Meeting Papers

for the

FIFTH MEETING OF THE PZJA TORRES STRAIT FINFISH FISHERY RESOURCE ASSESSMENT GROUP

31 October to 1 November 2019

8:30 am – 5:00 pm

Novotel Oasis Cairns Resort

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
PRELIMINARIES **Meeting preliminaries**	**Agenda Item No. 1.1** **FOR NOTING**

RECOMMENDATIONS

That the Finfish RAG **NOTE**:

1. the Chairperson's acknowledgement of traditional owners and welcome address; and
2. apologies received from members unable to attend:
    a. apologies have been received from FRAG QDAF member Tom Roberts

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
PRELIMINARIES **Adoption of agenda**	**Agenda Item No. 1.2** **FOR NOTING**

RECOMMENDATIONS

That the FFRAG **NOTE** and **ADOPT** the draft agenda.

BACKGROUND

1. A draft agenda was circulated to members and other participants on 19 September 2019.

2. No comments were received from members.

3. The agenda has been updated to reflect the changed meeting venue – Novotel Oasis Cairns.

4. AFMA has added an additional item to the attached agenda, 4.3 Use of Vessel Monitoring Systems to support Finfish Fishery data needs.

5th MEETING OF THE PZJA TORRES STRAIT FINFISH FISHERY RESOURCE ASSESSMENT GROUP

31 Oct – 1 Nov 2019 (8:30 am – 5:00 pm)

Novotel Cairns Oasis Resort, 122 Lakes Street, Cairns City, Ph. (07) 4080 1888.

DRAFT AGENDA

The meeting will open at 8.30am on Thursday 31 October 2019 at 8:30 am.

AGENDA ITEM 1 PRELIMINARIES

1.1 Acknowledgement of Traditional Owners, welcome and apologies

The Chair will welcome FFRAG members, permanent observers, invited participants and any casual observers to the 5th Torres Strait Finfish Resource Assessment Group.

1.2 Adoption of agenda

The FFRAG is invited to consider and adopt the draft agenda.

1.3 Declarations of interest

FFRAG members must declare any real or potential conflicts of interests to the group and determine whether a member may or may not be present during discussion of, or decisions made, on the matter which is the subject of the conflict.

1.4 Action items from previous meetings

The FFRAG will note the status of action items arising from previous RAG meetings.

AGENDA ITEM 2 FFRAG UPDATES

2.1 Industry and Scientific members updates

This agenda item is an opportunity for the FFRAG to develop a common understanding of the Torres Strait Finfish Fishery including recent fishing, economic, biological and ecological trends. Industry and scientific members are asked to provide a brief verbal update on any recent developments relevant to the fishery.

2.2 Government updates

The FFRAG will note updates from each of the PZJA government agency members on the latest developments relevant to the Torres Strait Finfish Fishery.

2.2.1 Australian Fisheries Management Authority (AFMA)

2.2.2 Torres Strait Regional Authority (TSRA)

2.2.3 Queensland Department of Agriculture and Fisheries (QDAF)

2.3 Native Title

The FFRAG will note a verbal update from the Malu Lamar representative

2.4 PNG National Fisheries Authority

The FFRAG will note an update from the PNG NFA observer

AGENDA ITEM 3 HARVEST STRATEGY

3.1 Draft Torres Strait Finfish Fishery Harvest Strategy Framework

FFRAG will be provided with an overview of the outcomes from the project *Harvest Strategies for the Torres Strait Finfish Fishery* led by CSIRO. FFRAG are asked to discuss and provide advice to the PZJA on the final draft product ahead of a decision by the PZJA on whether to release the framework for public comment.

Expected Outcome: The FFRAG will examine the draft framework and **provide advice** to the PZJA on whether the draft framework is to be released for public comment ahead of implementation.

3.2 Consultation and implementation of the Harvest Strategy

AFMA will outline a plan for consulting on the draft harvest strategy with a view for implementation by the 2021-22 season.

AGENDA ITEM 4 MANAGEMENT AND SCIENCE

4.1 Review of Western Line Closure

The FFRAG are asked discuss and provide advice to the PZJA on the outcomes of the round of community consultation and public comment on the proposal to review the Western Line Closure which prohibits commercial fishing for reef-line finfish species (trout, trevally etc) in the Western part of the Torres Strait Protected Zone.

Expected Outcome: The FFRAG will **provide advice to the PZJA** on any scientific issues (e.g. habitats, species interactions) that arose during community consultation on reviewing the closure.

4.2 Australian Spanish mackerel stock assessments

FFRAG are asked to note an overview of Spanish mackerel assessments and trends in catches, catch rates from other Australian mackerel fisheries including Queensland, Northern Territory and Western Australia.

4.3 Use of Vessel Monitoring Systems to support Finfish Fishery data needs

FFRAG are asked to DISCUSS and PROVIDE ADVICE on the potential scientific benefits from using Vessel Monitoring System data to address fishery data needs such as stock assessments.

AGENDA ITEM 5 RESEARCH

5.1 Outcomes from the Torres Strait Scientific Advisory Committee (TSSAC) meeting

The FFRAG will note an update on the outcomes of the recent TSSAC meeting which endorsed three research projects to go to funding, commencing in this 2019/20 financial year. FFRAG are asked to note how these projects will support decision making by the PZJA.

5.2 Research updates

The FFRAG will note updates on funded projects relevant to the Torres Strait Finfish Fishery.

5.2.1 Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment

The FFRAG will note an update on the funded project including initial community visits in September 2019.

5.2.2 Torres Strait Spanish mackerel stock assessment with appraisal of environmental drivers.

The FFRAG will note an update on the funded project which includes two scheduled updates of the Spanish mackerel stock assessment (2019 and 2020). *Note that an updated stock assessment will not be presented to the FFRAG at this meeting and is scheduled for FFRAG 6 meeting on 27-28 November 2019.*

5.2.3 Developing an approach for measuring the non-commercial fishing in Torres Strait in order to improve fisheries management and promote sustainable livelihoods.

The FFRAG will note an update on the funded project.

5.3 Five Year Fishery Research Plan

A five-year rolling research plan is used to inform the Torres Strait Scientific Advisory Committee's (TSSAC) annual call for research funding proposals.

Expected Outcome: The FFRAG will discuss and **provide advice** to the TSSAC on research priorities for the Torres Strait Finfish Fishery under the Five-Year Rolling Research Plan 2020/21 – 2023/24.

AGENDA ITEM 6 OTHER BUSINESS

6.1 Other Business

The FFRAG is invited to nominate any other business for discussion.

6.2 Date and venue for next meeting

The FFRAG will confirm arrangements for FFRAG 6, scheduled for 27-28 November 2019 on Thursday Island, Torres Strait followed by a one-day meeting of the Finfish Fishery Working Group on 29 November 2019.

CLOSE OF MEETING

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct - 1 Nov 2019**
PRELIMINARIES **Declarations of interests**	**Agenda Item No. 1.3** **FOR ACTION**

RECOMMENDATIONS

That the Finfish RAG:

1. **DECLARE** all real or potential conflicts of interest in Torres Strait Finfish Fisheries at the commencement of the meeting;
2. **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;
3. **ABIDE** by decisions of the RAG regarding the management of conflicts of interest; and
4. **NOTE** that the record of the meeting must record the fact of any disclosure, and the determination of the RAG 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. RAG members are asked to provide the executive officer with a list of declared interests.
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.
6. Interests declared at the last FFRAG meeting (FFRAG 4) with some updates highlighted in yellow from members supplied at two industry meetings (11-12 June 2019 and 27-28 June 2019) to reflect funded research projects are provided at **ATTACHMENT A**.

FFRAG5 1.3a, FFRAG Register of Declared Interests

Name	Organisation	Declaration of interest
David Brewer – RAG Independent Chairperson	Independent chair	Director – Upwelling P/L (David Brewer Consulting) which has no current Torres Strait projects or pecuniary interests. Honorary Fellow - CSIRO Chair - Torres Strait Finfish RAG Scientific member – Torres Strait Finfish Working Group Scientific member – Northern Prawn Fishery RAG Current consultancies with Quandamooka Yoolooburrabee Aboriginal Corporation, Redlands City Council.
Selina Stoute – AFMA member	AFMA	No interests declared.
Tom Roberts – QDAF member	QDAF	No interests declared.
Allison Runck - TSRA member	TSRA	No pecuniary interests declared noting TSRA holds access rights to the Finfish Fishery and generates revenue on behalf of Traditional Inhabitants through seasonally leasing access.
Rocky Stephen – industry member	Kos and Abob Fisheries, Ugar Brother Bear Fisheries, Ugar. Torres Strait Island Regional Council.	Councillor for Ugar, Chairperson of Kos and Abob Fisheries Ugar, Works with brother in a commercial fishing business on Ugar, Eastern cluster member on the PZJA Finfish Working Group. Sits on Prawn MAC and TS Scientific Advisory Committee. Does not hold a TIB licence.
Kenny Bedford – industry member	Debe Mekik Le Consultancy	Runs a consultancy business which has recently delivered the infrastructure audit to TSRA.
John Tabo – industry member	Industry, TSRA	Commercial coral trout fisher. Holds a Torres Strait Traditional Inhabitant Boat Licence. Member of the Torres Strait Regional Authority Finfish Quota Management Committee.
Tenny Elisala – industry member	Industry, TSRA	TSRA Ranger Dauan, TIB licence holder.
Paul Lowatta – industry member	Industry.	Full time commercial fisher. Holds a Torres Strait Traditional Inhabitant Boat Licence.

Name	Organisation	Declaration of interest
Tony Vass – industry member	Industry.	No financial interests in the Torres Strait. Does not own or operate a licence in Torres Strait.
Michael O'Neill – scientific member	QDAF	Principal scientist for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery. Co-investigator on TSSAC recommended Spanish mackerel assessment project. Scientific member of PZJA Finfish Working Group.
Ashley Williams – scientific member	Australian Bureau of Agricultural and Resource Economics James Cook University	ABARES fishery scientist under Department of Agriculture and Water Resources. Involved in previous TS research, is an author on the ABARES Fishery Status Reports.
Rik Buckworth – scientific member	Sea Sense Consultancy	Independent Fisheries Scientist with Sea Sense Consultancy, adjunct at Charles Darwin University, ex NT Fisheries, AFMA Northern Prawn RAG, AFMA South East RAG. Principal investigator on TSSAC approved TS Spanish mackerel assessment project.
Andrew Trappett	AFMA, RAG Executive Officer	Involved as co-investigator on TSSAC approved projects for mackerel assessment and ageing, stakeholder liaison, communication and data services.

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
PRELIMINARIES Action items and record from last meeting	Agenda Item No. 1.4 FOR NOTING

RECOMMENDATIONS

1. That the RAG **NOTE** the**:**
    a. the progress of actions arising from previous FFRAG meetings; and
    b. final meeting record of the FFRAG 4 meeting on 13-14 March 2019.

KEY ISSUES

Actions arising

1. Progress against the actions arising from FFRAG 4 is detailed in **Table 1**

2. Progress against the actions arising from FFRAG 3 is detailed in **Table 2**

Meeting record

3. The record from FFRAG 4 was divided into two parts. Part A with key items to go to PZJA for decision at their 1 April 2019 meeting (Recommended Biological Catch and Western Line Closure advice) were circulated to members for comments on 20 March 2019.

4. The period for comments on Part A of the record was closed on 22 March 2019. Comments were received from industry and scientific members and all accepted as improvements to help clarify the record.

5. Part B of the FFRAG 4 meeting record with all remaining parts of the record was circulated to members (including the closed Part A portion) via email on 4 April 2019.

6. The period for comments on Part B of the record was closed on 24 April 2019. No additional comments were received from members on this part of the record.

7. The full meeting record was closed and ratified as a true and accurate record following the period for comment and is posted on the PZJA website for public viewing https://www.pzja.gov.au/torres-strait-finfish-groups.

ATTACHMENTS

Attachment 1.4a - Finfish RAG Meeting 4, 13-14 March 2019, FINAL Meeting Record.

Table 1. Status of actions arising from FFRAG 4 meeting 13-14 March 2019**.**

Number	Agenda Item	Action	Status update for FFRAG 5
FRAG 4, Action 1.	5. Fishery data needs	AFMA to circulate a draft yearly data cycle detailing key dates for the fishery data and assessments to support season openings for RAG member comment.	**In progress** – to be sent out-of-session ahead of FFRAG 5 for consideration and comment.
FRAG 4, Action 2.	2.2.1 Mackerel assessment	AFMA to work with QDAF on clarifying differences between data reported by AFMA from database (Agenda item 2.2.1 update) to stock assessment data summaries.	**In progress** – AFMA to work with mackerel assessment team during scheduled project work in Oct 2019 to compare data rules ahead of FFRAG 6, 27-28 Nov 2019.

Table 2. Status of actions arising from FFRAG 3 meeting 19-20 Nov 2018.

Number	Agenda Item	Action	Status reported at FFRAG 4	Status update for FFRAG 5 (AFMA EO)
FRAG 3, Action 1.	3. Harvest Strategy update	HS Project Team to provide information on performance indicators to inform stakeholders ahead of next RAG/stakeholder meeting e.g. performance figures from recent season's kg per operation day etc. This relates at this stage to Spanish mackerel only. 25kg/day was originally put on the table. Catch rate that TIB wish to have a target that meets their fishing operational targets.	**In progress** – being developed as part of HS project and to be presented at next dedicated HS stakeholder meeting.	**Complete –** considered during harvest strategy development and presented at industry harvest strategy workshops for consideration (June 2019).
FRAG 3, Action 3.	4. Coral trout assessment	QDAF, UQ and AFMA to review Coral Trout data sources to examine whether there is any duplication with TDB01 docket book data (e.g. JCU island ledgers).	**In progress** – as part of data characterisation for the coral trout assessment these data have been analysed by the HS Project Team with duplicate records removed (fishers filling out island ledger data plus docket books).	**Complete –** analysis and suggested treatment presented by UQ (Matt Holden) at FFRAG 4.
FRAG 3, Action 5.	4. Coral trout assessment	QDAF, UQ and AFMA to investigate the reported 1995 peak in coral trout catch rates (evident in Williams et.al 2007 MSE) (RAG queries whether this was targeted fishing for live trout)	**In progress** – Subject to consideration under HS project and assessment update.	**Incomplete –** requires further analysis as part of next funded work on assessment.

FRAG 3, Action 6.	4. Coral trout assessment	AFMA to work on characterising trout fisher behaviour - how far do dories travel from the primary boat?	**In progress** – To be actioned ahead of next dedicated stakeholder meeting for Harvest Strategy development scheduled for April/May 2019.	**In progress –** initial consultation with industry suggests tenders do travel a significant distance from primary vessel and may visit a number of coral bombies in a fishing day.
FRAG 3, Action 7.	4. Coral trout assessment	AFMA to report on rationale and timing for ban on live trout fishing in Torres Strait.	**In progress** – To be presented at FRAG 4 under agenda item 3.1.	**Complete –** report provided by AFMA EO at FFRAG 4: 3 October 2001 – PZJA decision to limit expansion in reef-line fishery by implementing ban on retaining live finfish. 15 January 2003 – Fisheries Management Notice No. 63 implemented which banned retention of live finfish. 21 August 2007 – PZJA approved removal of FMN No. 63 once the Finfish Management Plan is put in place. 27 January 2011 – PZJA decision to Amend Fisheries Management Notice 78 to allow live take rather than wait for Plan to come into effect. 26 August 2011 – Fisheries Management Instrument No. 8 in place (replaces series of notices FMN 78, FMN 75, FMN 63) which now no longer includes retention of live finfish, thereby lifting the ban. Regulations to ban retention of live finfish in place from 15 January 2003 to 26 August 2011 (lifted towards start of 2011-12 fishing season).
FRAG 3, Action 8.	4. Coral trout assessment	RAG and trout assessment team are to consider issue of whether boats targeting live trout have a different effect on the coral trout model than those boats working fillets.	**In progress** – some initial discussion minuted at FRAG3.The report "*A review of reef line fishing in the Eastern Torres Strait, Mapstone (2003)*" has been circulated by AFMA. AFMA has provided the assessment team with data from boats recently targeting live trout in Torres Strait.	**Ongoing–** data provided by AFMA to HS project team and some preliminary analysis performed as part of data characterisation. Further work required in next assessment when funded.

FRAG 3, Action 9.	4.& 5. stock assessments	AFMA to report to RAG and HS Project Team on when island community freezers have been operational.	**In progress** – to be presented at FRAG 4 under agenda item 3.1.	**Incomplete.** Not yet considered as a factor in stock assessments.
FRAG 3, Action 11.	5. Spanish mackerel assessment	QDAF to run a sensitivity analysis on the mackerel model using the GBR effort creep assumed figure.	**In progress** – to be presented at FRAG 4 under agenda item 3.2.	**Complete –** model runs in assessment update at FFRAG 4 incorporated effort creep effects.
FRAG 3, Action 12.	5. Spanish mackerel assessment	QDAF to examine whether analyses can be performed on dory driver (reliant on data being provided by AFMA) and if this is a useful factor in the mackerel model.	**In progress –** considered at Finfish Data Meeting 1 and would likely be a layer of analysis that could improve the models utility. Paper logbooks for key boats driving the CPUE series have been pulled from storage to facilitate analysis of number of dories active and skipper/dory driver names over time. This analysis could be performed during the 2019-20 cycle with RAG support and AFMA resourcing.	**In progress –** AFMA data services team has pulled historic datasheets from storage and is presently punching dory driver name. Data to be provided to assessment team when available.
FRAG 3, Action 13.	5. Spanish mackerel assessment	QDAF to work with AFMA and Tony Vass on continuing examination of number of boats fishing and CPUE from the pre-buyout period (2002-2005) to see if 'paper-fish' are evident in the data.	**In progress –** some progress at Finfish Data Meeting 1 with examination of boat tables, input from Mr Vass on a time series of skippers and boats active over time. Several boats for analysis were identified and their paper logbooks have been pulled from storage for potential analysis during next assessment update during 2019-20 cycle noting this will be an intensive exercise.	**In progress –** to be actioned during 2019 stock assessment update.
FRAG 3, Action 14.	5. Spanish mackerel assessment	AFMA to investigate when the Community Development Program stopped incorporating fishing using TDB01 docket books (fishers being paid by CDP through dockets).	**In progress** – to be presented at FRAG 4 under agenda item 3.1.	**Complete –** consultation with industry suggests that CDP ceased fishing as an activity using TBD01 docket books around 2008-09.

PZJA Torres Strait Finfish Resource Assessment Group

Meeting Number 4

13-14 March 2019
Rydges Plaza Hotel, Cairns

Meeting Record

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

Australian Government
Australian Fisheries Management Authority

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Agenda Item 1 – Preliminaries

1.1 Preliminaries

The fourth meeting of the PZJA Torres Strait Finfish Fishery Resource Assessment Group (FRAG) was opened in prayer by Cr Rocky Stephen at 8:45 am. FRAG Chairperson, Mr David Brewer, acknowledged the traditional owners of the land on which the meeting was held. Mr Kenny Bedford, Industry Member and Mr Tom Roberts, QDAF member were noted as apologies. It was noted that Malu Lamar, Registered Native Title Body Corporate, were invited participants but declined to send an attendee to the meeting. The RAG chair welcomed new industry members: Mr John Tabo, Mr Paul Lowatta and Mr Tenny Elisala.

The RAG were advised that AFMA was recording the meeting for the purpose of ensuring an accurate record is produced. The recording is kept secure and is deleted once the final meeting record is published.

The RAG Chairperson provided a presentation on the roles of the RAG, terms of reference and conflicts of interest management procedures (**Attachment A**).

1.2 Adoption of agenda

The agenda was adopted noting the agenda items would be reordered to focus on *Agenda Item 3.2 Spanish mackerel assessment and Recommended Biological Catch for 2019-20 season* on day one and *Agenda Item 3.1 Coral trout assessment and Recommended Biological Catch for the 2019-20 season* on day two with other agenda items to follow after these items. The RAG agreed to add a discussion on estimates of Traditional Inhabitant Boat sector commercial catches under other business noting the additional agenda paper from AFMA on this item.

1.3 Declarations of interests

Table 1. Attendance and declarations of interest – Finfish RAG members

Name and position	Organisation	Declaration of interest
David Brewer, Independent Chair	Upwelling P/L (David Brewer Consultancy).	Director – Upwelling P/L (David Brewer Consulting) which has no current Torres Strait projects or pecuniary interests. Honorary Fellow - CSIRO Chair - Torres Strait Finfish RAG Scientific member – Torres Strait Finfish Working Group Scientific member – Northern Prawn Fishery RAG Current consultancies with Quandamooka Yoolooburrabee Aboriginal Corporation, Redlands City Council.
Selina Stoute, AFMA Member	Australian Fisheries Management Authority	No interests declared.
Andrew Trappett, RAG Executive Officer	Australian Fisheries Management Authority	Involved in TSSAC pre-proposal project for Spanish mackerel stock assessment as data services and industry liaison role. Unpaid by project.
Rocky Stephen, Traditional Inhabitant Member	Kos and Abob Fisheries, Ugar	Councillor for Ugar, Chairperson of Kos and Abob Fisheries Ugar, Works with brother in a commercial fishing business on Ugar, Eastern cluster representative on the PZJA Finfish

Name and position	Organisation	Declaration of interest
	Brother Bear Fisheries, Ugar Torres Strait Island Regional Council.	Working Group. Sits on Prawn MAC and TS Scientific Advisory Committee. Does not hold a TIB licence.
Tenny Elisala. Traditional Inhabitant Member	Torres Strait Regional Authority	TSRA Ranger Dauan, TIB licence holder.
Paul Lowatta, Traditional Inhabitant Member		Full time commercial fisher. Holds a Torres Strait Traditional Inhabitant Boat Licence.
John Tabo, Traditional Inhabitant Member	Torres Strait Regional Authority	Commercial coral trout fisher. Holds a Torres Strait Traditional Inhabitant Boat Licence. Member of the Torres Strait Regional Authority Finfish Quota Management Committee.
Allison Runck, TSRA Member	Torres Strait Regional Authority	No pecuniary interests declared noting that TSRA holds access rights to Torres Strait Finfish Fishery and generates revenue on behalf of Traditional Inhabitants through seasonally leasing access.
Tony Vass, Industry Member		No financial interests in the Torres Strait. Former mackerel fisher in Torres Strait 1990 to 2008, does not own or operate a licence in Torres Strait.
Michael O'Neill, Scientific Member	Queensland Department of Agriculture and Fisheries	Principal scientist for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery and pre-proposal for stock assessment work. Member of PZJA Finfish Working Group.
Ashley Williams, Scientific Member	Australian Bureau of Agricultural and Resource Economics James Cook University	ABARES fishery scientist under Department of Agriculture and Water Resources. Involved in previous TS research, is an author on the ABARES Fishery Status Reports.
Rik Buckworth, Scientific Member	Sea Sense (Consultancy)	Independent Fisheries Scientist with Sea Sense Consultancy, adjunct at Charles Darwin University, ex NT Fisheries, AFMA Northern Prawn RAG, AFMA South East RAG. Principal investigator on a proposal seeking funding for TS Spanish mackerel assessment work.

Meeting observers and declarations of interests registered.

Joseph Posu	Papua New Guinea National Fisheries Authority	No interest declared.
Trevor Hutton	Commonwealth Scientific and Industrial Research Organisation	CSIRO receives research funding. Principal investigator for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery. AFMA Northern Prawn Fishery RAG scientific member and stock assessment scientist.

George Leigh	Queensland Department of Agriculture and Fisheries	No interests. QDAF gets external funding and bids for research contracts.
Matthew Holden	University of Queensland, Maths Department.	No interests. Involved with current Harvest Strategy project.
Egon Stewart*	AFV New Traveller	Holds a sunset licence to access the Torres Strait Finfish Fishery and skippers a commercial fishing boat.

**Mr Egon Stewart joined the RAG as an observer for part of the Spanish mackerel stock assessment discussion and provided a short update on fishing the Torres Strait over recent seasons. Mr Stewart was not present at the start of the meeting to register a formal interest for RAG consideration.*

Consistent with the *Protected Zone Joint Authority Fisheries Management Paper No. 1 (FMP 1)* which guides the operation and administration of PZJA consultative forums the RAG noted the requirement to declare all interests, perceived or real. Each member declared their interest in the fishery as documented in Table 1 (above). In line with the AFMA standard for declaring conflicts of interest in Commonwealth MACs and RAGs to best protect the integrity of advice, members with grouped interests (industry, science, TSRA) were sequentially asked to leave the room to allow the remaining RAG members to:

- freely comment on the declared interests;
- agree if the interests precluded the members from participating in any discussions; and
- agree to any methods to treat the declared interest (e.g. the member provides preliminary input but leaves the room when any advice is formed).

Industry members

Industry members left the room (Rocky Stephen, Tony Vass, John Tabo, Tenny Elisala, Paul Lowatta). The RAG noted that while industry members did have direct interests, fishers are dependent on the stocks for their livelihood just as the stock assessments are dependent on data from the fishery. The RAG agreed that industry members are well placed to provide valuable on-water practical advice and should participate in all agenda items. Industry members re-joined the meeting.

