure the requirements for TEDs were aligned with the US standards for floats. Previously certain floats were allowed which were not in alignment with US standards.

8. As well as objectives within the bycatch workplan, management actions and performance indicators were identified to progress these actions. Progress towards the three actions are outlined in the table in Attachment 4.7A.

9. Actions 1 and 2, relating to BRDs and gear are near completion, with work being completed in agenda item 4.1.

10. Action 3 was only to be pursued once effort triggers within the TSPF Harvest Strategy were reached. These triggers were not reached. However, the 2011 TSPF Sustainability Assessment, conducted by Roland Pitcher, noted that further risk related assessments for the TSPF may not be required until effort increases in the fishery, thus resulting in more interactions with species, communities and habitats.

11. The NPF bycatch strategy includes objectives, indicators and actions that may have direct relevance to the TSPF. For example, the NPF bycatch strategy is structured around Threatened Endangered and Protected (TEP) species, High-risk species, and general bycatch species.

12. Noting the different TEP, high risk and general bycatch species in the TSPF some of the NPF bycatch strategy objectives may be relevant to the TSPF and are discussed in table 2.

DISCUSSION

13. Objectives that may be worth pursing in a future TSPF bycatch workplan may include:

Table 2. Possible objectives/ management actions or performance indicators which could be included in the next TSPF bycatch workplan.

Possible objectives	**Discussion points**
Reduce the risk to key high priority species, TEPs and species of interest in the TSPF.	This objective still seems relevant to continue to pursue.
Improve reporting of bycatch and TEP interactions.	As per Table 1. This could be included in the next plan as well, so TSPMAC can discuss other ways to pursue this
Interactions with TEP species, are	Scientific observer program continues to

known by species, area and time and are independently validated.	collect data on TEP species to assist with validating logbook data.
Fishing operations take all reasonable steps to avoid the mortality of, or injury to, species listed under the EPBC Act, with particular focus on sygnathids and sea snakes.	Adapted from, to include sygnathids as key species.
Improve mitigation measures and survivability of TEP species.	

Management actions/ Performance Indicators
Review research into sea snake identification occurring in Western Australia which is reviewing identification of and handling safety for sea snakes.
Data collected through observer program (2.6% of actual effort coverage with scientific observers) and logbooks
Sygnathid identification material developed or if already existing, adapted for use in TSPF, and distributed to all boats including handling methods to maximise survivability of animals.
Continue to monitor gear research in the NPF, and consider update of new BRDs in the TSPF, and relevant trials following NPF development and trials.
All TSPF operators reporting interactions with sygnathids, where possible, all species identified to species level, noting this may not be possible with high catch trawl shots.

FINANCIAL IMPLICATIONS

14. Development of a revised bycatch workplan will require dedicated resources to draft and implement, including consultation with TSPMAC and other stakeholders. These costs may be covered within already budgeted staff time or may require additional budgeting or research funding.

ATTACHMENTS

Attachment 4.7A – progress against TSPF bycatch workplan 2015 actions

Attachment 4.7B – TSPF Bycatch and Discarding Workplan 2015-2017

Attachment 4.7C – NPF Bycatch Strategy 2020-2024

Attachment 4.7A – TSPF BDWP management actions, performance indicators and progress.

Management Actions	Risks being addressed	Timeframe	Responsible Party	Projected Cost	Milestones	Performance Indicators	Progress
1. Conduct a gear survey to identify the BRDs and TEDs used in the fishery.	Potential use of less effective BRDs and TEDs than are best practice.	June 2015	AFMA bycatch program.	$1,000-2,000. AFMA bycatch program.	Survey conducted. Draft survey report produced. Final report with actions and recommendations to the Torres Strait Prawn Management Advisory Committee.	Removal of any outdated BRDs from the fishery (September 2015). Increased use of the most effective BRDs in the fishery.	As per agenda paper 4.4, the TSPMAC supported trials of new BRDs in the TSPF, which have been completed over the last three fishing seasons. Review and discussion around possible removal of some older BRDs will be discussed under that agenda paper, then AFMA will seek PZJA consideration regarding introducing new BRDs and removing older less effective ones.
2. Review and streamline the TSPF gear regulations.	Use of the most effective bycatch reduction devices. Compliance with minimum gear standards (align with US standards). Industry understanding and compliance with gear regulations. Inconsistency in regulations between similar fisheries	End of 2015	AFMA Management TSPMAC	To be included in AFMA bycatch program budget. (TED review has already been conducted for NPF and the results can be extended to the TSPF. BRD review was conducted for QLD east coast fishery leading to changes in QLD regulations)	Permitted gear types complied with. Improved compliance rates with gear regulations.	Develop list of most effective devices permitted to be used. Review minimum gear standards (i.e. align TEDs with US standards). Simplify regulations. Update the TSPF gear legislative instrument.	The review of BRDs is being finalised as above. The legislative instrument relating to gear for the TSPF as updated in 2017, to ensure the requirements for TEDs were aligned with the US standards for floats. Previously certain floats were allowed which were not in alignment with US standards.
3. If catch / effort increases to within trigger	Risk to bycatch species found as moderate/ high risk through the ERA	Initiated once harvest strategy triggers are reached.	AFMA fisheries management team.	Budgeted in fishery overheads.	Monitor catch and effort triggers. Review of high risk ERA species undertaken within	If triggers are reached, TSPMAC recommendation is made regarding necessary management actions for	Triggers have never been reached with the TSPF HS, meaning effort has remained low, therefore keep risk to

Management Actions	Risks being addressed	Timeframe	Responsible Party	Projected Cost	Milestones	Performance Indicators	Progress
limits as described in the Harvest Strategy then a review of moderate/high risk ERA species will be undertaken.	process.				AFMA and management options discussed by TSPMAC if triggers are reached.	moderate/ high risk species.	other species lower than if the fishery was operating at a higher capacity. The sustainability assessment was updated for the fishery in 2011, which noted that all assessed risks were negligible at current low effort. The report also noted that should the fishery increase in future, it is likely that some management action may be required to ensure sustainability of all bycatch and benthos. An increase in effort has not yet occurred.

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	**Meeting No. 21** **29-30 November 2022**
OTHER BUSINESS **AFMA Reflect Reconciliation Action Plan**	Agenda Item No. 6.1 **FOR DISCUSSION**

RECOMMENDATIONS

4.6.1 That the Torres Strait Prawn Management Advisory Committee (TSPMAC)

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KEY ISSUES

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