Scientific members and invited participants

Scientific members, the Harvest Strategy project team and those involved with TSSAC research pre-proposals left the room (Dave Brewer, Ash Williams, Rik Buckworth, George Leigh, Trevor Hutton, Michael O'Neill and Andrew Trappett).

The RAG considered their declared interests and that RAG advice was being sought on TSSAC pre-proposals for future research and that there was potential conflicts with some researchers likely to be providing advice relative to these projects. The RAG noted AFMA are listed as co-investigator on a TSSAC pre-proposal project for Spanish mackerel stock assessment.

The RAG also noted that these potential conflicts would need to be balanced against their subject matter expertise. The RAG agreed that these members and observers should participate in all agenda items with members, and if necessary, to leave the room and not participate in the RAG forming its advice on these projects. Scientific members re-joined the meeting.

Torres Strait Regional Authority

TSRA staff (Allison Runck, John Tabo – Finfish Quota Management Committee member) left the room. The RAG noted that TSRA had declared their role in holding finfish entitlements and generating revenue from the leasing of those licences on behalf of Traditional Inhabitants. It was

noted that TSRA support fisheries development in the region with a further significant investment in infrastructure underway.

The RAG noted that while TSRA held Finfish Fishery sunset licences and revenue generated from the leasing, these holdings are managed on behalf of traditional inhabitants. Due to this the RAG noted that TSRA may have an interest, perceived or real, on the level of Total Allowable Catch available for leasing.

The RAG agreed that TSRA advice on stock assessments and other agenda items was important. It was therefore agreed that the TSRA member should participate in all agenda items with declarations of interests to be updated by members and addressed by the RAG throughout the meeting. TSRA staff re-joined the meeting.

1.4 Actions arising from previous FRAG meetings

The RAG noted the agenda paper detailing actions from FRAG 3 (19-20 November 2018) and agreed to take the paper as read noting a number of the items would be addressed under the Spanish mackerel and coral trout stock assessment agenda items.

Agenda Item 2 – RAG Updates

To allow prioritisation on stock assessments the RAG agreed to take the government and industry update papers as read.

Agenda Item 3 – Stock assessments for coral trout and Spanish mackerel

3.1 Coral trout assessment and Recommended Biological Catch advice for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** maintaining the **134.9 tonne** Total Allowable Catch for coral trout for the 2019-20 fishing season.

In making this recommendation the RAG noted that the current notional Total Allowable Catch of 134.9 t has been in place since 2008 and is based on average catches (TIB and TVH) between 2001 and 2005.

The RAG noted a presentation of the first formal stock assessment for Torres Strait coral trout from Dr George Leigh (QDAF) and Dr Matthew Holden (UQ) (**Attachment B**) and welcomed the efforts made by the team in performing the assessment. The RAG accepted the assessment as preliminary noting the stage of development of the assessment and the range of uncertainties within the assessment. Further peer review and development is recommended. The RAG strongly recommended that ongoing work be undertaken to ensure the assessment can be developed and made available for future management decisions.

The RAG accepted the methodology of the assessment of using biomass estimates from known Great Barrier Reef (GBR) habitats and inferring and scaling these values to Torres Strait habitats based on satellite mapping data to model the population and create an estimate of abundance.

The RAG noted that GBR values were an input to the model together with a catch per unit effort data series from the sunset licence sector daily fishing logbooks.

The RAG noted that although the values used as inputs to the assessment were estimates from an adjacent fishery and had some uncertainty associated with them. The outputs of the model were still useful in scaling the present level of effort, risk and catches in the Torres Strait Fishery.

Through the preliminary assessment, the RAG noted that the outputs suggest that the Torres Strait coral trout stock is presently healthy with around 80 per cent of virgin biomass available and that this outcome was validated by advice from industry members that the stock appears healthy. The RAG noted that all of the model estimates of current spawning biomass were above 65 per cent estimated virgin biomass.

In considering the available information and likely risks to the stock from recent catch levels the RAG recommended maintaining the current 134.9 t Total Allowable Catch. The RAG noted that the stock assessment once developed, together with an agreed harvest strategy would provide an effective basis to reconsider the current TAC.

Model methods, inputs and data

The RAG noted that the key inputs for the Torres Strait model are from either the Great Barrier Reef (GBR) model or Torres Strait catch data and are:

- defined habitat areas (GBR values)
- underwater visual survey data providing a fish density per habitat area (GBR values)
- virgin fish density estimate (GBR estimate)
- Catch Per Unit Effort (CPUE) series (from Torres Strait daily fishing logbook data).

Harvest data used in the model shows that in recent seasons catches have been low with generally less than 50 t fished.

Two bio-regions defined in the Torres Strait model represent most of the Torres Strait harvests with reefs in Region 5 being morphologically similar to the Cairns region in GBR model and reefs in Region 3 being morphologically similar to the northern GBR region.

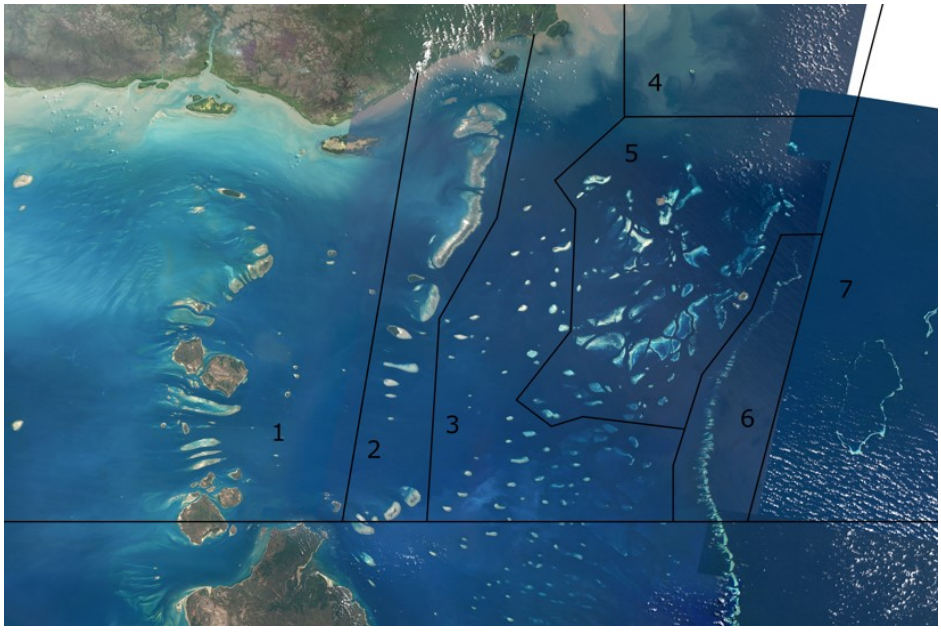

Figure 1. Map showing bioregions used in Torres Strait stock assessment.

The RAG noted:

- The model is using only sunset licence logbook data for the CPUE standardisation time series. The RAG noted that Region 3 has a smaller proportion of catch and different pattern of CPUE to Region 5.
- Industry advised that Region 3 may have higher carrying capacity then Region 5 but is not fished as frequently as it is harder to access due to distance, winds, currents and poorer anchorages. Consequently, Region 3 can normally only be fished in calmer weather.
- The biggest uncertainty in the model is TIB sector catches with little available data for the assessment.
    - Industry members confirmed that the peak reported TIB catches around the year 2004-05 coincides with the period when a non-traditional inhabitant fisher was operating in the Fishery and supporting local TIB fishers (with fishing gear, processing and buying of product).
    - The RAG agreed with the methodology to use either Islander freezer data or 4.2 times the level of docket book catch for the TIB sector catch size for each year (whichever is higher) in the assessment for years where catches were unavailable.
    - An industry member suggested that certain years did have low catches of coral trout due to fishers switching to Beche de mer fishing and lack of supporting infrastructure due to freezer closures. Industry members confirmed that:
        - Masig (Yorke Island) freezer was in operation until around 2009.
        - Mer (Murray Island) freezer closed operations in 2010.
        - 2010 was the last year representative freezer data is available for the assessment team with the Erub (Darnley Island) freezer operating inconsistently in recent seasons with fewer TIB fishers targeting coral trout.

Coral trout model outputs

The RAG agreed that the methods of the assessment are appropriate noting that the values being used to inform the assessment are assumptions at this stage of development.

The RAG noted that the stock status appears to be healthy with most model runs showing the stock biomass to be above 65 per cent of virgin biomass.

Scientific members advised that estimates generated by the model may be over or under estimates depending on the influence of tidal current flows within Torres Strait. The RAG noted that Torres Strait is shallower than GBR reefs with strong current flow. Industry members advised that coral trout generally go off the bite with strong current flow and murky water.

The model appears to have some areas where it is not able to fit to available catch data. The RAG suggested that the period following the November 2001 and February 2002 pre-buyout investment warning did see an increase in catch records returned to AFMA. Industry members and observers present supported this ‘paper-fish’ effect in the catch series and confirmed that industry were over-reporting catches to build up catch history through this period.

The RAG considered that an issue with assessing coral trout was that a pattern of short-term, localised depletion (or localised overfishing), followed by movement to a new reef, may act to maintain an illusion of high catch rates over time until catch rates suddenly decline. RAG noted that area-based catch limits can be developed to take account of local depletion issues. For example, if a particular zone of the fishery is known to be more easily accessible and will likely represent where the majority of catch will be taken, the likely effort from this zone can be compared to likely

effort from the rest of the fishery. This can then be used to scale a Total Allowable Catch from the whole fishery with the correct proportion set to be fully harvested from the key zone.

Future work and research needs

The RAG noted:

- a number of suggestions to increase precision in future coral trout stock assessment work. These will be detailed in the final project report;
- that future assessment should analyse species-split issues. The draft harvest strategy is likely to recommend the species split to be monitored;
- based on industry advice on the distribution of catches of common coral trout, it was recommended that the southern boundary of the region 5 be moved north to the Cumberland reefs. As currently demarcated, Region 5 splits key fishing grounds for common coral trout; and
- an upcoming FRDC project on the health of the Great Barrier Reef might result in a rescaling of habitat areas due to carrying capacities changing due to reef degradation. It was noted that the outcomes of this project may have flow on effects for east coast quota and the Torres Strait model.

The RAG suggested that the most immediate priority to improve data collection and assessment for the fishery would come from improved catch reporting.

3.2 Spanish mackerel assessment and Recommended Biological Catch for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** a **94 tonne** Recommended Biological Catch for Spanish mackerel for the 2019-20 season noting a decline in the stock and the need for precaution.

The FRAG noted from the harvest strategy work in 2018–2019, results from an updated stock assessment had been undertaken by Dr Michael O'Neil. The Spanish mackerel stock assessment used an annual age-structured model. The assessment uses all available catch-effort data and fish age-frequency data. The stock assessment update included an additional three years of catch data (fishing years 2015–2016, 2016–2017 and 2017–2018).

The RAG noted that the updated assessment accounted for FRAG advice at its meeting on 19-20 November 2018 and intersessional advice from a FRAG data sub-group meeting held 20-21 December. The data sub-group comprised all RAG Scientific members, QDAF, AFMA and CSIRO.

The RAG noted the results of the updated stock assessment show:

a) Biomass is on a down cycle (decline). The standardised catch rate of legal sized Spanish mackerel (the abundance index), using logbook data from sunset fishing operations, had declined since 2010-11. Standardised catch rates have reached near historic low levels in 2017-18.

b) The estimated 2017–2018 biomass was between 15% and 45% (B_{15} and B_{45}) of original unfished biomass (B_0) measured in 1940–1941. Four of 39 model scenarios estimated biomass in the 2017-2018 fishing season to be below B_{20}– the Commonwealth Fisheries Harvest Strategy Policy limit reference point. The RAG considered this situation (4 of 39 scenarios) to be equivalent to the Harvest Strategy Policy guideline for harvest strategies to ensure stocks remain above the limit reference point approximately 90 per cent of the time.

c) Recent fishing pressures are unlikely to be exceeding F_{MSY}. This means overfishing is unlikely to be occurring. The biomass decline may be associated with factors other than fishing. The RAG noted advice from scientific members that similar unexplained declines over the last four to five years were reported for other Spanish mackerel stocks in Western Australia, Northern Territory and Queensland suggesting that broader environmental factors could be driving trends in these fisheries.

To guide advice on a 2019–2020 RBC, the RAG recommended:

d) Applying a Maximum Sustainable Yield (MSY) fishing reference point on current 2017–2018 exploitable biomass. This interim management guide recognised that at the status of the stock, that B_{60} is not quickly achievable, and the fishery economic/data needs. A time to build the stock to this target reference point still needs to be evaluated with stakeholders as part of developing a harvest strategy. The RAG noted that the new Harvest Strategy Policy does not specify rates for building stocks that are above B_{LIM} and below $B_{TARG.}$

e) Equilibrium yields were previously used to calculate RBCs. The equilibrium yield approach is only useful if stock is at an equilibrium reference point or above. Hance, the equilibrium yield approach is no longer used. Consistent with the Harvest Strategy Policy the recommended approach is to advise on yields for current estimates of spawning biomass.

Based on outcomes of the stock assessment and applying an interim reference point of FMSY, the FFRAG recommended an RBC of 94 t for the 2019-2020 season. The 94 t represents the average over all 39 model-scenarios and this setting notes a decline in the stock and need for some precaution.

Noting there is no agreed harvest strategy in place for the Finfish Fishery, the FRAG considered fish-population projections for a range of RBCs to evaluate risks (**Figure 1** and **Table 1**). Risk was interpreted as the proportion of scenarios below B20 in 2029 (as a percentage of all scenarios). The year 2029 was 2017 plus three times the average age of mature female fish (4 years) – a standard and accepted approach for assessing the timeframe to guide fishery stock status.

The FRAG provided advice on best estimates for catches taken outside of the commercial fishery and supported the use of the values shown in **Table 2**.

Other points discussed on the Spanish mackerel assessment

The RAG noted that based on advice from FRAG 3 (19-20 November 2018) and the Finfish Data Sub-group Meeting 1 (20-21 December 2018), the updated assessment included analysis of past catch from Taiwanese pelagic drift-net vessels known to be in operation across northern Australian during the late 1970s and early 1980s and guided by investigations by NT Fisheries (Northern Territory) on apparent uncertainties about missing older size class fishes. To account for this potential take from the Torres Strait Spanish mackerel stock, scenarios in the model examined inflated harvests of 100 t of Spanish mackerel for the years 1979 to 1986. The RAG agreed with the inclusion of these scenarios noting that although the true amounts of these catches was not known, 100 t was deemed an appropriate order of catches for investigation following expert advice from a scientific member. The RAG noted that the inclusion of these catches did act to depress the estimates of stock biomass right through to the present day and that these catches resulted in a number of scenario runs which estimated the present stock biomass as being below the limit reference point (BLIM = B20).

Clarification was requested regarding the discrepancy between Spanish mackerel catches reported by AFMA at Agenda Item 2.2.1 for the years 2014-15 to 2017-18 and the total TVH and TIB catches used in the stock assessment over that period. Discrepancies were equal to around 6-9 tonnes annually (in the range of about 8-10% of total reported catches).

FRAG 4, Action Item 2: AFMA to work with QDAF on clarifying differences between data reported by AFMA from database (Agenda item 2.2.1 report) to stock assessment data summaries for years 2014-15 to 2017-18.

Table1. FRAG Decision Table based on model scenarios outputs for four RBC levels

Risk profile	RBC (t)	Number (and per cent) of runs out of 39 below limit reference point (B_{20}) in 2029.	Interpretation
"Low" risk	80	0	Precautionary but some implications for economics
Precautionary risk	94	0	Balancing for sustainability and risk
"Moderate" risk	110	3 (8 %)	Moderate risk
"High" risk	120	10 (26 %)	Unacceptable risk

*(B20 agreed interim, 20 per cent of virgin biomass) in 2029 (which is 2017 plus three times the average age of mature female fish (4 years) and generation time). Last estimate in 2017 + (3 x 4 years).

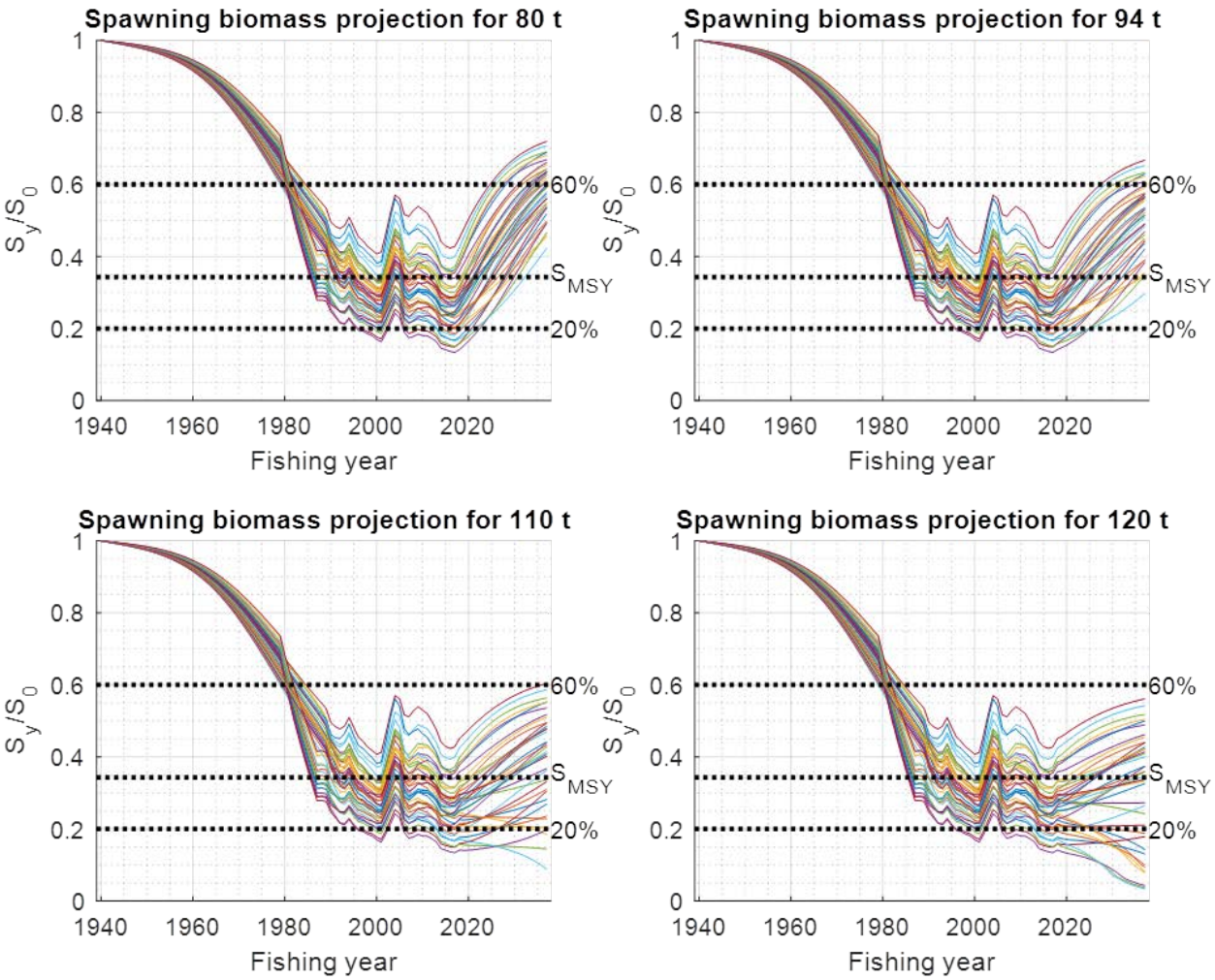

Figure 1. Spawning biomass projections under four different RBC levels.

Table 2. Summary of available information on catches outside of the commercial Spanish mackerel fishery**.**

Source of catches	Expected catch (t)	Comments
Subsistence catch (kai kai) by traditional inhabitants	10	Based on data from *Busilacchi 2013* this includes total of catch estimates for Mer, Masig and Erub Islands. The FWG agreed in July 2016 that the catch figures from the *Busilacchi 2008* research are the best estimates of traditional take of finfish. While originally reported by CSIRO as 12 t this was further refined to 5.155 t. The RAG recommended that an estimate of 10 t be used for decision making noting data was only from three islands, the number of TIB fishing endorsements has increased and effort creep may be occurring. NOTING that anecdotal information presented at the FRAG by TIB industry members infers this number generally may have gone down.
Recreational	2	RAG advised that based on the available evidence from QDAF recreational survey results recreational catches are likely to be minimal. Changed now - based on QDAF survey (2013) which included TS.
Charter	Likely to be minimal	Available QLD logbook records show Charter boat line catches are low. Logbook records for the period between 1995 and 2014 report a total of 19.58 tonnes of mixed species taken from Torres Strait waters. RAG has advised based on the available evidence from QDAF logbook data from charter catches are likely to be minimal.
PNG catch sharing	0	PNG-NFA declined to enter into catch sharing arrangements under the Treaty for 2018-19 fishing season.

Agenda Item 4 – Harvest strategy update

The RAG noted an update from Harvest Strategy project team leader Dr Trevor Hutton, CSIRO. The RAG noted that the Draft Harvest Strategy is scheduled for completion and presentation to the Finfish Working Group in June 2019. It was advised that the document will contain an executive summary and will have four major appendices including the Spanish mackerel assessment, draft harvest strategy for Spanish mackerel, coral trout assessment and draft harvest strategy for coral trout. The document will detail suggestions for research projects to reduce uncertainty in our understanding of the fishery.

The project PI suggested that the interim arrangements being used to support TAC setting might form the basis of the draft Harvest Strategy. The RAG clarified that specific discussion is required with stakeholders on all elements of the harvest strategy. It was noted that a stakeholder meeting had been planned for the present meeting to discuss the harvest strategy and that this meeting had been deferred due to scheduling issues. The RAG welcomed involvement from the project team in the upcoming stakeholder meeting when it is rescheduled.

Agenda Item 5 – Finfish fishery data needs

The RAG noted that a standing item for the group was to consider what the data needs were for the fishery and to provide advice on the appropriate means to address these needs. The RAG noted an update from AFMA and the agenda paper (Table 1, pp. 85) detailing previous RAG discussion on data needs for the Torres Strait Finfish Fishery. The RAG noted advice tabled at the present meeting on key identified data needs to support the Spanish mackerel assessment and desirable data needs to support development of the interim coral trout stock assessment.

Spanish mackerel key data and research needs:

1. Accurate fishery dependent catch data (daily fishing logbooks and catch disposal records) to support the assessment.
2. Monitoring data – biological ageing data and length frequency as an additional data stream to improve the stock assessment model.

Coral trout desirable data and research needs:

1. Validation of biomass estimates through more detailed work on mapping of Torres Strait habitat types using a Geographic Information System expert.
2. Underwater visual surveys from Torres Strait to validate density of coral trout per habitat type, noting that it would be useful to perform this survey work in the short term given the high level of biomass.
3. Ageing data to validate Torres Strait stock age structure, noting that the age structure of our model is based on the Great Barrier Reef model which has not had any ageing data assessed since 2009.

Other points discussed

The RAG performed a short white-board exercise to consider data needs aside from those key items listed above to support the mackerel and trout assessments:

Age and structure of Torres Strait mackerel stock

The RAG noted that the age structure of Torres Strait mackerel was an input to the model and the older 2001 to 2005 ageing data had a shortfall in larger size class fish sampled. It was recommended that broader scale sampling across Torres Strait should improve our understanding of how the TS mackerel stock varies spatially and between seasons.

Finer scale spatial data analysis

The RAG considered that collection and analysis of dory driver information for mackerel and coral trout was a key data need for the fishery to be improved and analysed in the short term, given that no dory information was collected for coral trout (data in the logbook is aggregated for the primary boat per day). It was noted that these data have historically been collected for Spanish mackerel but have not yet been analysed.

Effort measure for TIB sector fishing data

The RAG noted that daily fishing logbooks were voluntary for TIB fishers and commended fisher's already voluntarily returning effort data through the Fish Receiver System. The RAG noted AFMA was about to commence a round of community visits to provide feedback to industry where further reporting of these effort data would be encouraged. The RAG noted AFMA is supporting PZJA Traditional Inhabitant Members to attend these community visits to collaborate on communicating the importance of accurate data collection.

Environmental drivers

The RAG considered that a data need for the fishery was understanding other factors driving the abundance of Spanish mackerel. These might include consideration of other data streams such as the Integrated Marine Observing System remote sensing data, measuring shark depredation of catch (amending daily fishing logbooks) and broader climate change impacts and monitoring across Torres Strait / northern Australia. The RAG noted that the mackerel stock assessment pre-proposal received in answer to the TSSAC call for research, if funded, would begin investigating this issue.

Alternative measures of fishing mortality (F) and harvest rate

The RAG noted potential methods available to understand fishing mortality on a stock including gene tagging (c.f. Rik Buckworth research on NT mackerel), close kin genetic tagging or conventional tagging work. The RAG noted future consideration could be given to these methods and their associated costs and benefits

Historic data set

The RAG noted AFMA advice that work was in progress on forming an agreed historic dataset with associated data rules and treatments, noting that raw database catch figures may have different treatments applied to those performed during stock assessments. It was noted that QDAF could work with AFMA on incorporating TS assessments into upcoming work on serialisation of Queensland East Coast assessments with the outcomes of regular assessments automated through an access portal.

The RAG noted that AFMA would circulate a draft yearly data cycle detailing key dates for the fishery data and assessments to support season openings for comment out of session.

FRAG 4, Action Item 1: AFMA to circulate a draft yearly data cycle detailing key dates for the fishery data and assessments to support season openings for RAG member comment.

Agenda Item 6 – Research: TSSAC pre-proposals received: biological data collection and mackerel assessment

The RAG noted that a number of pre-proposals were received by the Torres Strait Scientific Advisory Committee (TSSAC) and considered at their 27 February 2019 meeting. TSSAC have sought additional RAG advice on two of the pre-proposals received;

a. *Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment; and*
b. *Spanish mackerel stock assessment.*

The RAG were asked to provide advice on the feasibility of a much more constrained project to enhance biological data inputs with a budget of around $30,000; and the benefits to fisheries management in undertaking a further Spanish mackerel stock assessment in the absence of any new biological data.

Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment

The RAG was joined by project Principle Investigator, Jo Langstreth, Queensland Department of Agriculture and Fisheries, Long Term Monitoring Program (LTMP) who provided an overview of the pre-proposal project and costings associated with sample collection.

The RAG confirmed their support for the project noting there is a strong need for fish ageing and

length frequency data to support the mackerel assessment and improve our understanding of the stock. The RAG advised that sampling for mackerel ideally needs to be ongoing, consistent and cost-effective with sampling from all areas of the fishery, not just from the Bramble Cay breeding aggregation.

Noting the limited funding available, the RAG supported QDAF working with AFMA out-of-session to refine the project scope and sampling design. The RAG noted that AFMA would work with RAG scientific member Dr Michael O'Neill on a sampling design and that AFMA would work with LTMP and RAG industry members on liaison with industry to get support to meet the project needs. It was noted that an iterative approach would likely be developed that will focus in the short term on what data can be collected within the available budget over the next financial year and how these data will aid the stock assessment.

Spanish mackerel stock assessment.

RAG scientific member and project principle investigator Dr Rik Buckworth provided an overview of the pre-proposal submitted to TSSAC. Noting their declared interests, project staff Rik Buckworth (PI), Michael O'Neill (stock assessment) and Andrew Trappett (data and liaison) left the meeting to allow the RAG free consideration of advice on the project.

The RAG considered that a stock assessment update is required in 2019-20 noting the apparent downwards trend in CPUE data and that more TIB sector catch and effort data are being collected for analysis through the Fish Receiver System. The RAG considered the 'sequencing' issue raised by TSSAC with the project being reliant on ageing data being provided by a separately funded project. The RAG were still supportive of project continuing over two years noting there may be issues with biological sampling data not being available but noted the apparent declining CPUE series still needed monitoring through an assessment.

The RAG supported the following approach by the project over two years:

a. First year (2019-20) assessment is proposed to analyse:
    a. one extra year of TVH daily fishing logbook data from 2018-19 season.
    b. all available TIB sector data from the Fish Receiver System (1 Dec 2017 to present)
    c. an exploration of biophysical drivers - noting that a broader environmental trend may explain the declining CPUE in mackerel across Northern Australia.
b. The second year assessment update (2020-21) is to incorporate biological sampling data if/when available.

Project staff rejoined the RAG meeting.

Agenda Item 7 – Western line closure

The RAG noted an update on the background of the Western line Closure and previous consideration on the issue as detailed in the agenda paper. A RAG industry member advised that he did not wish to provide advice on the matter noting it was relevant to communities outside of his own cluster (Kemer Kemer Meriam).

The RAG noted advice from industry members is that water turbidity means that fishers in Gudumalagal (top western) communities have fewer months of the year to target finfish compared to eastern, central and south-western Torre Strait communities.

The RAG considered that western Torres Strait may be comprised of shallower reef habitats which may have lower carrying capacity than other areas of Torres Strait.

Further Traditional Inhabitant boat sector licensed fishers will likely enter the fishery from Western Communities should the closure be removed. The RAG noted that catch data will be collected from operations in these waters through the mandatory Fish Receiver System which will allow monitoring of these extra harvests with analysis through future stock assessments.

The RAG provided the following advice on likely stock impacts from removing the Western Line Closure:

a) Stocks impacts would likely be negligible, noting removal of the spatial closure would simply increase the total fishable area of the Fishery while all other management arrangements including recommended TACs for coral trout are to remain unchanged; and

b) The boundary of the Western Line Closure is not likely to correspond to any natural stock boundary. Therefore there is no requirement for separate stock management arrangements within the Protected Zone for finfish species.

Agenda Item 8 – Other business

Estimates of TIB sector catch

AFMA introduced the item to update the RAG on finfish catches from Traditional Inhabitant Boat licenced fishers since the introduction of the mandatory Fish Receiver System on 1 December 2017. AFMA advised that RAG advice was being sought on best estimates of catches by Traditional Inhabitant Boat (TIB) licenced fishers for Spanish mackerel and coral trout to minimise the risk of catches exceeding agreed catch levels for the Fishery while TACs remain notional - that is, not enforced across all licences.

The RAG noted that while the assessment previously used the docket database from 2003-2010 fishing seasons which had a mean of 22.3 t, the updated model was using a median value of 9 t for years 2003-2010 with lower values of 1 to 3 t reported per season from 2011-12 to 2017-18.

RAG industry members advised that they did support the general level of the catch data being used in the updated model advising that the TIB sector has likely been taking less finfish in recent years with fishers preferentially fishing for other species such as coral trout or Beche-de-mer noting the challenge of little available infrastructure.

Industry reports to the RAG by community were as follows:

- Ugar (Stephens Island) has had recent activity with two fishers targeting mackerel reporting almost 3 tonnes of catch over three months working to smaller chest freezers.
- Erub (Darnley Island) community freezer was presently operational and was mostly focused on coral trout with the key mackerel fisher not presently active in the fishery.
- Massig (Yorke Island) was noted to mainly be fishing for crayfish with some local fishing for mackerel.
- Mer (Murray Island) was noted to mainly be targeting coral trout by individual business with some mackerel catches. Mer freezer has been closed since 2010.

Agenda Item 9 – Next meeting and meeting close

The RAG noted that their next meeting was scheduled for late August 2019 on Thursday Island. The RAG chair thanked all members for a productive technical meeting. The chair thanked PNG-NFA for attending and also the Spanish mackerel and coral trout stock assessment teams noting the valuable platform being built to support management of the fishery.

The RAG meeting was closed in prayer at 17:45 hrs.

Actions arising

Table 1. Action items tabled at the present Finfish RAG meeting (FRAG 4)

Number	Action
FRAG 4, Action 1.	AFMA to circulate a draft yearly data cycle detailing key dates for the fishery data and assessments to support season openings for RAG member comment.
FRAG 4, Action 2.	AFMA to work with QDAF on clarifying differences between data reported by AFMA from database (Agenda item 2.2.1 report) to stock assessment data summaries.

Attachments

Attachment A – Powerpoint presentation: *PZJA Torres Strait Finfish Resource Assessment Group Procedures and Processes.*

Attachment B – Powerpoint presentation: *Torres Strait finfish – Coral trout assessment March 2019, QDAF.*

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
RAG UPDATES Industry and scientific member updates	Agenda Item No. 2.1 FOR DISCUSSION

RECOMMENDATIONS

That the RAG**:**

a. **NOTE** any updates provided by industry members;

b. **DISCUSS** strategic issues, including economic trends, affecting the management and development of Torres Strait fisheries.

BACKGROUND

1. Verbal reports will be provided by industry members under this item. The FRAG Chairperson may also welcome a short report from any invited participants from industry at this agenda item.
2. It is important that the Finfish RAG (and also the Finfish Working Group (FFWG)) develop a common understanding of any relevant matters within adjacent jurisdictions and what issues if any, are having the greatest impact on industry and the management of fisheries. Such understanding will ensure proceedings of the FFRAG and FFWG are focused and may more effectively address each issue.
3. FFRAG members are asked to provide any updates on trends and opportunities in global markets, processing and value adding. Industry is also asked to contribute advice on economic and market trends where possible. Scientific members are asked to contribute advice on any broader strategic research projects or issues that may be of interest to the Torres Strait industry in future.
4. At the previous meetings of the FFRAG and associated FFWG, members discussed a range of strategic issues affecting the management and development of Torres Strait fisheries which are summarised below.

Finfish RAG strategic issues for industry

5. At the 27-28 June 2019 industry harvest strategy meeting the following advice was provided by an invited participant, Mr Egon Stewart, an active fisher holding a sunset licence:

> Mr Stewart reported that this season (the 2018-19 season), for both Coral Trout and Spanish mackerel, was better than the previous season, despite bad weather and fishing time lost due to engine issues. The Group noted the differences in fishing behaviour between boats that targeted live or fillet coral trout. Generally, live trout boats will heavily fish one area quickly to minimise transit time of the live trout. Fishers that target trout for fillet tend to fish slowly, moving between different areas. Mr Stewart reported that depredation by sharks appears to have increased, particularly at Bramble Cay when targeting Spanish mackerel. Whilst Mr Stewart was unable to estimate the amount of catch that was being taken, he noted that after one fish was taken that the fish went off the bite. The Group considered that shark depredation, and the potential effects of shark depredation on catch per unit effort (CPUE) may be important to the stock assessment. Mr Stewart noted that it would be difficult to quantify the number of fish taken and the impact of a depredation on potential catch rates. The Group considered that given the impact that depredation may have on CPUE and the reliance on CPUE for the stock assessment, that gaining an understanding of the impacts of shark depredation was of important.

6. At their 13-14 March 2019 meeting (FRAG 4) no formal updates (industry, government or research) were tabled noting the focus of the meeting agenda was placed on progressing stock assessments for mackerel and coral trout.

7. At their 19-20 November 2018 meeting (FRAG 3), the following industry updates were noted:

   - Traditional Inhabitant Industry members are expecting an increase in finfish take as infrastructure improves and more community freezers come back into service.
   - Good catches of Spanish mackerel have recently been taken from Ugar with good catch rates.
   - Industry encouraged AFMA and TSRA to work on getting licences issued to fishers from the 1 July season start date for the 2019 season. AFMA advised that the transfer of some licences was delayed to ensure all obligations under the *Native Title Act 1993* were met.
   - Industry responded to a query from AFMA about reports it had received of increasing shark depredation on mackerel grounds – industry advice is that shark predation has always been an issue in Torres Strait but the intensity may vary yearly. QDAF and NT fisheries both echo reports from fishers on increasing shark numbers and interactions with commercial fisheries.

8. At their 9-10 November 2017 meeting (FRAG 1) the RAG raised the following points:

   The RAG noted updates provided by members on strategic issues that may be affecting the adjacent Queensland east coast and the Torres Strait finfish stocks.

   Queensland east coast finfish strategic issues
   Vessel monitoring systems
   - It was noted that the Queensland Vessel Monitoring System project was now in a trial stage with units fitted to both primary vessels in a number of fisheries (as per the Torres Strait) but also to dories – unlike in the Torres Strait. QDAF advised that they are waiting for trial data to come in for review in 2018.

   East coast coral trout and reef-line species
   - It was advised that the east coast coral trout TAC was nearly entirely now caught (96 per cent of 917 t) and that no over-catch was allowed under management regulations.
   - 2017 catch rates appear to have been good despite a 2016 cyclone.
   - A theory was reported whereby a cyclone may trigger a drop in water temperature which impacts the coral trout metabolic rates which in turn affects their availability as they will not take baits as readily. It was noted that fish are seen to be present after a cyclone but their availability seems to be affected.
   - QDAF advised that east coast coral trout assessment is planned to be updated every five years and was due to be updated in 2018 (stock status and reference points are to be examined).
   - It was noted that east coast stock assessment team was reviewing the options for monitoring for coral trout to support the assessment and TAC setting. The project team are comparing the costs and benefits of fishery independent line fishing surveys (to support the age structured assessment model) and are comparing this to port sampling or crew based fishery dependent data. It was noted that Australian Institute of Marine Science survey data (underwater diver abundance surveys) had been powerful and useful data for the east coast coral trout assessment.

   East coast red throat emperor

   - It was advised that catches of red throat emperor and other reef line species remain low with most fishers focusing on live coral trout with some red throat emperor taken as by-product.
   - 2018 will see an updated east coast Red Throat Emperor assessment which will be the first update to the assessment in about a decade.

East coast Spanish mackerel

- It was reported that around 50 per cent of the east coast Spanish mackerel TAC was taken during the last season with this seasons catches appearing to be good (up 31 per cent for the season to date; around 20 per cent of the TAC had normally been filled by this time in previous seasons).
- Finfish RAG will be updated on the outcomes of the east coast Spanish mackerel assessment which is being updated in 2018. It was advised that the new east coast VMS data will likely have a huge benefit in boosting the usefulness of the assessments spatial data (particularly the time spent searching for fish) can be used by assessment scientists for analysis.
- It was noted that the east coast Finfish Harvest Strategy includes decision-rules based on a CPUE model for the commercial sector only and does not apply to recreational sector. Under the Sustainable Fisheries Strategy Queensland will move to have explicit account for catches taken from all sectors under the harvest strategy.

Torres Strait strategic issues for industry

- Kos and Abob Fisheries on Ugar Island are preparing a business plan to guide development of their business over the next few years, especially for when the Ugar freezer is upgraded. The intent of this plan is to ensure that the freezer can run as a viable, commercial business.
- An industry member advised that there is a strong need for TACs to be set at levels that provide enough product to support business.
- Erub Island has seen a spike in finfish catches over the past few weeks before the meeting due to improved weather.
- With good prices and demand for product there is reportedly some interest among the Traditional Inhabitant Boat (TIB) sector in entering the finfish fishery but this would be dependent on infrastructure to support this.
- Both Erub and Mer communities would likely have some recorded data of recent finfish commercial catches.
- More fishers on Mer Island were taking coral trout with good prices being offered from buyers.
- Mer Island women were also engaging in finfish fishing with their partners to boost their household incomes.
- Malu Lamar advised that fishers in the TIB sector need to have a firm understanding of what the TAC is for their sector. The representative advised that the next few seasons would likely result in an increased take from the TIB sector as fishers move across from the beche-de-mer fishery to target finfish. Suggested that young TIB fishers such as Mr Allan Passi from the Mer Community be invited to the Finfish RAG to help increase understanding of fisheries science among the sector and facilitate community understanding.
- TIB sector fishers have an increased understanding of the value of logbooks and good data for management of their fishery.

9. Meeting observer, TSRA board member Mr Yen Loban, noted that it was of high importance that the TIB sector supplies catch data to AFMA to support decision making and to ensure that the balance is understood between non-traditional inhabitant and TIB sector catches

Finfish Working Group strategic issues

10. At their 15 March 2019 meeting the FWG noted the following general updates from industry members and observers:

    Traditional inhabitant advice that infrastructure to support fishing business remains the key strategic challenge for Traditional Inhabitant Boat sector of the fishery given remote

communities. FWG noted that TSRA infrastructure improvements will likely see community freezers reopening within 12 months which may not have much impact on the fishery over the next 2019-20 season (starting 1 July 2019). This likelihood of renewed infrastructure is reported to be increasing interest in finfish within the central cluster who historically had harvested a lot of finfish. Ugar community reports strong catches of Spanish mackerel with 3-4 tonnes of mackerel reported caught over two-three month period working to privately owned chest freezers.

There is some general interest from Torres Strait based seafood businesses and within western communities in investing in finfish with several business buying or seeking to buy commercial fishing boats with reports that 2 to 4 boats are in the process of entering the fleet on Badu Island. This interest has reportedly been in response to the 2017-18 season low Total Allowable Catch (TAC) for Tropical Rock Lobster, as well as small TACs for beche-de-mer, and potential removal of the reef-line western area closure. Some operators may be looking to fish finfish as a contingency,. It was considered that these western communities would likely be seeking to establish markets for finfish in the near future.

The industry observer from the sunset sector advised:

- The fishing operation was mainly targeting mackerel to supply the local domestic market with the Sydney Fish Market buying some whole mackerel for export to the Asian market.
- Torres Strait fishery appears to be in good health generally. The operation has been taking their allocated catch in recent seasons with less skilled dory drivers available but have been taking more time to take the same harvest.
- Beach price for mackerel fillets remains steady at around $16.50 / $17.50 kg but may peak to support market demand around Chinese new year ($26/kg for whole, un-bled fish under
  10 kg).
- Species substitution was reported as an issue in some markets where other mackerel species such as grey mackerel was being onsold as Spanish mackerel when availability is low. Industry are supportive of a national standard for seafood labelling to address this concern.
- There is concern from some buyers in taking large sized mackerel from Torres Strait due to more northerly, warmer waters which may have increased associated risks of ciguatera poisoning. The group noted ciguatera had not previously been a problem for Torres Strait sourced mackerel.
- The key strategic issue for the industry was the increasing costs on a number of parts of fishing operations including:
    - Concern over rising fuel and bait prices.
    - Cold storage fees ($20 per time to access stored catches)
    - Packaging (cartons and liners) prices increasing $4000 over five years ($6000 per season, now $10,000).
    - Rising freight prices both southwards – product leaving Torres Strait via barge – but also now for northbound freight to resupply the fishing operation which until recently was free to fishing businesses shipping substantial amounts of catch southwards.
- Crews were still generally reporting round figures for effort (hours fished per session) in logbooks. AFMA urged fishers to help improved the standardisation of the catch rates by supplying the most accurate data in daily fishing logbooks.

The FWG advised that it would be interested in examining more economic detail on similar fishing operations as a full package including costs, beach prices for catch and lease prices for access (noting the *2016 Finfish Action Plan* is a resource providing info on economic drivers in the fishery) with a view to increasing FWG understanding of the economic viability of the fishery.

11. At their 20 March 2018 meeting the FWG welcomed updates from industry and other stakeholders on activities and strategic issues occurring in the Torres Strait Finfish Fishery and also on issues from other relevant fisheries:

    - It was considered that the outcomes of the TSRA infrastructure initiative would likely increase participation within the Ugar Community in the Torres Strait Finfish Fishery.
    - Ugar community has been engaging with TSRA initiatives such as direct export of seafood product from Torres Strait.
    - Available Sydney Fish Market price data shows strong market prices for Spanish mackerel with a clear spike in prices corresponding with Chinese New Year.
    - Erub Community Freezer is intending to make its recent finfish catch data available to AFMA and the PZJA groups for consideration.
    - The TSRA Finfish Quota Management Committee has seen increased interest from the sunset sector in leasing access to the Torres Strait to catch coral trout.
    - The FWG noted that recent seasons on the Queensland East Coast fishery have seen the Total Allowable Catch almost totally filled with lease prices reaching $6/kg corresponding with peak demand to fill orders for Chinese New Year at the end of the season. It was noted that, based on harvest control rules in place, a likely 200 t increase to the East Coast trout quota in 2018 there may be a decrease in interest from fishers wanting to access the Torres Strait Finfish Fishery reef-line sector. The QDAF member offered to circulate the recent Queensland Finfish Working Group communique for the interest of the FWG. https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable-fisheries-strategy/fishery-working-groups/-coral-reef-fin-fish-fishery-working-group/communiques/communique-6-7-march

    - QDAF member advised that consultation is underway on proposed amendments to the *Queensland Fisheries Act* to implement changes including stronger compliance powers and penalties. https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable-fisheries-strategy/changes-to-queenslands-fisheries-legislation

    - QDAF advised that workshops are being held in Queensland on social and economic indicators for East coast fisheries. These workshops are focused on what data can inform social or economic analyses and how can these data be collected and reported. The FWG noted that the findings from these workshops can help inform the development of Torres Strait harvest strategies.

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
RAG UPDATES AFMA Update	Agenda Item No. 2.2.1 FOR NOTING

RECOMMENDATIONS

That the RAG **NOTE** the update by AFMA member.

UPDATE

Summary of catches

1. Reported total catches in both the Spanish mackerel and reef line sectors of the fishery have been relatively stable since the 2008 buyout and commencement of the leasing arrangements Both coral trout and Spanish mackerel stocks are classified by the **Australian Bureau of Agricultural** and Resource Economics and Sciences (ABARES) as not overfished or subject to overfishing. Fishery status reports are available here: http://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status/
2. Attachment 2.2.1a Since 2008-09 catches of Spanish mackerel have generally been between 60-100 tonnes (**Attachment 2.2.1a**). Recent catches of Spanish mackerel have been:
    - **83.9** tonnes in 2014-15
    - **86.9** tonnes in 2015-16
    - **93.2** tonnes in 2016-17
    - **73.8** tonnes in 2017-18
    - **64.7** tonnes in 2018-19
3. Annual catches of coral trout have been less than 50 t for the last 10 seasons. Recent catches have been:
    - **21** tonnes in 2014-15
    - **38.4** tonnes in 2015-16.
    - **25.7** tonnes in 2016-17
    - **27.3** tonnes in 2017-18
    - **17.3** tonnes in 2018-19
4. Seasonal catches of other reef-line species (e.g. barramundi cod, red emperor) have been below five tonnes in recent seasons, recent catches (all species combined) have been:
    - **2.1** tonnes in 2014-15
    - **3.9** tonnes in 2015-16
    - **4.4** tonnes in 2016-17
    - **2.2** tonnes in 2017-18
    - **2.4** tonnes in 2018-19

5. Initial reports from sunset fishers indicate that 2019-20 is likely to be a good season for Spanish mackerel. For example, fishers have advised AFMA that despite poor weather at times, catch rates appear to be improved at Bramble Cay so far in relation to last season.

Industry harvest strategy meetings

6. FRAG members participated in two dedicated harvest strategy meetings on 11-12 June 2019 and 27-28 June 2019. RAG members, along with a cross section of the fishing industry as invited participants, provided valuable input to the CSIRO led project team on developing a draft harvest strategy for Spanish mackerel and coral trout. Outcomes from these meetings are at **Attachment 2.2.1.b** and are available, along with all other PZJA advisory group records here: https://www.pzja.gov.au/torres-strait-finfish-groups

Membership of PZJA consultative forums

7. FRAG Science members Ashley Williams, Michael O'Neill and Rik Buckworth, FFRAG Chairperson David Brewer and Industry Member Tony Vass were appointed by the AFMA CEO in August 2019 to the Finfish RAG until 30 June 2022. This appointment was made to align with the remaining RAG members already appointed.

Management arrangements 2019-20 season

8. AFMA has not introduced any significant changes to management arrangements for this fishing season with the exception of a permit condition on Sunset licences for a prior report to be provided to AFMA via voicemail or email before any product is unloaded within the Torres Strait Protected Zone e.g. before it is unloaded to the Seaswift barge at Masig. This condition assists compliance with tracking product leaving the TSPZ and, if required, inspecting product.
9. As of 1 October 2019, 177 boats are licenced to fish in the Finfish Fishery under Traditional Inhabitant Boat fishing licences with either a reef line or a Spanish mackerel endorsement.
10. Five vessels have been leased access to the Finfish Fishery for the 2019-20 season under sunset licences as detailed in **Table 1**. The public register of all Torres Strait fishing licences is located here: https://www.afma.gov.au/fisheries-services/concession-holders-conditions
11. Total available commercial catches for 2019-20 season are at **Table 2** and were sent to licence holders and made public on the PZJA webpage in June 2019 (**Attachment 2.2.1.c** letter to licence holders). Fishers working under a sunset permit are bound to a strict catch limit enforced via permit conditions.

Table 1. Packages leased to sunset sector permit holders for 2019-20 season.

Sunset licence package	Mackerel leased (t)	Coral trout leased (t)	Other species leased (t)
A	36	5	3
B	8	0	0
C	2	1	1
D	1	25	1
E	15	0	0
Total	**62**	**31**	**5**

Australian Bureau of Agricultural and Resource Economics (ABARES) Fishery Status Reports 2019

12. Each year, the Australian Bureau of Agricultural and Resource Economics and Sciences (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).

13. The ABARES Fishery Status Reports 2019 were released in September 2019 and summarise the performance of these fisheries in 2018 and over time, against the requirements of fisheries legislation and policy. The reports assess all key commercial species from Australian Government managed fisheries and examines the broader impact of fisheries on the environment, including on non-target species.

14. In summary, the biological status for the key Torres Strait Finfish Fishery species have been assessed for the 2018 period as follows:

Status	2017		2018		Comments
Biological status	**Fishing mortality**	**Biomass**	**Fishing mortality**	**Biomass**	
Coral trout (*Plectropomus* spp., *Variola* spp.)					Management strategy evaluation testing suggests that current catches are well below the level likely to lead to biomass declines. Most recent biomass estimate indicated a biomass above $0.6B_0$.
Spanish mackerel (*Scomberomorus commerson*)					Current fishing mortality rate is below that required to produce MSY. Most recent average estimate of biomass is above $0.2B_0$.
Economic status	Estimated net economic returns are not available for the fishery. The economic performance of the fishery in the 2017–18 fishing season is uncertain.				

Notes: B_0 Unfished biomass. B_{20} 20% of unfished biomass. **MSY** Maximum sustainable yield.

Fishing mortality	Not subject to overfishing	Subject to overfishing	Uncertain
Biomass	Not overfished	Overfished	Uncertain

15. ABARES fishery status reports can be accessed on the ABARES website at: http://www.agriculture.gov.au/abares/publications/display?url=http://143.188.17.20/anrdl/DAFFService/display.php?fid=pb_fsr18d9abm_20180928.xml

Australian National Audit Office (ANAO) update

16. The ANAO recently tabled its report on the performance audit of the coordination arrangements of Australian Government agencies operating in the Torres Strait. The audit examined whether Australian Government agencies operating in the Torres Strait have appropriate governance arrangements to support the coordination of their activities; and the coordination arrangements are effective in supporting Australian Government activities in the Torres Strait.

17. Australian Government agencies subject to the audit included AFMA, the Department of Agriculture and Water Resources, the Department of Foreign Affairs and Trade, the Department of Home Affairs and the Torres Strait Regional Authority.

18. Overall, the report concludes that "*the coordination arrangements of key Australian Government entities operating in the Torres Strait are largely effective in supporting Australian Government activities*".
19. Two AFMA recommendations were made, specifying that AFMA work with the TSRA and QDAF to;
    a. finalise the Protected Zone Join Authority annual reports for the 2015-16, 2016-17 and 2017-18 financial years and implement a process to ensure that future annual reports are published in a timely manner; and
    b. keep the PZJA website up to date.
20. A more detailed summary of the ANAO outcomes relevant for AFMA is provided at **Attachment 2.2.1.d**
21. The full audit report can be found at: https://www.anao.gov.au/sites/default/files/Auditor-General_Report_2018-2019_41a.pdf

Wildlife Trade Operation (WTO) Approval under the EPBC Act 1999

2. As of 21 December 2017, the Torres Strait Finfish Fishery were declared by the then Assistant Minister for Agriculture and Water Resources, Senator the Hon Anne Ruston as an approved WTO under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) until 18 December 2020.
3. Approval under the EPBC Act is:
    a. necessary to legally export commercially wild caught seafood from Australia; and
    b. subject to conditions which require ongoing work by the PZJA.
4. At the time of the last the approval, December 2017, conditions were applied to the fishery. A summary of these conditions and an update on the relevant management actions is outlined in Error! Reference source not found..

Legislative Amendments

22. As per previous updates, AFMA is continuing to progress draft amendments to the Torres Strait Fisheries Act 1984 and Torres Strait Fisheries Regulations 1985 as resources and priorities permit. The purpose of the amendments is to provide improvements to the efficiency and effectiveness of fisheries administration in the Torres Strait. Details of the proposed amendments have been provided in previous meeting papers.

23. As a matter of priority AFMA is working to progress draft amendments to the *Torres Strait Regulations 1985* to enable the use of infringement notices (fines) for compliance purposes. The proposed amendment will add to the range of compliance tools that can be used in combination, separately or for particular types of incidents. Enforcement agencies use the range of measures available in the 'toolbox' in order to achieve the most efficient and cost effective outcome.

24. Subject to agreement by the PZJA, AFMA will consult all Torres Strait Fisheries licence holders and PZJA working groups on the proposed amendment and provide an opportunity for public comment.

New Assistant Minister

25. On 29 May 2019, Senator the Honorable Jonathon Dunium was sworn in as the Assistant Minister for Forestry and Fisheries. In his position, Senator Colbeck will serve as the Chair of the Protected Zone Joint Authority. The previous Assistant Minister, Richard Colbeck is now the Minister for Aged Care and Senior Australians and Minister for Youth and Sport.

ATTACHMENTS

2.2.1.a Overview of Torres Strait Finfish Fishery catch and effort.
2.2.1.b Outcomes Industry Harvest Strategy Meetings (11-12 June and 27-28 June 2019).
2.2.1.c Letter to licence holders on 2019-20 season TAC arrangements.
2.2.1.d ANAO outcomes summary document
2.2.1.e Wildlife Trade Operation – Torres Strait Finfish Fishery -Summary of issues requiring conditions, December 2017

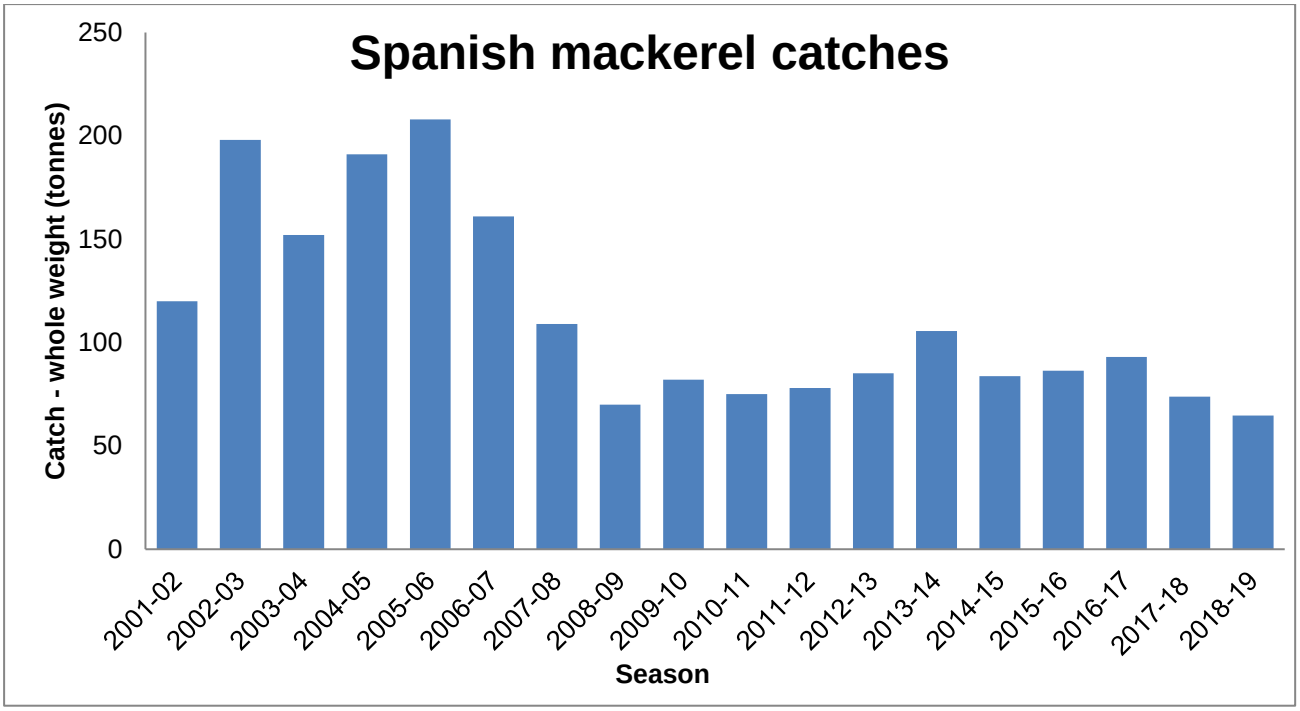

Figure 1. Torres Strait Finfish Fishery total reported Spanish mackerel harvests by season. Source: AFMA TSF01 Daily Fishing Logbooks, TDB01 Docket books, TDB02 Catch Disposal Records.

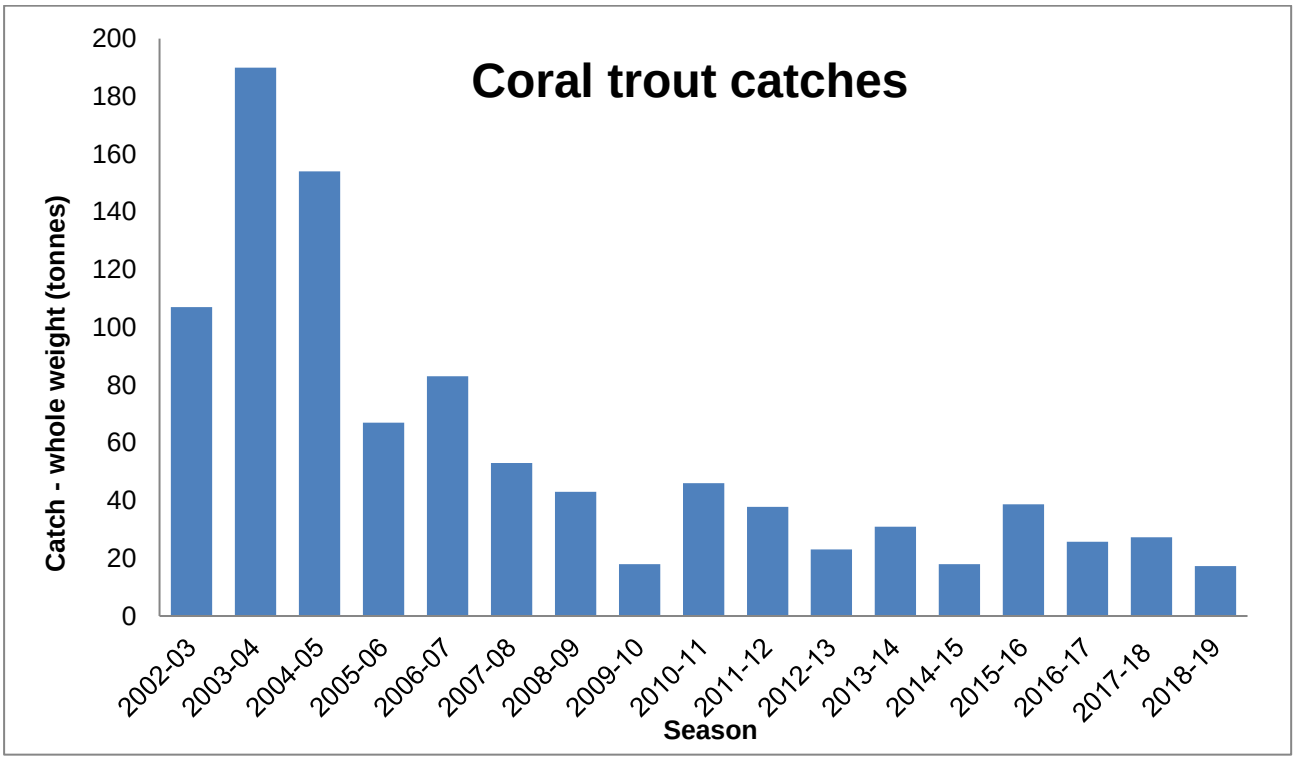

Figure 2. Torres Strait Finfish Fishery total reported coral trout harvests by season. Source: AFMA TSF01 Daily Fishing Logbooks, TDB01 Docket books, TDB02 Catch Disposal Records.

Fish receiver system

26. Under the Fish Receiver System (FRS) implemented 1 December 2017 catch reporting has been received from Torres Strait commercial fishers through mandatory Catch Disposal Records filled out by fishers and licenced fish receivers at the point of first unloading of catch.

27. Since implementation (part way through the 2017-18 season to the end of the 2018-19 season 18.7 tonnes of all finfish species combined has been reported landed by TIB sector fishers (8.9 t mackerels, 9 t of coral trout and 0.8 t of other species). This represents a substantial increase from the voluntary reporting of previous season such as the 2015-16 season where only 35 kg of Spanish mackerel and 285 kg of coral trout catches were reported to support management of the Fishery.

28. To date 24 TIB licenced fishers have landed catch through the FRS to 14 licenced fish receivers.

Torres Strait Finfish Fishery Harvest Strategy Meeting: Combined Resource Assessment Group and Working Group Meeting

27-28 June 2019
Rydges Plaza Hotel, Cairns

Draft Meeting Outcomes

Note all meeting papers and records are 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

Preliminaries

Preliminaries

The combined meeting of the PZJA Torres Strait Finfish Resource Assessment Group (FRAG) and the PZJA Torres Strait Finfish Working Group (FFWG) was opened in prayer by Cr Rocky Stephen at 9.10am. The FRAG Chairperson, Mr David Brewer acknowledged the traditional owners of the land on which the meeting was held. The Chair noted apologies from Mr Andrew Bodsworth (Chair of the FFWG), Mr Andrew Trappett (regular FRAG and FFWG EO), Mr Harry Nona (FRAG industry member), Mr Maluwap Nona (Chair Malu Lamar RNTBC), Mr William Stephen (Ugar industry observer) and Mr Alapasa Panuel (Ugar industry observer).

The Group was advised that AFMA were recording the meeting for the purpose of ensuring an accurate record is produced. The recording is kept secure and is deleted once the final meeting record is published.

The Chair began the meeting by welcoming the members of the Resource Assessment Group and Working Group and the invited industry participants to this combined meeting to continue developing harvest strategies for the Spanish mackerel and reef line (coral trout) fisheries.

The group noted a presentation by the Chair on the roles, procedures and policies of the FRAG and FFWG. The Chair outlined that the focus would be on further developing the details of the harvest strategies, noting the outcomes of the previous industry and CSIRO meeting on 11-12 June 2019.

Declaration of interests

Consistent with the Protected Zone Joint Authority Fisheries Management Paper No. 1 (FMP 1) which guides the operation and administration of PZJA consultative forums the RAG noted the requirement to declare all interests, perceived or real. Each member declared their interest in the fishery as documented in Table 1 (above). In line with the AFMA standard for declaring conflicts of interest in Commonwealth MACs and RAGs to best protect the integrity of advice, members with grouped interests (industry, science, TSRA) were sequentially asked to leave the room to allow the remaining RAG members to:

- freely comment on the declared interests;
- agree if the interests precluded the members from participating in any discussions; and
- agree to any methods to treat the declared interest (e.g. the member provides preliminary input but leaves the room when any advice is formed).

Table 1. Attendance and declaration of Interests – FRAG and FFWG members

Name and position	Organisation	Declaration of interests
David Brewer, FRAG Chair and FFWG member	Upwelling P/L (David Brewer Consultancy)	Director – Upwelling P/L (David Brewer Consulting) which has no current Torres Strait projects or pecuniary interests. Honorary Fellow - CSIRO Chair - Torres Strait Finfish RAG Scientific member – Torres Strait Finfish Working Group Scientific member – Northern Prawn Fishery RAG Collaborator on the Torres Strait Traditional take project Current consultancies with Quandamooka Yoolooburrabee Aboriginal Corporation, Redlands City Council.
Gabrielle Miller, Meeting EO	AFMA	No interest declared
Selina Stoute, AFMA Member	Australian Fisheries Management Authority (AFMA)	Manager of an AFMA employee who is a co-investigator on the Spanish Mackerel stock assessment research project
Allison Runck, TSRA Member	Torres Strait Regional Authority (TSRA)	No pecuniary interests declared, noting that TSRA holds the access rights to the Torres Strait Finfish Fisheries and generates revenue on behalf of Traditional Inhabitants through seasonally leasing access.
Tom Roberts, QDAF Member	Queensland Department of Agriculture and Fisheries	No pecuniary interests. Manager of the East Coast Coral Reef Finfish Fishery and Spanish mackerel Fishery. QDAF member on PZJA forums
Paul Lowatta, FRAG Traditional Inhabitant Member		Masig TIB fisher
Kenny Bedford, FRAG Industry member	TSRA MyPathways	TSRA Advisory Committee TIB licence holder Researcher on the Traditional take project Traditional owner of Erub Director of MyPathways company
Rocky Stephen, FRAG and FFWG Traditional Inhabitant Member	Kos and Abob Fisheries Ugar, Brother Bear Fisheries, Ugar Torres Strait Island Regional Council	Councillor for Ugar, Chairperson of Kos and Abob Fisheries Ugar, Works with brother in a commercial fishing business on Ugar, Eastern cluster representative on the PZJA Finfish Working Group. Sits on Prawn MAC and TS Scientific Advisory Committee. Does not hold a TIB licence.

Name and position	Organisation	Declaration of interests
John Tabo, FRAG Traditional Inhabitant Member	TIB member FFRAG	Member of MDW association Member FFRAG On the TSRA Finfish Quota Management Committee
Tony Vass, FRAG and FFWG Industry member		Former finfish commercial fisher, here on behalf of the sunset licence holders
Rik Buckworth, FRAG and FFWG Scientific Member FRAG	Sea Sense (Consultancy)	Independent Fisheries Scientist with Sea Sense Consultancy, adjunct at Charles Darwin University, ex NT Fisheries, AFMA Northern Prawn RAG, AFMA South East RAG. Principal investigator on a proposal seeking funding for TS Spanish mackerel assessment work.
Frank Loban, FFWG industry member	Member FFWG	Not currently involved in Finfish Fisheries.
Tenny Elisala, FFWG Traditional Inhabitant Member	TSRA	TSRA Ranger Dauan, TIB licence holder
Hilda Mosby, FFWG industry member	TSRA, Environment Portfolio member	On the Masigalgal Fishing Corporation
Michael O'Neill, FRAG and FFWG Scientific member	Queensland Department of Agriculture and Fisheries	Principal scientist for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery and pre-proposal for stock assessment work. Member of PZJA Finfish Working Group.
Ashley Williams, FRAG Scientific Member	Australian Bureau of Agricultural and Resource Economics James Cook University	ABARES fishery scientist under Department of Agriculture. Involved in previous TS research, is an author on the ABARES Fishery Status Reports.

Table 2. Invited participants and observers

Name	Organisations	Declaration of interests
Yen Loban	TSRA Fisheries Portfolio member	Holds a TIB licence.
Trevor Hutton	CSIRO	CSIRO receives research funding. Principal investigator for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery. AFMA Northern Prawn Fishery RAG regular observer and PI for the NPF stock assessment project.
Madeina David	TSRA cadet	No pecuniary interests, father is commercial fisherman
Daniel Wailu	TIB industry, Mer	TIB fisher from Mer working for Dennis and Alan Passi
Dennis Passi	TIB industry, Mer	TIB fisher Chair MDW Fishing Corporation
John Morris	TIB industry Masig	PBC Chair Masig On the TSRA Finfish Quota Management Committee
Alan Passi	TIB fisher, Mer	Fishes in the Torres Strait and East Coast for coral trout
Bert Matysek	TIB industry Erub Fisheries Management Association	TIB Licence holder, Fish receiver Operates the EFMA freezer facilities on Erub
Michael Passi	TIB industry, Mer	Kemer Kemer Meriam member on the Hand Collectable Working Group Commercial Beche-de-mer fisher
Egon Stewart[1]	AFV New Traveller	Holds a sunset licences to access the Torres Strait Finfish Fishery
Jo Langstreth[2]	QDAF	Was not requested

Research members

Scientific members and those involved with TSSAC research projects left the room (Rik Buckworth, David Brewer, Selina Stoute, Trevor Hutton, Ashley Williams, Michael O'Neill and Allison Runck). The Group considered their declared interests, noting the involvement of some in the Spanish mackerel stock assessment and the Harvest Strategy project team.

The Group considered the declared interests stated by the researchers and scientific members. The Group noted the potential conflicts of interest needed to be balanced against their subject matter expertise. The particular focus of this meeting was to develop harvest strategies for the Spanish mackerel and coral trout fisheries. It was considered that the input for the researchers and scientific members would be valuable during the development of these documents. The Group noted that much of the science was quite technical for non-science members and that the scientists should slow down their discussions and explanations.

[1] Mr Stewart attended the meeting after lunch on the second day and did not give a formal declaration of interest.

[2] Ms Langstreth was invited by AFMA to attend the meeting on the second day to provide an update on the recently approved project on Spanish mackerel biological data collection. Ms Langstreth is the principal investigator on the project. Ms Langstreth attended the meeting for the project update only.

The Group agreed that all these members and invited participants should participate in all discussions as their expertise would likely be required. If a clear conflict arose, the scientific members would leave the room and not participate in that discussion. The scientific members and researchers re-joined the meeting.

Industry members

Industry members and other industry invited participants (Kenny Bedford, Paul Lowatta, Tenny Elisala, Bert Matysek, Alan Passi, John Tabo, Rocky Stephen, Michael Passi, Dennis Passi, Daniel Wailu, Hilda Mosby, Dennis Passi, Tony Vass, Yen Loban and Frank Loban) left the room.

The Group discussed that the fishers were an integral part of the development of the harvest strategies, as the access to the finfish fisheries are 100 per cent owned by traditional inhabitants. The Group noted that the decisions being made about the fishery, therefore, needed to include the industry perspective.

The Group discussed that declared interests of the members and participants that had left the room. The Group noted that the potential conflicts were not just at the personal level, but could include if an industry member advocated for a particular cluster to the potential detriment of the fishery. The Group agreed to remind the industry members of this possible conflict.

The Industry members and participants were invited back into the room and reminded that if they thought of any other areas of interests that they wished to have recorded that they could do so at any time.

Government

Government employees and those on the TSRA Quota Management Committee (Allison Runck, Selina Stoute, Gabrielle Miller, Kenny Bedford, Hilda Mosby, Yen Loban, Tom Roberts, John Morris, Madeina David, John Tabo) left the room.

The Group discussed the declared interests of the members and participants that had left the room. The Group noted that the TSRA had declared their holdings of finfish entitlements and that the revenue generated from leasing these entitlements (Sunset Licences) and that this revenue was invested in the development of the fisheries in the region.

In general, the Group expressed that the outcomes from fisheries meetings were not being clearly communicated to all of the communities in the Torres Strait. A desire to be involved in fisheries management decisions, from quota leasing to setting of the total allowable catch to providing information on the state of the fishery, was expressed by the Group.

The Group agreed that the Government members and participants should participate in discussions and that members and participants could be asked to leave if a direct conflict of interest was present.

Adoption of the Agenda

The Agenda for the meeting was noted and accepted without change. The draft minutes from the previous industry harvest strategy meeting from 11 - 12 June 2019 were circulated. It was noted that the minutes had not been agreed and adopted, however Industry were supportive that the draft minutes were an accurate representation of the meeting and captured the thoughts and opinions of the Industry well.

Action items

The Group briefly discussed the action items from the previous meeting. It was agreed at the previous meeting that the project team would take the following suggestions from industry away for further development prior to this meeting if possible:

- Explore 15 per cent change decision rules in other fisheries where there is asymmetry (the rule applies when the recommendation is to decrease the TAC but not when the recommendation is to increase the TAC) and how these rules might apply to setting TACs in this fishery.

- Shorter recovery time approach for Spanish mackerel (e.g. 8 or 10 years for Spanish mackerel instead of 12 years used as a timeframe for building when below B TARG but above B LIM).
- In order for the RAG to explore a CPUE trigger rule for conducting a Coral trout assessment, provide the standardised CPUE over the reference period or a shorter time period (e.g. average of last three seasons). This point was discussed during the meeting and the time frame from 2012-2017 (inclusive) was agreed to.

The Project team noted that these items were outstanding action items and would be completed for the next Finfish Resource Assessment Group to consider (although during this meeting – the CPUE trigger rule was discussed and a recent time-period was chosen.

The Group noted the Harvest Strategy Project Team's concerns that currently the fishery dependent catch per unit effort time series are the only data that inform the stock assessments. While catch rate data is an important index for changes in abundance when conducting stock assessments, other data sources, such as changes in fish size or updated age frequency data, would over time provide more data inputs into the stock assessment models.

Torres Strait Finfish Fishery Harvest Strategies

Elements of harvest strategies

The Chair reiterated that the aim of the meeting was to build on the work of the previous meeting developing harvest strategies for the Torres Strait Spanish mackerel and Coral trout fisheries. In particular, the Group would be focusing on developing the harvest control rules for both fisheries and seeking input from industry especially as to how the industry wanted to see the fisheries operating. The Group noted that this was only the second workshop focussed solely on developing the Harvest Strategies (building on preliminary work done in previous FFRAG and FFWG meetings) and that there would be more opportunities to comment and provide input into the harvest strategies before the strategies are implemented. Further, that the harvest strategies are living documents that are reviewed from time to time.

The Group viewed a short presentation[3] providing an overview of harvest strategies and how they are used in managing commercial fisheries around Australia. The video explained the key components of harvest strategies and how harvest strategies operate to maintain the harvest of commercial fisheries at sustainable levels. The Group noted an additional presentation that outlined the key components of harvest strategies using the draft Tropical Rock Lobster and Beche-de-mer harvest strategies as examples.

The Group reiterated the outcomes from the previous meeting (Attachment A) including the agreed principles upon which the harvest strategies are developed. Reviewing the key objectives for the fishery within the harvest strategies is also an important element. The Group discussed the merits of including an objective to increase or maximise traditional inhabitant participation.

The Group considered the different states of the two fisheries. The Spanish mackerel fishery targets one species of mackerel and much of the commercial catch is from breeding aggregations such as at Bramble Cay (Maizab Kaur). The CPUE data suggests that the stock is declining with an estimated current biomass from the most recent stock assessment at B31 (31 per cent of pre-commercial fishing levels). In response, the TAC was recently reduced to try to increase the biomass from B31 to an interim target of B40. The current focus of management in the Spanish mackerel Fishery is to increase the biomass.

The Coral trout fishery has four target species, but is often only reported as a species group. The species distribution and composition is not well understood which creates uncertainty around the biomass estimates. The recent stock assessment, using changes in CPUE as an index for changes in abundance, suggests that the biomass of coral trout (as a basket of four species) is very high at around B80 (most model runs of the stock assessment reported the stock to be above B65).

[3] The Fishwell Consulting harvest strategy video is publically available online: https://www.youtube.com/watch?v=emtEzavpaGI

The Chair reiterated that the previous industry meeting made good progress in agreeing to the principles, considerations and the objectives of each of the harvest strategies. The focus of this meeting was to now recommend the rules for assessing the stock status and setting of the total allowable catch i.e. harvest control rules and trigger reference points.

The Group noted and supported the design principles together with key considerations for developing the draft harvest strategy agreed at the 11-12 June 2019 industry meeting.

General design principles

1. TACs should vary according to stock status (up and down);
2. If biomass decreases be cautious. Stock is not to go below the limit;
3. If biomass is increasing be conservative; 'bank' fish.
4. For Spanish mackerel : a shorter-term target is required

Important considerations

- Commercial fishing by traditional inhabitants is important for:
  - local employment and economic development; and
  - passing down traditional knowledge and cultural lore.

- The Finfish harvest strategy should:
  - Compliment cultural lore;
  - Have regard for TIB participation;
  - Ensure sustainability, enough fish are left in the water to make money and the protection of traditional livelihoods and cultural value

Trevor Hutton, Finfish Harvest Strategy Project team leader, led the Group through the outcomes of the previous meeting, highlighting the key recommendations for the Coral Trout and Spanish mackerel harvest strategies (Attachment A). Dr Hutton outlined the aims for the topics for discussion which were:

1. To continue development of the Coral Trout Stock Assessment including determining additional data needs, frequency of stock assessments and agree on trigger reference points.
2. To continue development of the Spanish mackerel harvest control rules and trigger reference points.
3. Finfish fishery survey. Discussion was to focus on whether or not a survey would be useful and whether it could be justified.
4. To discuss the need for traditional inhabitant catch and effort data and the most appropriate methods for collecting the data.

The Group discussed each of these points, with input from the science members and project team. A summary of the discussions is outlined below.

Coral Trout Harvest Strategy

The Group discussed the current state of the Reef Line Fishery (coral trout) and what had been agreed at the previous meeting (Attachment A). The Group noted that a preliminary stock assessment was recently conducted, the results of which were not adopted for decision making but the preliminary assessment estimates that the Coral Trout stock is currently around B80 (80 per cent of pre-commercial fishing levels).

The Group noted that the recent assessment, in line with the previous management strategy evaluation, grouped the four coral trout species together as a basket which increases the uncertainty on the biomass for each species.

The Group noted that stock assessments are costly and that conducting another stock assessment without cause (new data, reduction in CPUE) would not be the most efficient use of resources. The Group discussed whether an analysis could be conducted that would recommend a suitable schedule for conducting a stock assessment.

The Group discussed that additional data, such as TIB catch and effort data (either through logbooks or the voluntary effort section of the mandatory Catch Disposal Records), better reporting to the species level rather than listed as basket coral trout, underwater survey data and also data from the CSIRO 1994-95 survey, would provide updates into future stock assessments. The Group did not make any firm recommendations for a long-term stock assessment schedule in the event that additional data were not available but did propose a three year period in the short term (see below for further details).

The Group provided the following recommendations for the draft coral trout harvest strategy:

A stock assessment should be conducted in three years provided additional data available (during the 2021-22 season). The Group noted that postponing the stock assessment for three years would allow enough time for additional data to be included. The additional data priorities are: a) the 1994-95 CSIRO fish survey data b) improved TIB data; c) a new catch or underwater survey.

A regular stock assessment schedule should be determined. The Group agreed that between now and the next stock assessment, that analyses should be conducted to determine the appropriate schedule for conducting stock assessments in the Coral Trout Fishery.

The use of empirical trigger reference points was recommended for the years between stock assessments. The agreed trigger reference points will use CPUE data as a proxy for biomass and the yearly fishery catch data to ensure the maximum yield of the fishery zones are not being exceeded.

The specific trigger reference points were:

a) In line with the recommended target reference point (B TARG = B60), and taking into account the conservative approach preferred by industry, if the biomass of coral trout is less than B60 (B TARG) then an integrated stock assessment will be conducted. To determine the biomass level, this trigger will use standardised CPUE data as a proxy for biomass. It was agreed that the average CPUE from 2012 until 2017 (inclusive) would be used as an indicative reference point of the CPUE at B80 from which the CPUE at B60 can be calculated and used as the trigger reference point.

b) If the combined yearly total catch of the four coral trout species from both commercial sectors is greater than 90 t, an integrated stock assessment will be conducted. Ninety tonnes was agreed because this is the estimated potential yield of Zone 3 at B60 from the preliminary stock assessment, and where most of the common coral trout is caught. This level was chosen on the advice of the Science members to avoid the risk of localised depletion within any of the Zones.

Action items

The project team is to determine whether it is appropriate to use standardised CPUE or raw CPUE in the assessments and for the triggers.

Spanish mackerel Harvest Strategy

The Group noted that the Spanish mackerel stock biomass has declined and is currently estimated at B31 (31 per cent of pre-fishing levels). Noting the decline in the stock and the need for precaution, the PZJA set the recommended biological catch at 94 t and the commercial TAC for the 2019-20 fishing season at 82 t (RBC minus 10 t for subsistence fishing and 2 t for recreational fishing). This was a 33 t reduction from the 2018-19 season TAC of 115 t. The stock assessment projections indicate that the 82 t TAC is predicted to allow the stock to build back to B40 (40 per cent of pre-commercial fishing levels) in a 12 year timeframe (being three times the average age of a mature female fish). In this instance B40 was chosen as an interim target reference point (B TARG) as a compromise between building the stocks and the potential economic impacts on the fishery.

The Group reviewed what was agreed for the Spanish mackerel harvest strategy at the previous meeting (Attachment A) and **provided the following recommendations for the draft Spanish mackerel harvest strategy:**

A stock assessment should be conducted each year until the biomass is greater than B40. It is assumed that the stock will take a few years to build to B40 at the current TAC. The industry participants noted that setting a lower TAC would allow for the stock to build faster.

The ongoing regularity of stock assessments will be set once B40 has been reached.

B TARG (interim) was recommended to be B48. This is an interim B TARG that will be reviewed once it has been reached. The Group were unable to settle on a higher BTARG, given the current indicative biomass (B31) and the long term (>12 years) at current TAC levels, or significant catch reduction required for the stock to rebuild above B48. Industry expressed a strong preference for management to focus on building the biomass in the coming years, before tackling any other scenarios.

The TAC will be set to reach the target reference point (B TARG) by a determined year. From the 2020-21 season, the TAC will be set to allow the stock to build to B48. The FRAG will consider which year should be the aim for reaching B TARG prior to setting the 2020-2021 TAC. The scientists and industry noted that in determining the target year, the social/economic impacts of a low TAC would need to be weighed against building the stock quickly.

Action items

The FRAG will consider scenarios to examining multiple recovery schedules to reach B48.

Other general discussions

TIB data collection

The Group discussed whether logbooks should be compulsory for the TIB sector. It was noted that in both fisheries, the key indicator of stock status being used is catch per unit effort from the sunset licence sector. The Group agreed that the assessment and fisheries management would benefit from improved TIB catch data. More comprehensive and spatially explicitly TIB data would support the data needs of the fisheries by providing information on where the TIB sector is fishing compared to the sunset licences (noting closures exclude sunset fishers from fishing grounds within 10nm of eastern communities), the catch rates and changes through time in the fishing effort by the TIB sector. It was suggested that having compulsory logbooks would create an historical record of the TIB sectors involvement in the fishery.

Industry members stressed that data security is of critical importance to the sector. How the data is stored, the confidentiality and who has access to the data needs to be clearly explained to the communities.

The Group agreed that the TIB and sunset sector data should be comparable and that thought needs to be given as to the best way to collect these data. Industry agreed that it may be difficult to get fishers to complete a complicated logbook. It was suggested that a simple phone app might be preferred by industry instead of the paper logbooks, noting that there had been some success in a research trial on the Eastern islands and that since then, internet access via smart-phones has become more readily available on the islands.

The Group agreed that logbooks should be compulsory for the TIB sector.

TIB participation

The Group discussed whether to include increasing or maximising TIB participation in the fisheries as an objective of the harvest strategies, and if so, what was the ultimate goal.

The Group agreed that, while maximising TIB participation in the fisheries was a goal, it should not be included as a formal objective of the harvest strategies. The Group agreed that it was important to understand the current levels of TIB participation in the fisheries and that participation should not be limited to just fishing, but could be expanded to include directly participating in research, monitoring and management of the fisheries.

Industry members and participants raised many issues with the inclusion of TIB participation as a formal objective, especially as there are factors, external to fisheries management, that prevent TIB participation. The key factors discussed were:

- **Difficulty in selecting a metric to measure participation**.
  There are more fishers operating than there are licences, with many people working from someone else's boat as a common practice in communities. Fishing effort can't be used as a metric as it is not currently recorded (not a legal requirement in CDRs). Kilograms of fish landed and the number of CDR's completed is often influenced by the weather or whether fishers are working or completing training away from fishing or whether a community freezer is available and operational.
- **The costs of fishing**.
  Fishing is often too expensive, for example, fishers may not have the capital or skills to repair a broken engine. Similarly, while the TSRA are setting up community freezers on different islands, complete with training in food safety and operation of the freezers, the group noted that the current freezers are only 'breaking even' economically.
- **Deterrents to participate in fishing**.
  Many fishers and divers in the communities are working for the MyPathways program. Fishing does not count towards a MyPathways work plan, so fishers and divers are working elsewhere. Additionally, part-time fishers on MyPathways won't move towards full-time fishing and risk losing MyPathways income. Fishing is not considered to be a stable income, whereas MyPathways is.

Given that the key factors limiting TIB participation were due to economics, industry members and participants thought it important to concentrate on improving the economic returns to the communities. This might include directly exporting from the Torres Strait rather than selling to a 'middle-man' in Cairns or selling a higher quality product e.g. possibly selling live trout rather than fillets.

Torres Strait Coral Trout Survey

The Group discussed the desire for a catch survey or an underwater visual survey of the coral trout species to be conducted across the Torres Strait. The Group noted that the majority of the data that is used in assessing the Finfish Fisheries comes from the sunset sector catch and effort data. In addition, the coral trout stock assessment relies heavily on species diversity and abundance data from the Great Barrier Reef (GBR) as a proxy for the Torres Strait finfish fisheries. The reliance on data from one sector of the Fishery and from proxy data increases the uncertainty within the stock assessment model. The Group agreed that, even though the stock assessment suggests that the coral trout population is at B80, that the uncertainty in the model (only accepted as a preliminary assessment by the FFRAG) requires a more cautious approach be taken by management.

Industry noted that a greater level of understanding and certainty about the Coral Trout Fishery is desirable before effort by the TIB sector is substantially increased. Industry noted that the Fishery is important to the Torres Strait Islanders community aside from generating commercial income. Consequently, Industry are more inclined to use a precautionary approach in managing the commercial fishery.

The Group discussed that some data may be available from an underwater survey that was conducted by CSIRO in 1994-95. These data, if they could be analysed, would provide a baseline to compare with any additional surveys.

The Group noted that conducting a catch survey or an underwater visual survey would be expensive and that there were only limited funds available annualy in the AFMA Torres Strait research budget prioritised by the Torres Strait Scientific Advisory Committee.

The Group agreed that:

1. fishery independent data is crucial for improving the understanding of the finfish stocks across the Torres Strait and having a baseline data on species distribution and abundance would increase the level of certainty in the stock assessment models;
2. data from a survey would be a useful comparison to the 1994-95 survey and allow scientists to assess how the fishery has changed over time;
3. survey data would provide information about the species distribution, densities and abundances for the Torres Strait Coral trout fishery, which could be used as inputs for an updated stock assessment;

4. undertaking a survey now, when the coral trout biomass is estimated to be B80 will assist future assessments. The survey would help assess stock productivity and potential yields. It would be an 'anchor' for future stock assessments and increase the reliability of forecasting stock trends; and
5. understanding the resource is crucial for the fishery to build in a sustainable manner and to give the Industry and the Torres Strait community confidence that the resource is being accurately assessed.

Harvest Strategy language and preamble

Industry suggested that the harvest strategy should be in English and in a Torres Strait language, which would make the harvest strategy accessible to a greater number of Torres Strait Islanders. Another option suggested by industry was to have a summary of the harvest strategy, the objectives and key rules that could be translated into the two main languages. This was considered to be a more feasible option than translating the entire harvest strategy. The Group considered both suggestions to be worth considering further but did not make a final recommendation.

Report from a sunset sector fisher

Mr Egon Stewart, a sunset licence holder, joined the meeting to update the Group on the recent fishing season. Mr Stewart reported that this season, for both Coral Trout and Spanish mackerel, was better than the previous season, despite bad weather and fishing time lost due to engine issues.

The Group noted the differences in fishing behaviour between boats that targeted live or fillet coral trout. Generally, live trout boats will heavily fish one area quickly to minimise transit time of the live trout. Fishers that target trout for fillet tend to fish slowly, moving between different areas.

Mr Stewart reported that depredation by sharks appears to have increased, particularly at Bramble Cay when targeting Spanish mackerel. Whilst Mr Stewart was unable to estimate the amount of catch that was being taken, he noted that after one fish was taken that the fish went off the bite. The Group considered that shark depredation, and the potential effects of shark depredation on catch per unit effort (CPUE) may be important to the stock assessment. Mr Stewart noted that it would be difficult to quantify the number of fish taken and the impact of a depredation on potential catch rates. The Group considered that given the impact that depredation may have on CPUE and the reliance on CPUE for the stock assessment, that gaining an understanding of the impacts of shark depredation was of important.

Research

The Group noted the outcomes of the Torres Strait Scientific Advisory Committee, specifically the projects related to the Finfish Fisheries that had been supported.

Jo Langstreth, principal investigator, presented to the group about the recently funded project "Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment". The researchers will work with industry to collected biological data (fish frames, gonads, otoliths (ear bones)) from the commercial Spanish mackerel fishery (target ideally 900 but minimum is 500 samples). The data from this project will be able to be included into the stock assessment and strengthen the understanding of the structure of the Torres Strait mackerel stock and support the outcomes of the stock assessment. The Group noted advice from an industry member that Mer fishers take Spanish mackerel mostly for kai kai but the volume is similar to commercial levels.

The Group discussed future research priorities to be included in the Finfish rolling five year research plan. These include:

1. Survey of coral trou species across the Torres Strait. The Group recommended that a catch survey or an underwater visual survey be put to the TSSAC as a high priority.
2. A desktop study of the 1994-95 CSIRO underwater survey be undertaken to provide baseline information on the Finfish Fisheries and possibly on the habitat, spatial structure and species diversity and abundance of the finfish communities.

3. Understanding of the impacts of shark depredation. Following the update from Mr Stewart, the group considered that understanding how shark depredation impacts catch per unit effort and stock mortality should be examined and considered for the next stock assessment.
4. Optimum fishing strategies for increasing productivity. This project would focus on the optimum methods of fishing to ensure that productivity is kept high. For example, would fishing a spawning aggregation have detrimental effects on the productivity or is there an optimum size range that should be fished to keep recruitment high or is it better to fish the largest fish.

Meeting closed

The meeting was brought to a close by the Chair. Industry agreed that good progress had been made on the harvest strategies and that their views had been reflected well in the progress to date. The meeting ended in prayer by Cr Rocky Stephen at 5pm.

Attachment A – Torres Strait Finfish Industry Harvest Strategy Meeting Outcomes- 11 - 12 June 2019

Torres Strait Finfish Industry Harvest Strategy Meeting

11-12 June 2019
Rydges Plaza Hotel, Cairns

Draft Meeting Outcomes

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

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Australian Fisheries Management Authority

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Preliminaries

Preliminaries

The meeting was opened in prayer at 09:00 and the meeting Chairperson, Mr David Brewer (Finfish Resource Assessment Group) welcomed participants. The Chair acknowledged the traditional custodians of the land on which the meeting was being held.

Adoption of agenda

It was agreed for the agenda to be practically focused on progressing the components of the harvest strategies for coral trout and Spanish mackerel. It was agreed that two opening sessions would focus on:

1) Harvest strategy principles, and
2) Objectives for the Torres Strait Finfish Fishery harvest strategy.

It was agreed that the meeting would then focus on progressing the development of reference points, indicators, assessments and monitoring in relation to scenario based questioning for both Spanish mackerel and then coral trout.

Attendee introductions

Attendees were asked to introduce themselves to the meeting and to describe their background and if they were a fisher, to talk about how they used the Torres Strait Finfish Fishery.

Table 1. Attendance and personal introduction

Attendee	Introduction
Dennis Passi	Mer community, 30 years' experience fishing commercially, runs business mainly working coral trout. Helped develop commercial fishing on Mer through the freezer in the 1990s.
Kenny Bedford	Erub community, previously fished commercially for coral trout. Previous experience working for TSRA, fisheries portfolio member.
Rocky Stephen	Councillor for the Ugar community. Licenced fish receiver. Involved in a commercial fishing business on Ugar working mackerel.
Bert Matysek	Erub community, manager of the Community Freezer. Chairperson of the Erub Fisheries Management Association.
Dan Sailor	Erub community, fishes commercially for mackerel, works at the Erub Community Freezer. TSRA Finfish Quota Management Committee member.
Alan Passi	Mer community, 15 years' experience fishing commercially, working coral trout on Mer.
Mike Passi	Mer community, 20+ years' experience. Mainly fishing beche-de-mer, involved in development of BDM harvest strategy.
Alapasa Panuel	Ugar community, 20 years' experience fishing commercially east coast. Licenced fish receiver.
James Zaro	Mer community, former commercial fisher for beche-de-mer.
Frank Loban	Badu community, fishes commercially for TRL. Serves on several PZJA working groups.

Attendee	Introduction
Jon Tabo, Jr.	Mer community, commercial fisher. PZJA Finfish RAG industry member. TSRA Finfish Quota Management Committee.
Allison Runck	TSRA Fisheries Program.
Liz McCrudden	TSRA project officer, Fisheries Program.
David Brewer	Independent consultant, AFMA invited Mr Brewer to act as an independent chairperson for the meeting.
Trevor Hutton	CSIRO harvest strategy project lead. 11 years with CSIRO.
Andrew Trappett	AFMA, Finfish Fishery Manager, Snr. Fisheries Management Officer, been with AFMA since 2009.

Harvest Strategy Principles

The meeting attendees viewed a short video presentation[4] providing an overview of harvest strategies in use in other Australian fisheries and the Australian Governments Harvest Strategy policy. The group noted the key terms outlined in the video (target and limit reference points) and recommended that similar videos would be welcomed by Torres Strait communities to support understanding of larger fisheries projects such as harvest strategies.

As context, the group noted an overview of the Beche-de-mer and Tropical Rock Lobster fishery draft harvest strategies currently under development. The meeting noted the framework components that needed to be developed for the Finfish Fishery.

The meeting considered and agreed the following **five general principles** for how a harvest strategy should be developed for Spanish mackerel and coral trout:

1. Industry advised that it is acceptable for sustainable total allowable catch limits to vary from year to year.
2. If biomass (number of fish) decreases (based on the outcomes of assessments) industry have advised that a precautionary response is required which may mean a decrease in the total allowable catch to lower fishing mortality. It was noted that other factors may be impacting the stock besides fishing mortality but the impacts of fishing mortality could be controlled to help ease the situation. Fishers provided clear advice that they do not want stocks near the limit reference point of B20 (20 per cent of pre-fishing biomass).
3. If biomass increases industry have advised that a conservative response is required with a preference to “bank” and not take available catch increases, thereby leaving more fish in the water to support future higher catch rates and less travel to take these catches.
4. Industry noted the present biomass estimate of the Spanish mackerel stock abundance and agreed that the short term level of harvests should build the stock in the first instance to a target biomass of B40 (40 per cent of virgin biomass).
5. Note that a longer term target reference point for Spanish mackerel above B40 was not agreed at the present meeting but industry did consider B48 or a higher target noting social considerations such as use of mackerel for subsistence (kai-kai) and the need for a ‘buffer’ should PNG opt to take up catch sharing arrangements.

[4] The Fishwell Consulting harvest strategy video is publically available online here: https://www.youtube.com/watch?v=emtEzavpaGI.

Objectives

The meeting discussed the broad fishery objectives listed in the *Finfish Fishery Management Plan 2013* and broke into small groups to discuss these objectives and whether they could be operationalised in the context of the fishery harvest strategy.

Objective 1:	To acknowledge and protect the traditional way of life and livelihood of Traditional Inhabitants, including their rights in relation to traditional fishing for finfish.
Objective 2:	To ensure that harvest levels are at, or below, levels that maintain biologically viable stocks of target and non-target species.
Objective 3:	To provide for the use and conservation of Torres Strait finfish resources in a way that minimises impact on the marine environment.
Objective 4:	To optimise economic viability of the fishery.
Objective 5:	To provide for optimal utilisation, cooperative management, and for catch sharing to occur with PNG.

The meeting recommended that the harvest strategy has an objective added as follows:

> *"The harvest strategy must have regard to traditional knowledge and the ability of communities to manage fishery resources locally, through acknowledging and incorporating customary and traditional laws, recognising;*
>
> - *Malo Ra Gelar*
> - *Gudumalulgal Sabe*
> - *Maluailgal Sabe*
> - *Kulkalgal Sabe* "

It was considered that the strategy needed to complement traditional laws such as, for example, during fine weather fishers were not to work the home reefs around communities and instead were to fish out wider, saving the catches near home for foul weather and for community members without access to boats.

The meeting also suggested an additional objective for the harvest strategy should be for participation levels of the TIB sector to be measured with consideration given in developing the strategy as to what should occur if participation levels drop. Industry advised that after 10 years of leasing the participation level of the TIB fleet of boats had not increased. Industry advised that before the 2007 buyout it was intended that unutilised Total Allowable Catches (TAC) were to be seasonally leased to sunset fishers only until the TIB sector could expand to fill most of the TACs.

Industry suggested that in line with the implementation of their harvest strategy a cap should be placed on sunset leasing at the present 2019 levels with an aim to encourage the TIB fleet to take more of the TACs and expand their catches to take over and supply the market demand. Industry called on government to work to consider ways to promote engagement of communities in commercial fishing.

It was noted that engagement in commercial fishing was a key employment opportunity in many communities but was also a key way in which traditional ecological knowledge and culture was passed down from one generation to the next. Industry advised that the fishery has strong cultural value as well as economic value to communities.

The key objectives that industry stressed for the development of the harvest strategy were biologically viable stocks (sustainability), economic viability i.e. enough fish in the water to support

commercial take and the correct management settings to protect livelihoods and cultural values.

Industry noted that the PNG catch sharing obligation under the Treaty was a good reason to have a strong harvest strategy to make sure there is always a healthy level of biomass available for Australian Traditional Inhabitants should PNG opt to take their 40 per cent share of the mackerel stock in Australian waters.

Spanish mackerel harvest strategy components

The meeting provided the following advice to the project team to support development of the draft harvest strategy for Spanish mackerel.

HS Component	Industry advice
Limit reference point (B LIM)	**B20 agreed** (20 per cent of pre-fishing biomass) This was suggested as the default proxy from Commonwealth Harvest Strategy Policy and was generally considered appropriate for bony fish species. No information from industry to suggest an alternative. Industry noted that below this limit fishing would cease or stock would move to a rebuilding strategy.
Virgin biomass (B 0)	**1940** is used by the model as the estimated starting point of the commercial fishery. It is assumed that at this point the stock was not impacted by commercial fishing and was at the beginning of that year at unfished biomass.
Target reference point (B TARG)	Noting that present biomass of the stock (B31 is B CURRENT) and the interim B40 target used by management, industry supported the principle of catch levels being set to build the stock to B40 first and gave some consideration to a target level higher than B40 to take into account subsistence and catch sharing with PNG. **B48 or B60** were considered but were not recommended by industry without further discussion.
Indicators	Biomass as per the reference points above is an indicator along with standardised catch per unit of effort (CPUE)
Monitoring	Main monitoring for the fishery will come through fishery dependent daily fishing logbooks (mandatory for sunset, main TIB fishers being encouraged to try a logbook) and catch disposal records noting effort component on these reports is voluntary. Noted that biological monitoring (ageing and length frequency) has been identified as a data need for the fishery and a research project proposal is pending subject to funding.
Assessment	Noted that the assessment uses CPUE as an index of abundance (numbers of fish) and would be used to refer to where the biomass was now (B CURRENT) versus the target reference point (B TARG) and set a RBC accordingly. It was noted that consideration was needed on the frequency of assessments, noting that some fisheries had a rule that if two consecutive indicators points (e.g. CPUE, biomass) were below an agreed set level of that indicator an assessment was triggered.
Harvest control rule	Full support from industry that if the stock is below the target reference point, catches should be set at a level aiming to build the stock towards the target within 12 years (with 10 and 8 year scenarios to be explored). Industry agreed that if the stock assessment outcomes suggested increases in RBCs (and in turn the TACs), these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low

	level of utilisation. Industry advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock.

Other points discussed on Spanish mackerel harvest strategy components

It was noted that should participation in the TIB sector be boosted by additional primary-tender operations entering the fishery or community freezers coming online (for mackerel and trout), there would be a sudden increase in catches. It was considered that the strategy needed to be adaptive to this to allow increases in TACs when the assessments suggest this is possible.

Industry considered that harvest control rules should be setup to generally increase RBCs (and thus TACs) in a conservative manner based on assessment outcomes or indicators if the assessment indicators show an increase. It was considered that over the short to medium term, increasing TACs would not benefit the TIB fleet noting the low levels of present utilisation. General advice from industry was to 'bank' fish where appropriate i.e. not take TAC increases and leave these fish in the water to breed to provide higher biomass, higher future catch rates and help maintain subsistence catches.

It was agreed for the project team to investigate another option of 'banking' catch would be to examine building rates for the stock. While 12 years is used now as a timeframe now to build the stock it was noted that a shorter timeframe would act as a conservative measure to lower harvests and effectively leave more fish in the water. It was agreed for the project team to investigate 10 and 8 year timeframes and how these might function to build the stock.

In the absence of an adopted B TARG the meeting noted that a B TARG of 60 per cent of virgin biomass (B60) was used for the past few seasons as a 'triple bottom line' target, taking into account ecological, economic and social factors (including subsistence usage and catch-sharing option with PNG). It was advised that a change had been recommended by the RAG and Working Group, in line with best practice and economic impacts on the fishery, to use a B40 target for the interim. This target was used noting the present biomass estimate of the stock was around B31 (B CURRENT) and the B60 level may be a more aspirational target under the current draft harvest strategy with further exploration of building rates.

Coral trout harvest strategy components

Component	Industry advice
Limit reference point (B LIMIT)	**B20 agreed** (20 per cent of virgin biomass (1940)). This was suggested as the default proxy from Commonwealth Harvest Strategy Policy and was generally considered appropriate for bony fish species. No advice to suggest an alternative. Industry noted that below this limit fishing would cease or stock would move to a rebuilding strategy.
Virgin biomass (B0)	**1950** is used by the model as the estimated starting point of the commercial fishery. It is assumed that at this point the stock was not impacted by commercial fishing and was at the beginning of that year at unfished biomass.
Target reference point (B TARG)	**B60 target reference point** suggested with the following rationale: • B MSY, was estimated in preliminary assessment but given uncertainty (and it is preliminary) the estimated value is not used to set an RBC. • Commonwealth Harvest Strategy Policy (HSP) suggests that a proxy B TARG of B48 or 1.2 times the biomass at BMSY. • HSP suggests B40 is used for a proxy for BMSY. • CSIRO advice is that there is a case for using B50 as a proxy for BMSY, rather than B40, based on trout being a longer lived species, managed as a basket of four species. • Therefore 1.2 times the B50 BMSY proxy equals a B60 target reference point. Industry were supportive of a conservative B TARG for the stock and in general managing the fishery at a level which leaves more fish in the water than a straight MSY target rate. The group were supportive of a target that can take into account the patchiness of the stock (small areas with good trout catch rates separated by large areas of desert), the preliminary nature of the stock assessment, the risk of localised depletion, the basket of four species and that a proportion of the stock is not available (e.g. catchability issues; fish present on grounds but not biting).
Indicators	Aside from fishery dependent monitoring data (catch disposal record data and daily fishing logbook catch and effort data) industry suggest that other indicators for the health of the stock may include **size of fish** being captured and **spatial changes** in where good catch rates are occurring. Industry advice it is that more feasible for their businesses to catch a smaller number of larger sized fish than large numbers of smaller fish.
Monitoring	Main monitoring is through fishery dependent daily fishing logbooks (mandatory for sunset, main TIB fishers being encouraged to try a logbook) and catch disposal records noting effort component on these reports is voluntary. Given the high level of abundance now, the meeting strongly recommend that a **baseline underwater visual survey** should be funded soon to estimate absolute abundance. It was noted that this would be expensive immediately but would have ongoing benefits for understanding over future years and may have more benefit than funding a stock assessment. Industry noted the need for monitoring on species composition of catches to validate reporting.
Assessment	Assessment (preliminary, with work to improve) agreed to be **run every three years** to measure the biomass of the stock relative to the target and adjust the level of Total Allowable Catch. In the intervening years catch and effort data are to be examined (raw or standardised) relative to the long term fishery average. The basket of four species to be assessed together for now. Industry have committed to move towards collecting data on

	the four species (codes for each species) with a view to supporting ability to individual assess each species in future.
Harvest control rule	Agree that if the stock is below the target reference point, catches (TACs) should be adjusted downwards, aiming to build the stock towards the target. Work is to be done on these harvest control rules with suggestions noting a rule is to be further developed to suggest whether the new value departs from an agreed norm e.g. if catch rates drop to 50 per cent of long term fishery average catch rate or the average of the last three seasons or a reference period. As per mackerel, industry agreed that if assessment outcomes suggested increases in TACs, these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low level of utilisation. Industry advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock. Meeting noted present harvest level of 134.9 t (constant catch) and suggested this level of harvest would be too high and may need a large number of boats to fill, potentially damaging catch rates, causing localised depletion issues.

Other points discussed on coral trout:

- Industry were open to the idea of spawning closures to protect coral trout stocks if necessary e.g. close fishing for a when trout are spawning (noting there is a barramundi spawning closure in place in Torres Strait) though this was not recommended.
- Industry advised that it is challenging to assess and report on coral trout due to commercially sensitive nature of spatial catch data catches occur and the small number of operators fishing commercially for trout, noting AFMA's Information Disclosure Policy and five boat rule.
- The nature of the TIB fishing fleet was noted with varied use of the resource; some fishers work more like full time commercial fishers, others part-time/semi-regular i.e. they might have a job during the week with trout fishing as a second job, other fishers are more opportunistic i.e. may work trout for a spell to make money to pay a bill or just fish the odd weekend or two a year for extra cash.
- Noted that two key areas were used in the trout stock assessment (Zone 3 and Zone 5, **Attachment A**) and industry noted that it would be important to consider the relatively fragile nature of the Torres Strait coral trout stock with small patches of good catch rates surrounded by large areas of poor fish abundance.
- Concern raised by industry that based on AFMA catch-watch report issued 17 May 2019, only a fraction of the Total Allowable Catches available to the TIB sector have been harvested in the 11 months of the season to date. Concern that a total harvest in the order of 134.9 t would impact the sustainability of the stock, would cause localised depletion with lower catch rates and may take up to 30 boats fishing hard to fill this TAC. CSIRO advised that the assessment is preliminary and has not been accepted by management to set TACs noting work is required to refine this assessment. CSIRO advised that the assessment may be over-estimating the numbers and productivity of the resource. Future research should also be consider the observed 'patchiness' of abundance on evaluating the estimates of productivity when assessing the Torres Strait stocks.
- The meeting noted the draft Torres Strait Coral Trout Species Identification Guide (**Attachment B**) and provided some suggested changes to AFMA ahead of circulation to industry. It was noted that this guide is intended as quick reference to support reporting to

the level of the four main commercial species of trout via newly created codes, rather than reporting ‘coral trout’ as a basket.

Other general points discussed

The group noted that it is challenging to form a harvest strategy based on the current status of the stock against aspirations for how the TIB fleet might want to use the stock in future.

TIB Industry Members expressed a desire to have more opportunities to share knowledge with non-traditional inhabitant fishers accessing the fishery under Sunset Licences. This was noted in the context of reports to the Finfish Resource Assessment Group about mackerel catch rates at Bramble Cay. It was advised that sunset industry member and an invited participant would be attending the next PZJA Finfish Meeting on 27-28 June 2019.

Concerns were raised from TIB sector over the take of barramundi cod from Sunset licence holders. It was suggested that as this is a high value product it could be maintained for the benefit of the TIB sector only. TSRA advised that fishers wishing to lease a sunset licence do pay a premium lease price per kilo for barramundi cod as part of the other reef-line species basket.

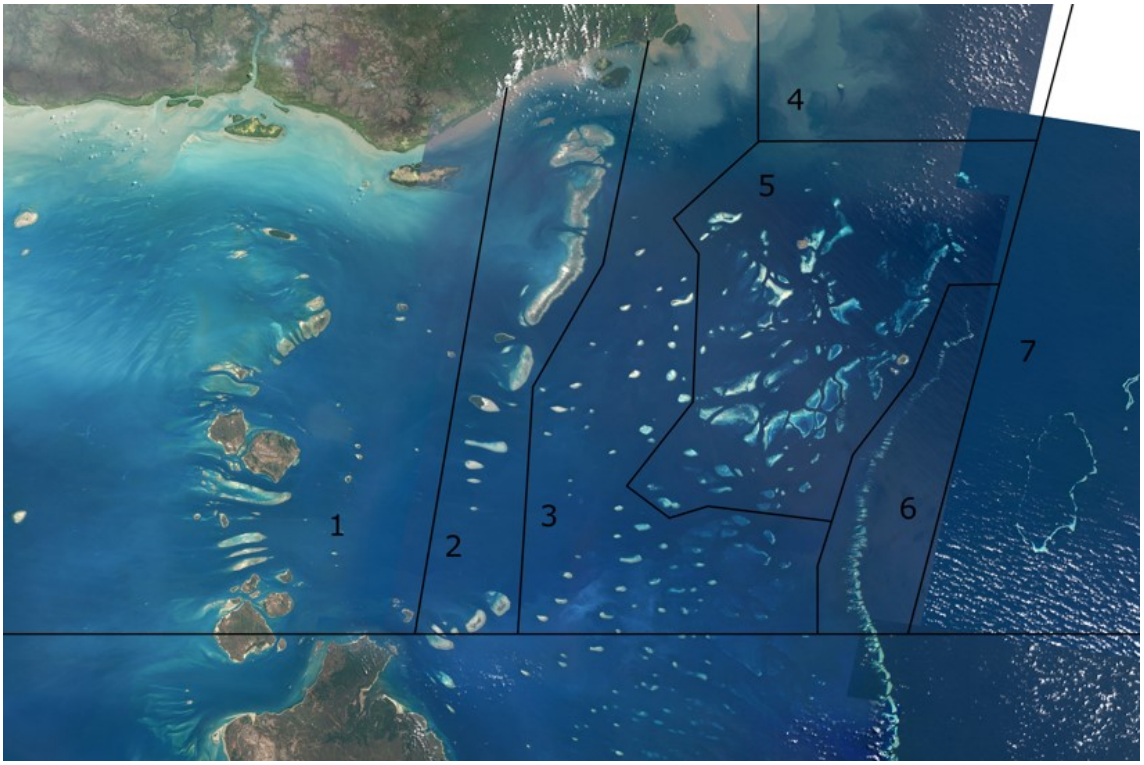
Industry advised that future consideration needed to be given to optimising economic viability of other reef-line species, noting the harvest strategy was to apply to the key economic drivers (trout and mackerel). Industry advised they wanted consideration given to how fishing for reef-line species could be developed through market access and investigating trap fishing methods.

Actions arising

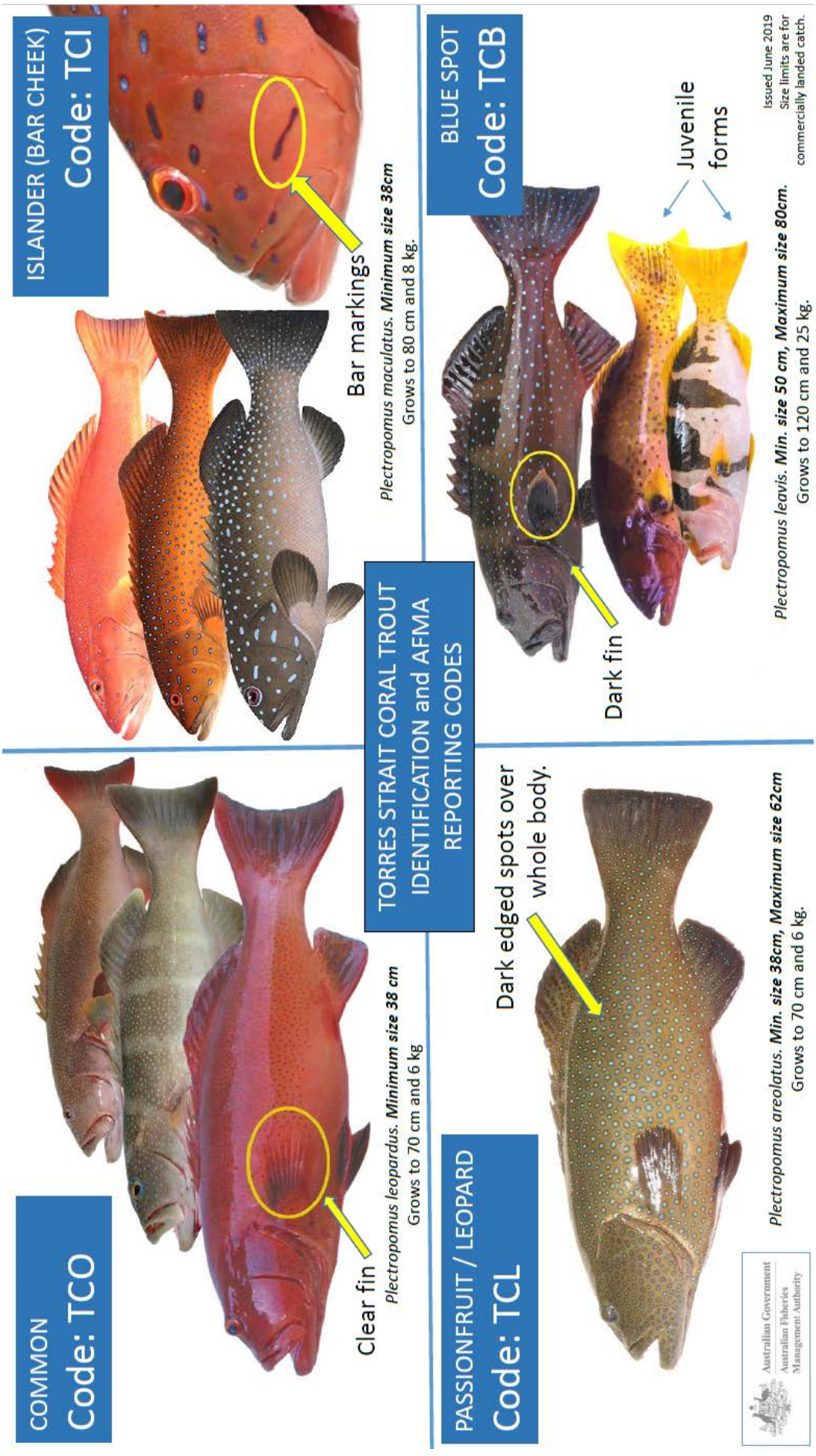
Ahead of the next meeting (27-28 June 2019) it was agreed for the project team to take the following suggestions from industry away for further development:

- Explore 15 per cent change decision rules in other fisheries where there is asymmetry (the rule applies when the recommendation is to decrease the TAC but not when the recommendation is to increase the TAC) and how these rules might apply to setting TACs in this fishery.(
- Shorter recovery time approach for Spanish mackerel (e.g. 8 or 10 years for Spanish mackerel instead of 12 years used as a timeframe for building when below B TARG but above B LIM).
- In order for the RAG to explore a CPUE trigger rule for conducting a Coral trout assessment, provide the standardised CPUE over the reference period or a shorter time period (e.g. average of last three seasons). This point was discussed during the meeting and the time frame from 2012-2017 (inclusive) was agreed to.

Attachment A – Map of Torres Strait coral trout habitat zones from 2019 assessment.



Attachment B – Coral Trout identification guide



Australian Government
Australian Fisheries Management Authority

1 July 2019

Dear Torres Strait Finfish Fishery Licence Holder,

Torres Strait Finfish Fishery sunset licence administration for the 2019-20 season

I am writing to advise you of the administrative arrangements for the Torres Strait Finfish Fishery Sunset Licences in the 2019-20 season (1 July 2019 to 30 June 2020).

At its 1 April 2019 meeting the Protected Zone Joint Authority decided that the Total Allowable Catches (TACs) will be 82 tonnes for Spanish mackerel and 134.9 tonnes for coral trout, based on advice from the Torres Strait Finfish Resource Assessment Group (Finfish RAG) and Working Group.

AFMA wrote to all licence holders on 18 April 2019 providing advice on the agreed TAC limits for commercial fishing in the Torres Strait Finfish Fishery for the 2019-20 season. A copy of this letter is enclosed for your reference (**Attachment A**).

On behalf of Traditional Inhabitants, each year since 2008-09 the Torres Strait Regional Authority (TSRA) has leased (temporary transfer) Finfish Fishery licences, with mackerel and/or coral trout catch entitlements, to non-traditional inhabitant fishers. The aim of leasing licences in this fishery is to utilise available catch and maintain market supply until the Traditional Inhabitant Boat (TIB) licence sector increases its participation in the fishery.

Based on recommendations from TSRA, for the coming season, beginning on 1 July 2019, AFMA will temporarily transfer five sunset licences with a combined catch allocation across all licences of 62 tonnes of Spanish mackerel, 31 tonnes of coral trout and 5 tonnes of other reef-line species across all licences.

The remaining sustainable catch available to TIB fishers for the 2019-20 fishing season, considering reported catches over recent seasons, will be: 20 tonnes of Spanish mackerel, 103.9 tonnes of coral trout, as well as access to other reef-line species (see **Table 1**).

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Table 1. 2019-20 season commercial Total Allowable Catch limits and available catch amounts for Traditional Inhabitant Boat Sector and leased amounts to Sunset sector.

	Spanish mackerel	Coral trout	Other reef-line species (basket)*
Agreed Total Allowable Catch	82	134.9	N/A
Traditional Inhabitant Boat sector available catch	20	103.9	N/A
Amount leased to Sunset licences	62	31	5

*Note the other reef-line species basket is capped at 30 tonnes per season and applies only to Sunset Licence holders. TIB fishers have access to unlimited take of other reef-line species. TSRA has advised that 5 tonnes out of the available 30 tonnes it to be leased for the 2019-20 season.

AFMA will provide catch watch reports throughout the season to inform licence holders about catches against the TAC limits. If required, additional measures will be developed to ensure catches will not exceed the agreed TACs.

Please note that all catch taken in the Torres Strait Finfish Fishery must be weighed and recorded by a licenced fish receiver at the first point of landing. A list of licenced fish receivers is available on the public register of concession holders at: http://www.afma.gov.au/fisheries-services/concession-holders-conditions/. The public register also contains details of all commercially-licenced fishers in the Torres Strait, including sunset licence holders, and catch allowances granted for each licence.

If you would like further information about the TACs or any other matter relating to the Finfish Fishery please do not hesitate to contact the AFMA Torres Strait Office on (07) 4069 1990.

Yours sincerely,

Anna Willock
Executive Manager
Fisheries Management Branch
Australian Fisheries Management Authority

Australian Government
Australian Fisheries Management Authority

DOC REF F2019/0166

18 April 2019

Dear Torres Strait Finfish Fishery Licence Holder,

Fishery licence catch limits for 2019-20 season

I am writing to advise you of the agreed Total Allowable Catch (TAC) limits for commercial fishing in the Torres Strait Finfish Fishery (the Fishery) for the 2019-20 season.

At its 1 April 2019 meeting the Protected Zone Joint Authority (PZJA) agreed that the Torres Strait Finfish Fishery Spanish mackerel TAC will be 82 tonnes and the coral trout TAC will be 134.9 tonnes for the 2019-20 fishing season, which commences on 1 July 2019.

In making its decision the PZJA considered advice from both the Finfish Resource Assessment Group (FRAG) and Finfish Working Group (FWG) advice (Attachment A).

The Spanish mackerel TAC is a reduction from the present 2018-19 season TAC of 115 tonnes. The reduction is intended to allow the stock to build in size following recent stock assessments showing the stock has likely declined. The response is precautionary and seeks to minimise potential economic impacts on the Fishery.

Spanish mackerel is subject to joint management arrangements under the Treaty with Papua New Guinea. At the 7 March 2019 Torres Strait Treaty Joint Advisory Council meeting, Papua New Guinea and Australia declined to enter into catch sharing arrangements. This means Australia does not need to set aside catches for PNG fishers for the 2019-20 fishing season.

Access to the Fishery is reserved for Traditional Inhabitants who hold a Traditional Inhabitant Boat (TIB) licence and fishers that lease annual sunset licences from the Torres Strait Regional Authority (TSRA). Sunset licences may be held by non-traditional inhabitants and allow for a certain amount of catch to be taken. TSRA lease sunset licences and catch allowances on behalf of Traditional Inhabitants. The leasing process for 2019-20 is expected to be completed before the start of the 2019-20 fishing season. AFMA will further advise licence holders on the outcomes of this leasing process including the number of sunset licences issued and total catch leased to these licences.

AFMA will provide catch watch reports throughout the season to advise licence holders on reported catches against the TACs.

Please note that all catch taken in the Torres Strait Finfish Fishery must be weighed and recorded by a licenced fish receiver at the first point of landing. A list of licenced fish receivers who can receive your catch is available on the public register of concession holders available here: http://www.afma.gov.au/fisheries-services/concession-holders-conditions/. The public register also contains details of all commercially licenced fishers in Torres Strait including sunset licence holders.

If you would like further information about the recommended commercial catch limits or any other matter relating to the Finfish Fishery please do not hesitate to contact the AFMA Office on Thursday Island on (07) 4069 1990.

Yours sincerely,

Andrew Trappett
Senior Fisheries Management Officer
Torres Strait Fisheries

LIST OF ATTACHMENTS

Attachment A – Finfish RAG (13-14 March 2019) and Finfish Working Group (15 March 2019) Meeting Record excerpts

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ATTACHMENT A

Excerpt from Finfish Resource Assessment Group Meeting Record, 13-14 May 2019

Agenda Item 3 – Stock assessments for coral trout and Spanish mackerel

3.1 Coral trout assessment and Recommended Biological Catch advice for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** maintaining the **134.9 tonne** Total Allowable Catch for coral trout for the 2019-20 fishing season.

1. In making this recommendation the RAG noted that the current notional Total Allowable Catch of 134.9 t has been in place since 2008 and is based on average catches (TIB and TVH) between 2001 and 2005.

2. The RAG noted a presentation of the first formal stock assessment for Torres Strait coral trout from Dr George Leigh (QDAF) and Dr Matthew Holden (UQ) and welcomed the efforts made by the team in performing the assessment. The RAG accepted the assessment as preliminary noting the stage of development of the assessment and the range of uncertainties within the assessment. Further peer review and development is recommended. The RAG strongly recommended that ongoing work be undertaken to ensure the assessment can be developed and made available for future management decisions.

3. The RAG accepted the methodology of the assessment of using biomass estimates from known Great Barrier Reef (GBR) habitats and inferring and scaling these values to Torres Strait habitats based on satellite mapping data to model the population and create an estimate of abundance.

4. The RAG noted that GBR values were an input to the model together with a catch per unit effort data series from the sunset licence sector daily fishing logbooks.

5. The RAG noted that although the values used as inputs to the assessment were estimates from an adjacent fishery and had some uncertainty associated with them, the outputs of the model were still useful in scaling the present level of effort, risk and catches in the Torres Strait Fishery.

6. Through the preliminary assessment, the RAG noted that the outputs suggest that the Torres Strait coral trout stock is presently healthy with around 80 per cent of virgin biomass available and that this outcome was validated by advice from industry members that the stock appears healthy. The RAG noted that all of the model estimates of current spawning biomass were above 65 per cent estimated virgin biomass.

7. In considering the available information and likely risks to the stock from recent catch levels the RAG recommended maintaining the current 134.9 t Total Allowable Catch. The RAG noted that

the stock assessment once developed, together with an agreed harvest strategy would provide an effective basis to reconsider the current TAC.

Model methods, Inputs and data

8. The RAG noted that the key inputs for the Torres Strait model are from either the Great Barrier Reef (GBR) model or Torres Strait catch data and are:
    - defined habitat areas (GBR values)
    - underwater visual survey data providing a fish density per habitat area (GBR values)
    - virgin fish density estimate (GBR estimate)
    - Catch Per Unit Effort (CPUE) series (from Torres Strait daily fishing logbook data).
9. Harvest data used in the model shows that in recent seasons catches have been low with generally less than 50 t fished.

10. Two bio-regions defined in the Torres Strait model represent most of the Torres Strait harvests with reefs in Region 5 being morphologically similar to the Cairns region in GBR model and reefs in Region 3 being morphologically similar to the northern GBR region.

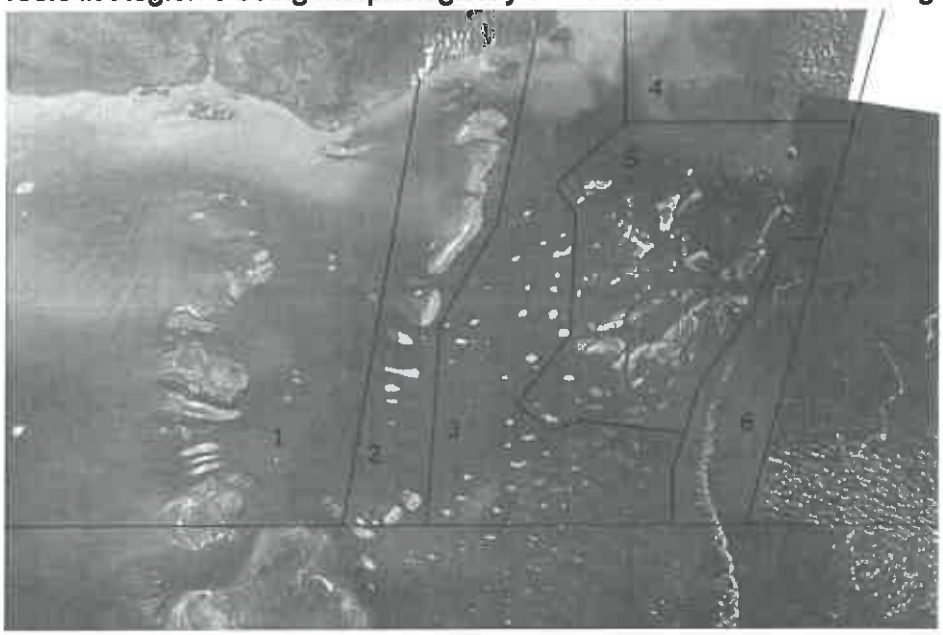

Figure 1. Map showing bioregions used in Torres Strait stock assessment.

11. The RAG noted:

- The model is using only sunset licence logbook data for the CPUE standardisation time series. The RAG noted that Region 3 has a smaller proportion of catch and different pattern of CPUE to Region 5.
- Industry advised that Region 3 may have higher carrying capacity then Region 5 but is not fished as frequently as it is harder to access due to winds, currents and poorer anchorages. Consequently, Region 5 can normally only be fished in calmer weather.
- The biggest uncertainty in the model is TIB sector catches with little available data for assessment.

- Industry members confirmed that the peak reported TIB catches around the year 2004-05 coincides with the period when a non-traditional inhabitant fisher was operating in the Fishery and supporting local TIB fishers (with fishing gear, processing and buying of product).
- The RAG agreed with the methodology to use either Islander freezer data or 4.2 times docket book catch for the TIB sector catch size for each year (whichever is higher) in the assessment for years where catches were unavailable.
- An industry member suggested that certain years did have low catches of coral trout due to fishers switching to bech de mer fishing and lack of supporting infrastructure due to freezer closures. Industry members confirmed that:
  - Masig (Yorke Island) freezer was in operation until around 2009.
  - Mer (Murray Island) freezer closed operations in 2010.
  - 2010 was the last year representative freezer data is available for the assessment team with the Erub (Darnley Island) freezer operating inconsistently in recent seasons with fewer TIB fishers targeting trout.

Coral trout model outputs

12. The RAG agreed that the methods of the assessment are appropriate noting that the values are being used to inform the assessment are assumptions at this stage of development.
13. The RAG noted that the stock status appears to be healthy with most model runs showing the stock biomass to be above 65 per cent of virgin biomass.
14. Scientific members advised that estimates generated by the model may be over or under estiamtes depending on the influence of tidal current flows within Torres Strait. The RAG noted that Torres Strait is shallower than GBR reefs with strong current flow. Industry members advised that coral trout generally go off the bite with strong current flow and murky water.
15. The model appears to have some areas where it is not able to fit to available catch data. The RAG suggested that the period following the November 2001 and February 2002 pre-buyout investment warning did see an increase in catch records returned to AFMA. Industry members and observers present supported this 'paper-fish' effect in the catch series and confirmed that industry were over-reporting catches to build up catch history through this period.
16. The RAG considered that an issue with assessing coral trout was that a pattern of short-term, localised depletion (or localised overfishing), followed by movement to a new reef, may act to maintain an illusion of high catch rates over time until catch rates suddenly decline. RAG noted that area-based catch limits can be developed to take account of local depletion issues. For example, if a particular zone of the fishery is known to be more easily accessible and will likely represent where the majority of catch will be taken, the likely effort from this zone can be compared to likely effort from the rest of the fishery. This can then be used to scale a Total Allowable Catch from the whole fishery with the correct proportion set to be fully harvested from the key zone.

Future work and research needs

17. The RAG noted:

- a number of suggestions to increase precision in future coral trout stock assessment work. These will be detailed in the final project report;
- that future assessment should analyse species split issues. The draft harvest strategy is likely to recommend the species split to be monitored;
- based on industry advice on the distribution of catches of common coral trout, it was recommended that the southern boundary of the region 5 be moved north to the Cumberland reefs. As currently demarcated, Region 5 splits key fishing grounds for common coral trout; and
- an upcoming FRDC project on the health of the Great Barrier Reef might result in a rescaling of habitat areas due to carrying capacities changing due to reef degradation. It was noted that the outcomes of this project may have flow on effects for east coast quota and the Torres Strait model.

18. The RAG suggested that the most immediate priority to improve data collection and assessment for the fishery would come from improved catch reporting.

3.2 Spanish mackerel assessment and Recommended Biological Catch for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** a **94 tonne** Recommended Biological Catch for Spanish mackerel for the 2019-20 season noting a decline in the stock and a need for precaution.

19. The FRAG noted from the harvest strategy work in 2018–2019, results from an updated stock assessment had been undertaken by Dr Michael O'Neil. The Spanish mackerel stock assessment used an annual age-structured model. The assessment uses all available catch-effort data and fish age-frequency data. The stock assessment update included an additional three years of catch data (fishing years 2015–2016, 2016–2017 and 2017–2018).

20. The RAG noted that the updated assessment accounted for FRAG advice at its meeting on 19-20 November 2018 and intersessional advice from a FRAG data sub-group meeting held 20-21 December. The data sub-group comprised all RAG Scientific members, QDAF, AFMA and CSIRO.

21. The RAG noted the results of the updated stock assessment show:

    a) Biomass is on a down cycle (decline). The standardised catch rate of legal sized Spanish mackerel (the abundance index), using logbook data from sunset fishing operations, had declined since 2010-11. Standardised catch rates have reached near historic low levels in 2017-18.

    b) The estimated 2017–2018 biomass was between 15% and 45% (B_{15} and B_{45}) of original unfished biomass (B_0) measured in 1940–1941. Four of 39 model scenarios, estimated biomass in the 2017-2018 fishing season to be below B_{20}. B_{20} is the Commonwealth Fisheries Harvest Strategy Policy limit reference point. The RAG considered this situation (4 of 39 scenarios) to be equivalent to the Harvest Strategy Policy guideline for harvest

strategies to ensure stocks remain above the limit reference point approximately 90 per cent of the time.

c) Recent fishing pressures are unlikely to be exceeding F_{MSY}. This means overfishing is unlikely to be occurring. The biomass decline may be associated with factors other than fishing. The RAG noted advice from scientific members that similar unexplained declines over the last four to five years were reported for other Spanish mackerel stocks in Western Australia, Northern Territory and Queensland suggesting that broader environmental factors could be driving trends in these fisheries.

22. To guide advice on an 2019–2020 RBC, the RAG recommended:

a) Applying a Maximum Sustainable Yield (MSY) fishing reference point on current 2017–2018 exploitable biomass. This interim management guide recognised that at the status of the stock, that B_{60} is not quickly achievable, and the fishery economic/data needs. A time to build the stock to this target reference point still needs to be evaluated with stakeholders as part of developing a harvest strategy. The RAG noted that the new Harvest Strategy Policy does not specify rates for building stocks that are above B_{LIM} and below B_{TARG}.

b) The equilibrium yield approach is no longer used. Equilibrium yields were previously used to calculate RBCs. The equilibrium yield approach is only useful if stock is at an equilibrium reference point or above. Consistent with the Harvest Strategy Policy the recommended approach is to advise on yields for current estimates of spawning biomass.

23. Based on outcomes of the stock assessment and applying an interim reference point of FMSY, the FFRAG recommended an RBC of 94 t for the 2019-2020 season. This setting notes a decline in the stock and need for some precaution. The 94 t represents the average over all 39 model-scenarios.

24. Noting there is no agreed harvest strategy in place for the Finfish Fishery, the FRAG considered fish-population projections for a range of RBCs to evaluate risks (**Figure 2** and **Table 1**). Risk was interpreted as the proportion of scenarios below B20 in 2029 (as a percentage of all scenarios). The year 2029 was 2017 plus three times the average age of mature female fish (4 years) – a standard and accepted approach for assessing the timeframe to guide fishery stock status.

25. The FRAG provided advice on best estimates for catches taken outside of the commercial fishery and supported the use of the values shown in **Table 2**.

Other points discussed on the Spanish mackerel assessment

26. The RAG noted that based on advice from FRAG 3 (19-20 November 2018) and the Finfish Data Sub-group Meeting 1 (20-21 December 2018) the updated assessment included analysis of past catch from Taiwanese pelagic drift-net vessels known to be in operation across northern Australian during the late 1970s and early 1980s and guided by investigations by NT Fisheries (Northern Territory) on apparent uncertainties about missing older size class fishes. To account for the potential take from the Torres Strait Spanish mackerel stock, scenarios in the model examined inflated harvests of 100 t of Spanish mackerel for the years 1979 to 1986. The RAG agreed with the inclusion of these scenarios noting that although the true amounts of

these catches was not known, 100 t was deemed an appropriate order of catches for investigation. The RAG noted that the inclusion of these catches did act to depress the estimates of stock biomass right through to the present day and that these catches resulted in a number of scenario runs which estimated the present stock biomass as being below the limit reference point (BLIM = B20).

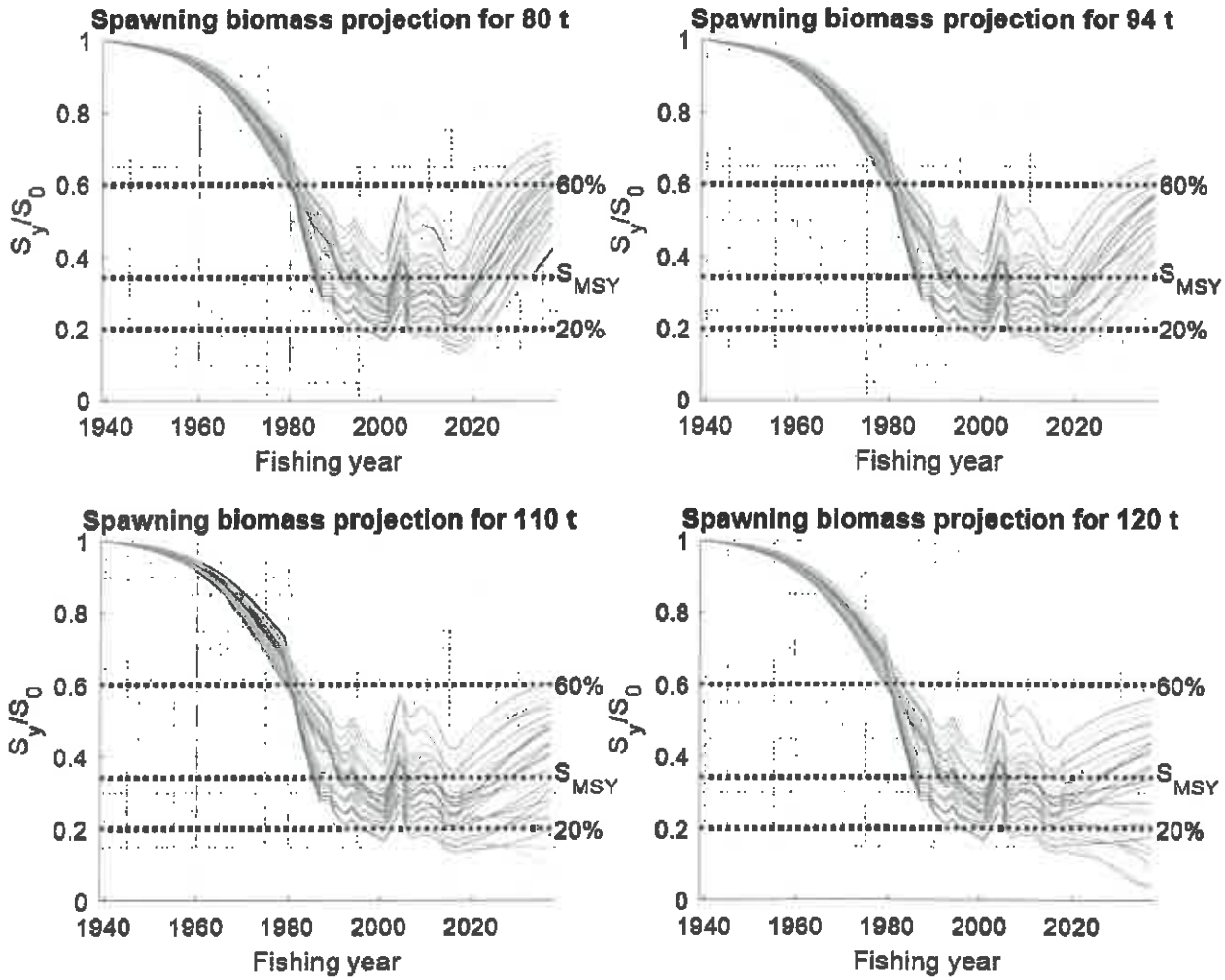

Figure 2 Spawning biomass projections under four different RBC levels.

Table 1 FRAG analyse of risk profiles based on model scenarios outputs for four RBC levels

Risk profile	RBC (t)	Number (and per cent) of runs out of 39 below limit reference point (B_{20}) in 2029*.	Interpretation
"Low" risk	80	0	Precautionary but some implications for economics
Precautionary risk	94	0	Balancing for sustainability and risk
"Moderate" risk	110	3 (~8 %)	Moderate risk
"High" risk	120	10 (~26 %)	Unacceptable risk

*(B20 agreed interim, 20 per cent of virgin biomass) in 2029 (which is 2017 plus three times the average age of mature female fish (4 years). Last estimate in 2017 + 12 years (3 x 4 years).

Table 2 FRAG recommended estimates of Spanish mackerel catches taken outside the Finfish Fishery

Source of catches	Expected catch (t)	Comments
Subsistence catch (kai kai) by Traditional Inhabitants	10	Based on data from *Busilacchi 2013* this value includes total of catch estimates for Mer, Masig and Erub Islands. The FWG agreed in July 2016 that the catch figures from the *Busilacchi 2008* research are the best estimates of traditional take of finfish. While originally reported to AFMA by CSIRO as 12 t this was later corrected to 5.155 t. The RAG recommended that an estimate of 10 t be used for decision making noting data was only from three islands, the number of TIB fishing endorsements has increased and effort creep may be occurring. Noting that anecdotal information presented at the FRAG by some TIB commercial reps infers this number generally may have decreased.
Recreational	2	RAG advised that based on the available evidence from QDAF recreational survey results with a limited number of Torres Strait households surveyed in 2013, recreational catches are likely to be minimal but not a 'zero' value. Two tonnes was used in the assessment noting the confidence intervals associated with estimate varied up to a total of five tonnes.
Charter	Likely to be minimal	Available QLD logbook records show Charter boat line catches are low. Logbook records for the period between 1995 and 2014 report a total of 19.58 tonnes of mixed species taken from Torres Strait waters. RAG has advised based on the available evidence from QDAF logbook data from charter catches are likely to be minimal.
PNG catch sharing	0	PNG-NFA declined to enter into catch sharing arrangements for 2019-20.

Excerpt from Final Finfish Working Group Meeting Record, 15 March 2019.

Agenda Item 3 – Advice on Total Allowable Catches for Spanish mackerel and coral trout

Spanish mackerel total allowable catch advice

2. The Finfish Working Group met on 15 March 2019. Having regard for the FRAG advice the FWG agreed to recommend a Spanish mackerel TAC of 82 tonnes (RBC of 94 tonnes minus total estimated catch outside the Fishery – 12 tonne (10t for traditional (subsistence) fishing and 2 t for recreational fishing, **Table 2**). The FWG noted:

   a) That the recommended TAC balances the need for stock rebuilding recognising the apparent biomass decline and both modelled and observed CPUE reductions in recent years, with the need to minimise potential economic impacts on the Fishery. The FWG noted that any TAC reduction was most likely to be given effect through reducing the amount of Spanish Mackerel catch leased to sunset fishers;

   b) Industry members at the WG (all being Traditional Inhabitants) strongly supported the proposed RBC and TAC reduction in order to be precautionary and recognising the importance of the fishery to Traditional Inhabitant livelihoods now and in the future; and

   c) Concern that the proposed TAC reduction may reduce available catch information to support future stock assessments at a time when stock is declining and in need of accurate assessments (catch per unit effort provides an index of stock abundance and is used in modelling stock biomass). It was noted that the proposed TAC reduction could reduce the number of dedicated Spanish mackerel sunset licence operators from three to two. This will depend on the allocation process of TAC to fishing operations. The FWG noted that future data needs is an important consideration in setting the RBC and TAC. The stock assessment scientist advised that a reduction to two vessel operations could still be analysed in the catch rate standardisation (identification of dory and skipper data, with VMS would mitigate the risk). However, irrespective of the number of fishing operations (2–5), the fishery dependency of the catch rate data (i.e. the amount of fishing by each fishing operation, locations and times) can influence results. Encouragingly, FRAG and FWG traditional commercial operators discussed how to improve and supply their catch-effort data to support the stock assessment process.

Catches outside the fishery

3. FWG considered available estimates of mortality on the Spanish mackerel stock outside of the commercial fishery and supported the use of 10 t for subsistence take and 2 t for recreational harvest. The FWG noted that although there was uncertainty associated with these estimates they were the best available figures to support decision making and there was no rationale to depart from using these figures.

Coral trout total allowable catch advice

4. Having regard for FRAG advice the FWG agreed to recommend maintaining the 134.9 t TAC for coral trout for the 2019-20 season noting likely stock status and that recent catches have been substantially below the TAC. Assuming current catch levels remain unchanged, the FWG supported maintaining this TAC until it can be reconsidered in light of an agreed harvest

strategy and stock assessment. The FWG noted FRAG advice that the current stock assessment is preliminary.

5. In making this recommendation the FWG noted:

- the current notional TAC of 134.9 t has been in place since 2008 and is based on average catches between 2001 to 2005;
- an initial stock assessment for Torres Strait coral trout was presented to the FRAG and was welcomed and deemed preliminary by the RAG due to its present stage of development and the range of uncertainties associated with the assessment;
- the approach of the preliminary assessment was accepted by the RAG. The approach uses biomass estimates from known Great Barrier Reef (GBR) habitats using underwater visual survey data and infers and scales these values to Torres Strait habitats using satellite mapping data to model the population and infer abundance;
- though deemed an preliminary assessment the outputs do suggest that the trout stock has a healthy level of biomass which is reinforced by industry advice from industry members. The FWG noted the preliminary stock assessment indicates the spawning biomass is around 80 per cent of virgin biomass with the lowest model estimate of biomass being around 65 per cent of virgin biomass.

Australian Government
Australian Fisheries Management Authority

Coordination Arrangements of Australian Government Entities Operating in Torres Strait

Published 29 May 2019

Australian National Audit Office
Auditor-General Report No. 41 2018-19
Performance Audit

https://www.anao.gov.au/work/performance-audit/coordination-arrangements-australian-government-entities-operating-torres-strait

Summary of ANAO outcomes for AFMA

Background

In 2018, the Australian National Audit Office (ANAO) conducted a performance audit on the coordination arrangements of Australian Government Entities Operating in the Torres Strait. The audit examined whether Australian Government agencies operating in the Torres Strait have appropriate governance arrangements to support the coordination of their activities, and that the coordination arrangements are effective in supporting Australian Government activities in the Torres Strait.

The audit examined the coordination arrangements of five Australian Government entities operating in the Torres Strait including the Torres Strait Regional Authority (TSRA), the Department of Foreign Affairs and Trade (DFAT), the Department of Agriculture and Water Resources (DAWR), the Department of Home Affairs, represented by the Australian Border Force (ABF) and the Australian Fisheries Management Authority (AFMA). This document provides a brief summary of key ANAO outcomes relevant for AFMA.

Rationale for undertaking the audit

Australia recognises the Torres Strait region as a sensitive and important zone because:

- the scattered islands represent stepping stones between PNG and Australia and is often referred to as 'the closest thing Australia has to a land border'. The close distance of PNG has immigration, customs and biosecurity implications;
- the region supports critical fisheries habitats and ecosystem resources; and
- the region is an international shipping route with difficult waters.

In 2010, a Senate Inquiry into Torres Strait by the Foreign Affairs, Defence and Trade Reference Committee documented key issues associated with health, biosecurity, law and order and border protection, relating primarily to the shared border with PNG and the operation of the Treaty. The committee's report stressed the importance of achieving effective whole-of-government cooperation and coordination between government entities.

Overall Audit Conclusions

1. The report concludes that the coordination arrangements of key Australian Government entities operating in Torres Strait are largely effective in supporting Australian Government activities.
2. The business rules are effective for the implementation of biosecurity and fisheries legislation, and support the application of the Treaty provisions and the coordination of activities in Torres Strait. The business rules are not fully effective for the implementation of immigration and customs legislation in

the context of the Treaty. This impacts on the capacity of entities to coordinate their activities and to develop a shared understanding of immigration and customs rules applicable in the region.

3. The governance structures and joint activities are largely effective to support cross-entity coordination. However, key policy decisions made by the Torres Strait Joint Advisory Council (JAC) are not adequately documented, and the risks associated with the impacts of a changing strategic and operational environment on the Treaty operation have not been analysed. The Protected Zone Joint Authority (PZJA) annual reports and website are not up-to-date.
4. The key systems and assets support the coordination of Australian Government entities' operations in Torres Strait. An important project to improve telecommunications in Torres Strait is progressing.

AFMA Specific Conclusions

Business Rules

The business rules, combined with the legislation, applying to fisheries in Torres Strait are comprehensive and fit-for-purpose, but some key governance documents are not up-to-date.

Governance Structures and Joint Activities

Through the PZJA, the consultative framework is largely effective to support and coordinate the decision making process of the range of entities involved in Torres Strait fisheries. Some of the actions agreed following the 2009 review of the PZJA's administrative arrangements are still to be completed, and the PZJA's annual reports and website are not up-to-date.

System and assets

No specific comments relating to the management of fisheries in the Torres Strait.

Recommendations for AFMA

The audit recommends the Australian Fisheries Management Authority work with the Protected Zone Joint Authority's other member entities, the Torres Strait Regional Authority and Queensland Department of Agriculture and Fisheries, to:

a) finalise the Protected Zone Joint Authority annual reports for the 2015–16, 2016–17 and 2017–18 financial years and implement a process to ensure that future annual reports are published in a timely manner; and

b) keep the Authority's website up-to-date.

Additionally, the audit recommended that DFAT establish and maintain a central register of policy decisions made by the Torres Strait Joint Advisory Council (JAC) and ensure that the register is accessible to stakeholders, including Australian Government entities, operating in Torres Strait.

As a member of the JAC, the AFMA Executive has agreed to the publication of JAC outcomes on the DFAT website.

Summary audit response from AFMA

On 11 April 2019, the AFMA CEO provided the following response to the Auditor-General for Australia:

AFMA has extensive responsibilities in managing Commonwealth fisheries resources in the Torres Strait and works to deliver on these in cooperation with a number of Commonwealth and other agencies.

AFMA has considered the proposed audit report and accepts that timely finalisation of Protected Zone Joint Authority annual reports and regular updating of the Authority's website will enable stakeholders to be better informed about fisheries management issues and actions. Together with other PZJA member agencies, AFMA will also continue to work towards further integration and coordination of fisheries in the Torres Strait.

Audit Findings relevant for AFMA

Table 1. Summary of audit findings under each area examined relevant for AFMA.

Area Examined	Summary Conclusion	Audit Findings
Business Rules	The business rules, combined with the legislation, applying to fisheries in Torres Strait are comprehensive and fit-for-purpose, but some key governance documents are not up-to-date.	While a range of business rules exist, some of them were developed a number of years ago (in one instance, 2004), and it is difficult to establish whether the documents are up-to-date, due to the absence of a version history and date of next review. For example, a number of changes to the consultative structure of the PZJA have occurred since *Fisheries Management Paper No. 1*, which plays a key role in the administration of the Torres Strait fisheries, was endorsed in 2008. The Standing Committee, which has been presiding over and providing recommendations to the PZJA since 2010, is not included in prescribed arrangements set out in *Fisheries Management Paper No 1*. A revised Paper was developed by AFMA in 2015, but was not endorsed by the PZJA. **AFMA should review its guidance documents to verify that they are up-to-date, and include the document version history and date of next review.** The large body of documents that supports the regulation of fisheries, in particular fisheries management instruments and notices, also guides the work of entities involved in Torres Strait fisheries, including fishers. Over the years, a large number of these documents have been issued, with, in most cases, the most recent revoking a previous one. The PZJA website includes a list of the notices and instruments, however the list available as at March 2019 had not been updated since October 2013, and included legislative instruments that are no longer current. For example, *Fisheries Management Instrument No. 15* dated March 2017 revokes *Fisheries Management Notice No. 64* dated December 2002 and prohibits the taking, processing or carrying of sea cucumber in the area of the Torres Strait Sea Cucumber Fishery. However *Fisheries Management Notice No. 64* is still accessible from the PZJA website and marked as 'current'. **AFMA, as the Commonwealth entity responsible for the day-to-day administration of the PZJA, should ensure that the list of the current fisheries management notices and instruments effective in Torres Strait on the PZJA website is up-to-date.** Up-to-date information would assist stakeholders, such as fishers and communities, to operate more effectively in Torres Strait.
Governance Structures and Joint Activities	Through the PZJA, the consultative framework is largely effective to support and coordinate the decision making process of the range	In 2008 the PZJA participating entities commissioned a review of the PZJA administrative arrangements. The *Review of Torres Strait Protected Zone Joint Authority Fisheries Administration Arrangements* was completed in 2009 and concluded that the PZJA was unnecessarily process driven,

Area Examined	Summary Conclusion	Audit Findings
	of entities involved in Torres Strait fisheries. Some of the actions agreed following the 2009 review of the PZJA's administrative arrangements are still to be completed, and the PZJA's annual reports and website are not up-to-date.	with an insufficient focus on achieving outcomes. The review made 17 recommendations, from which the PZJA developed seven actions to be implemented (see appendix A). The 2009 review noted that achieving 'an integrated and coordinated approach to the management of fisheries in Torres Strait is quite a challenge'. While the majority of actions have been completed, several items were still in progress as at March 2019: • The TSRA to be responsible for managing the sustainable take of turtle and dugong by traditional inhabitants (Action 1a): AFMA advised that this action was in progress, and legislative change, subject to cross-jurisdictional agreement, was required. • AFMA to be delegated with day-to-day operational decisions consistent with the *Torres Strait Fisheries Act 1984* (Action 3b): while delegations to the AFMA CEO are in place, AFMA advised it has chosen not to exercise these delegations in all instances, to ensure decisions are supported by the PZJA. For example, the setting of total allowable catch limits under licence conditions is still approved by the PZJA. • Terms of reference were drafted in 2015 but not endorsed as at March 2019 (Action 4). As documented at paragraph 2.38, the PZJA Standing Committee is not included in prescribed arrangements set out in *Fisheries Management Paper No 1*. AFMA advised it will continue to seek Standing Committee agreement to Terms of Reference during 2019. • Action 5, which aimed at achieving improved administrative processes and communication between PZJA committees and working groups, is still in progress. While meetings (face to face or via teleconference) are conducted regularly, improvements are still needed to the PZJA decision-making process and to provide longer lead times for consideration of meeting documents. • AFMA to progress legislative amendments to the Torres Strait Fisheries Act that further streamline management arrangements (Action 7): AFMA advised that a suite of legislative amendments had been agreed by the PZJA in May 2017 but had yet to be approved by the Minister for Agriculture and Water Resources before introduction to Parliament. Given this parliamentary delay, AFMA advised that the Standing Committee had developed a further tranche of proposed legislative amendments for consideration by the PZJA soon after the Federal election in 2019.

Area Examined	Summary Conclusion	Audit Findings
		Timely publication of the PZJA annual reports and updating of the PZJA website Under the Torres Strait Fisheries Act, the PZJA is required to present an annual report to the Australian Parliament as soon as practicable after 30 June each year. The annual report must document the activities of the PZJA and on the condition of the fisheries. In 2014 and 2015, the Senate Rural and Regional Affairs and Transport Legislation Committee noted the time taken between the end of the financial year and the date that the PZJA provided its report to Parliament. On both occasions the Committee encouraged the PZJA to provide reports in a more timely fashion.
Systems and assets	No AFMA specific comments	

Appendix A

Table 2. Agreed actions by the PZJA following the 2009 review.

Action	Description
1. One management agency	a) The TSRA to be responsible for managing the sustainable take of turtle and dugong by traditional inhabitants. b) One agency responsible for the day-to-day administration of Torres Strait commercial fisheries. AFMA to undertake this role in consultation with PZJA agencies. c) AFMA and Fisheries Queensland to work out the timing and resources for the transfer of licensing and compliance functions to AFMA.
2. Consultation	A revised consultation model to be employed that improves the level of consultation with Torres Strait Islanders at the community level.
3. Decision making and delegations	a) The PZJA to retain (not delegate) the decision making capacity for strategic matters such as new legislation or legislative amendments (including management plans), resource allocation decisions, determining harvest strategies and significant policy amendments. b) AFMA to be delegated with day to day operational decisions consistent with the Torres Strait Fisheries Act 1984. c) AFMA to report annually to the PZJA on delegated responsibilities.
4. Standing Committee	Terms of reference to be developed for the PZJA Standing Committee.
5. PZJA	a) AFMA to provide secretarial services to PZJA. b) The PZJA to meet a minimum of twice every three years.
6. Bi-lateral arrangements with PNG	a) AFMA to be responsible for maintaining bi-lateral relationships with PNG National Fisheries Authority and for organising the annual catch sharing and formal bi-lateral meeting. b) PNG to be invited to attend the annual PZJA meeting as an observer.
7. Long-term	c) Review whether Queensland retains a role in the PZJA including the implications of any withdrawal. d) AFMA to progress legislative amendments to the Torres Strait Fisheries Act that further streamline management arrangements.

Source: Richard Stevens, *Review of Torres Strait Protected Zone Joint Authority Fisheries Administration Arrangements*, Discussion Paper, 22 June 2009.

Agenda item 2.2.1.d

2.2.1.d Table 1. Wildlife Trade Operation – Torres Strait Finfish Fishery -Summary of issues requiring conditions, December 2017

Issue	Condition
General Management Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of the Environment and Energy needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, EPBC Act protected species or the ecosystem.	**Condition 1**: Operation of the Torres Strait Finfish Fishery will be carried out in accordance with management regime in force under the *Torres Strait Fisheries Act 1984*. **Condition 2**: The Torres Strait Protect Zone Joint Authority to inform the Department of the Environment and Energy of any intended material changes to the Torres Strait Finfish Fishery management arrangements that may affect the assessment against which *Environment Protection and Biodiversity Conservation Act 1999* decisions are made.
Annual Reporting It is important that reports be produced and presented to the Department annually in order for the performance of the fishery and progress in implementing the conditions in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' and include a description of the fishery, management arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with EPBC Act protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing the Department's conditions. Electronic copies of the guidelines are available from the Department's website at http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries	**Condition 3**: The Torres Strait Protected Zone Joint Authority to produce and present reports to the Department of the Environment and Energy annually as per Appendix B of the *Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition*.

Issue	Condition
Improving information for sustainable management Reliable information is important to ensure stocks are not overfished and fishing remains sustainable. In the Torres Strait Finfish Fishery, non-Traditional Inhabitant fishers must report all catch and effort data using AFMA approved logbooks. However information on the Traditional Inhabitant sector (the majority of license holders with unlimited licences available) is limited to voluntary reports of catch received by fish receivers using docket books. Although catch limits are set, the system could be improved to validate catches, monitor or manage catch limits. The unlimited number of licenses in the Traditional-Inhabitant sector also means there is capacity for fishing activity to rapidly increase and exceed catch limits. Measures that are likely to improve data collection, and monitoring and management of catches could include: • fishers reporting all catch, including bycatch and discarded catch using approved catch and effort logbooks. • fishers unloading all retained catch to an authorised fish receiver. • fish receivers verifying the quantity and composition of all received catches and report this in a form that facilitates validation of catch data reported by fishers. • monitoring and validation of reported data as necessary. The Torres Strait Protected Zone Joint Authority (PZJA) has undertaken to make data reporting by all fishers compulsory, and ensure all landings occur to licensed fish receivers. These measures are facilitated by the Torres Strait Finfish Fishery Management Plan 2013, but have not yet been implemented. A number of measures are being implemented including mandatory catch reporting (legislative amendment process to begin in 2018) and licenced fish receivers (mandatory catch disposal records, from 1 December 2017). The PZJA has also identified a need to obtain more reliable estimates of productivity. This is particularly important as fishing effort is increasing in the Reef Line Fishery sector, and there have been no formal stock assessments undertaken to date. The PZJA also intend to complete an ecological risk assessment for the fishery in 2019 which should further inform its data collection programme.	**Condition 4** The Torres Strait Protected Zone Joint Authority to implement strategies to improve data collection, and monitoring and management of catch in all sectors of the Torres Strait Finfish Fishery by 2019. **Condition 5** The Torres Strait Protected Zone Joint Authority to complete an ecological risk assessment for the Torres Strait Finfish Fishery. **Condition 6** The Torres Strait Protected Zone Joint Authority to improve estimates of stock abundance and harvest potential for all target species in the Torres Strait Finfish Fishery.

Issue	Condition
Reference points and management triggers to ensure fishing remains sustainable. Although a stock assessment and management strategy evaluation has been used to set biologically relevant reference points for the Spanish mackerel fishery, the Reef Line Fishery sector has not been assessed and has no formal target or limit reference points. A total allowable catch for coral trout in the Reef Line Fishery sector is allocated to licences at the start of each fishing season, but no limits apply to other species in the Reef Line Fishery sector. The Torres Strait Protected Zone Joint Authority (PZJA) has advised that a harvest strategy for the Torres Strait Finfish Fishery is in development and will consider all target species in the Reef Line Fishery and Spanish mackerel sectors. The Torres Strait Finfish Fishery Management Plan 2013 provides for the PZJA to determine reference points for the fishery and review these as necessary. In relation to species harvested from the fishery, the plan requires the PZJA to: • monitor catch information on finfish and byproduct species; and • if concerns about a species are identified, determine reference points that are appropriate for maintaining ecologically viable stocks of that species and an ecologically sustainable fishery. The PZJA has previously advised that once the management plan for the fishery was implemented, the Torres Strait Finfish Fishery Working Group would consider reference points for the fishery. Development and implementation of reference points and appropriate management responses, with timeframes attached, are necessary to ensure the fishery's management arrangements remain ecologically sustainable.	**Condition 7** The Torres Strait Protected Zone Joint Authority to develop and implement reference points and relevant management triggers, including timeframes for management responses, for the Torres Strait Finfish Fishery.

2.2.1.d Table 1. Update on status against WTO conditions for FFRAG 5, October 2019.

	Condition	Status update
1	Operation of the Torres Strait Finfish Fishery will be carried out in accordance with management arrangements in force under the Torres Strait Fisheries Act 1984.	Operation of the fishery occurs in line with TS Fisheries Act 1984 (and Fisheries Management Notices made under this legislation) along with the Torres Strait Finfish Management Plan 2013.
2	The Torres Strait Protected Zone Joint Authority to inform the Department of the Environment and Energy of any intended material changes to the Torres Strait Finfish Fishery management arrangements that may affect the assessment against which Environment Protection and Biodiversity Conservation Act 1999 decisions are made.	Changes to operational and legislated amendments that may impact the status of the WTO are reported to the Dept. of Environment by AFMA.
3	The Torres Strait Protected Zone Joint Authority to produce and present reports to the Department of the Environment and Energy annually as per Appendix B of the Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition.	Annual reporting and liaison with the Depart. of the Environment is actioned yearly by AFMA in line with the Guidelines.
4	The Torres Strait Protected Zone Joint Authority to implement strategies to improve data collection, and monitoring and management of catch in all sectors of the Torres Strait Finfish Fishery by 2019.	Strategies implemented including Daily Fishing Logbooks (mandatory for Sunset licence holders), mandatory catch disposal records through Fish Receiver System (Dec 2017) and Vessel Monitoring System requirement on all Processor-Carrier licenced vessels (July 2017).
5	The Torres Strait Protected Zone Joint Authority to complete an ecological risk assessment for the Torres Strait Finfish Fishery.	ERA for Torres Strait Finfish Fishery (in line with all TS commercial fisheries) funded and scheduled for completion by 2020-21.
6	The Torres Strait Protected Zone Joint Authority to improve estimates of stock abundance and harvest potential for all target species in the Torres Strait Finfish Fishery.	Spanish mackerel empirical assessment has been adopted by the PZJA to track abundance and advise on sustainable harvests. Preliminary assessment for coral trout has been actioned by FFRAG but requires further development.
7	The Torres Strait Protected Zone Joint Authority to develop and implement reference points and relevant management triggers, including timeframes for management responses, for the Torres Strait Finfish Fishery.	Harvest strategy project funded, draft framework nearing completion, planned implementation to support management of key target species in the 2021-22 fishing season.

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
RAG UPDATES **TSRA Update**	**Agenda Item No. 2.2.2** **FOR NOTING**

RECOMMENDATIONS

1. That the RAG **NOTE** an update provided by the TSRA member.

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
RAG UPDATES **QDAF Update**	**Agenda Item No. 2.2.3** **FOR NOTING**

RECOMMENDATIONS

That the RAG **NOTE** that QDAF member is an apology for the meeting and the next update will be provided to FRAG 6 (27-28 Nov 2019) and to the Finfish Working Group (29 Nov 2019).

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
RAG UPDATES **Native Title Update**	**Agenda Item No. 2.3** **FOR NOTING**

RECOMMENDATION

1. That the RAG **NOTE** any updates on Native Title matters from members, including representatives of Malu Lamar (Torres Strait Islanders) Corporation RNTBC (Malu Lamar).

BACKGROUND

2. On 7 August 2013 the High Court of Australia confirmed coexisting Native Title rights, including commercial fishing, in the claimed area (covering most of the Torres Strait Protected Zone). This decision gives judicial authority for Traditional Owners to access and take the resources of the sea for all purposes. Native Title rights in relation to commercial fishing must be exercisable in accordance with the *Torres Strait Fisheries Act 1984*.

3. Traditional Owners and Native Title representative bodies have an important role in managing Torres Strait fisheries. It is important therefore that the RAG keep informed on any relevant Native Title issues arising.

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
RAG UPDATES **Papua New Guinea National Fisheries Authority Update**	**Agenda Item No. 2.4** **FOR NOTING**

RECOMMENDATION

1. That the RAG **NOTE** any updates from the PNG National Fisheries Authority (PNG-NFA)

BACKGROUND

2. PNG-NFA are invited participants on all PZJA advisory groups and advice on any developments in management, research and compliance in adjacent PNG waters are welcomed by the PZJA Finfish Resource Assessment Group.

PLACEHOLDER FOR FFRAG 5 PAPER: 3.1 FINFISH FISHERY HARVEST STRATEGIES

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
HARVEST STRATEGY **Consultation and implementation of the Finfish Fishery Harvest Strategy**	**Agenda Item No. 3.2** **FOR NOTING**

RECOMMENDATIONS

1. That the RAG **NOTE** the proposed consultation and implementation plan for the Torres Strait Finfish Fishery Harvest Strategy as outlined in the table below. Note dates are subject to change.

Date	Action
30 Oct – 1 Nov 2019	Finfish RAG consideration of draft harvest strategy and provide advice to Finfish Working Group and the PZJA.
29 Nov 2019	Finfish Working Group consideration of draft harvest strategy, FFRAG advice and provide advice to the PZJA.
20 Jan 2020	PZJA consideration of FFRAG and FFWG advice on the draft harvest strategy and decision on whether to release draft for public consultation.
Early Feb 2020	If PZJA approve the draft for public consultation, a communications campaign is launched including a letter to licence holders seeking their views on the draft, published to PZJA website, SMS txt reminders are sent to fishers to invite comment (link to website).
17 Feb to 27 Mar 2020	Round of community visits to obtain views on the draft. Advice from these visits is summarised for the PZJA and also sent back to communities for their information. Traditional Inhabitant members will be invited to join AFMA and assist with convening community meetings.
6-7 May 2020	Joint Finfish RAG and Working Group meeting to consider the outcomes of public comment.
June 2020	Final consideration and decision by PZJA whether to adopt the harvest strategy. If adopted the harvest strategy would apply in the 2021-22 season.

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
MANAGEMENT AND SCIENCE **Review of Western Line Closure**	**Agenda Item 4.1** **FOR ADVICE**

RECOMMENDATIONS

That the Finfish RAG:

a) **NOTE** the outcomes of public consultation on the proposal to remove the Western Line Closure; and

b) **DISCUSS** and **PROVIDE ADVICE** to the PZJA on any scientific issues from the community consultation including possible impacts from changes to fishing effort, impacts on the Tropical Rock Lobster stock (coral trout-TRL interactions and habitat useage) and impacts on the available coral trout Total Allowable Catch.

KEY ISSUES

1. At its meeting in April 2019 the PZJA agreed to undertake public consultation on the removal of a closure to commercial fishing for finfish (not Spanish mackerel) west of Longitude 142˚32'E (the Western Line Closure – Figure 1 below) (Attachment 4.1a).
2. Noting the removal of the western line closure requires the remaking of *Torres Strait Fisheries Management Instrument No. 8 - Torres Strait Finfish Fishery* the PZJA also advise that current fishing gear restrictions on Australian Traditional Inhabitants engaged in traditional fishing for finfish in the area of the Torres Strait Finfish Fishery will need to be removed at the same to reflect that the PZJA does not have jurisdiction to regulate traditional fishing.
3. The Western Line Closure reflects an historic jurisdictional boundary that was carried over when the Finfish Fishery was transferred to single jurisdiction under the PZJA. The closure is not based on a specific management need for the Fishery.
4. The Finfish Fishery Resource Assessment Group (FFRAG) has previously advised that the removal of the Western Line Closure is unlikely to cause additional stock impacts (FFRAG 4) and its removal was supported in-principle by the Finfish Working Group (FFWG March 2017)
5. FFRAG are asked to provide technical advice to the PZJA on the issues raised by communities, including possible impacts from changes to fishing effort, impacts on the Tropical Rock Lobster stock and impacts on the available coral trout Total Allowable Catch. FFRAG are asked to provide advice on the likelihoods of these impacts occurring and, if relevant, to provide advice on how these impacts might be mitigated or what work is required to better understand these impacts.

Next steps

6. The Finfish Working Group will also consider these public comments at their 29 November 2019 meeting and provide advice to the PZJA. The PZJA will consider these public views, together with advice from the RAG and Working Group at their 20 January 2020 meeting and make a decision on whether to remove the closure. AFMA will advise stakeholders on the outcome of this meeting.

BACKGROUND

Consultation

7. The public consultation process on the proposal to remove the Western Line Closure, comprised the following:

a. A public consultation package was mailed (and emailed for those clients AFMA holds an email address for) to all Torres Strait licence holders, Native Title bodies and claimants, the Papua New Guinea National Fisheries Authority, the Australian and Papua New Guinea Co-chairs of the Traditional Inhabitants Meeting (TIM) under the Torres Strait Treaty, the Department of Agriculture and the Department of Environment and Energy formally seeking comment on the draft HS. The consultation package not only sought submissions on the draft Harvest Strategy for the BDM Fishery, but also the draft Harvest Strategy for the Torres Strait Tropical Rock Lobster (TRL) Fishery and the proposal to remove the Western Line Closure from the Torres Strait Finfish Fishery.
b. The package also included an overview of harvest strategies more broadly, as well as a specific overview of the BDM and TRL Harvest Strategies, and a summary of the key elements being objectives, data and information; limits and reference points and decision rules.
c. FFWG and FFRAG members were notified of the release of a public consultation package (email dated 9 April 2019) and traditional inhabitant members were invited to join AFMA in convening the community meetings.
d. AFMA convened a round of visits to communities across the Torres Strait and Northern Peninsula Area between April-May 2019. TIB licence holders were advised about community meetings through community notices and SMS. Community visits were not undertaken at Iama, St Paul's, Kubin or Dauan due to a lack of community availability during the consultation period. The offer was also made to convene a public meeting in Cairns, though this offer was not taken up by stakeholders.
e. The public consultation package was publicly available on the PZJA website and distributed it to attendees at community visits.
f. Submissions were able to be made by in writing, over the phone and at community meetings. The period for submissions closed on 31 May 2019.

Written submissions

8. A written submission was received from Cape York Land Council (**Attachment 4.1b**). In their submission, the Cape York Land Council did not support removal of the closure and raised concerns about the potential impacts this may have on the Tropical Rock Lobster (TRL) stock and fishery. CYLC considered that more research and consultation should occur to establish the relationship between line fishing and TRL.

Community visits

9. Between 8 April and 22 May 2019, AFMA undertook visits to 13 communities. Community visits were not undertaken at Iama (Yam), St Paul's (Moa), Kubin (Moa) or Dauan due to a lack of availability in the period visits were conducted. However, licence holders in these communities were sent the public consultation package by mail. The offer was also made to convene a public meeting in Cairns, though this offer was not taken up by stakeholders.

10. During the community visits, communities expressed varied views on the proposed removal of the closure. Few communities were generally in favour of removing the closure. Some communities abstained from directly supporting the closure as it did not affect their area of waters but raised concerns on the impacts that lifting the closure may have on changing where fishing effort occurs in the fishery e.g. more TIB fishers targeting coral trout in Western communities may impact the stock and subsistence catch rates or fishers may move towards central or eastern communities to target trout in future. Concerns were also raised that more TIB fishers entering the fleet may impact on the available Total Allowable Catch or cause localised depletion leading to a drop in catch rates and availability to support subsistence catches.

11. Concerns were also raised that increased fishing for trout may have adverse impacts on the Tropical Rock Lobster stock and catch rates given likely interactions between these two species and shared habitats, although one community did provide advice that increased fishing for trout may relieve TRL from natural predation pressure from trout.

12. A summary of community views and concerns captured during the community visits is provided at **Attachment 4.1c**. A comprehensive report on all community visits is provided

at **Attachment 4.1d** including other agenda items other than the Western Line Closure. This report was circulated to those attendees of the meetings that AFMA had contact details for, as well as Torres Strait Island Regional Council (TSIRC) Divisional Managers and PBC Chairs for comment. No comments were received.

Native title representatives

13. On behalf of their clients, the Torres Strait Regional Authority's Native Title Office (NTO) requested a meeting with AFMA to discuss the matters contained in the public consultation package. AFMA made the offer to meet with the NTO and their clients at a time that suited their availability. However, a meeting did not proceed due to due to their client's lack of availability. AFMA continues to pursue opportunities to meet to discuss matters of concern to the NTO and their clients and has notified the NTO of this.

Previous FRAG and FWG advice

14. The removal of the western closure of the reef-line sector has been a long standing item which has been supported in-principle by the Finfish Working Group.
15. At the FFWG meeting (20 March 2012), TSRA indicated that there was community interest in removing the western closure.
16. At its July 2016 meeting the FFWG noted members had varying views on whether or not sufficient consultation on removing the closure had occurred. A key development since initial consultation on this issue has been the Native Title Determination on the Regional Sea Claim, and it was noted that notification to the relevant Registered Native Title Bodies Corporate groups would be undertaken prior to the PZJA making a decision.
17. At its March 2017 meeting the FFWG noted progress since the last FFWG meeting to remove the western line closure (as detailed in the agenda paper, work is ongoing to compile outcomes of previous consultation processes). An industry member advised that if the area of the western closure was to be reopened consideration should first be given to:
    a. how much fishing the area could support noting that the fishing grounds are different from those in the east and concern that the area may not be able to support the number of licences in the fishery; and
    b. the potential for alternative livelihoods or business opportunities for traditional owners such as ecotourism.
18. Other industry members were generally supportive of this proposal and advised that further community consultation should occur before the western area of the fishery was reopened, to gauge community aspirations on future usage.
19. Noting there are no existing agreements in place to guide resource sharing between sectors (fishing, tourism etc.) the FFWG agreed for following action:
    a. AFMA, TSRA and Malu Lamar to meet out-of-session to consider an appropriate process to canvass community aspirations and considerations for removing the western line closure.
20. AFMA convened a meeting with Malu Lamar and TSRA on 5 April 2017. The following was agreed:
    - Removal of the western line closure is to be contingent on further community consultation with the western communities and consideration of any sustainability risks. The aim of the consultation will be to determine how communities may/or may not like the resources to be managed to benefit both commercial and tourism industries;

- TSRA will lead this consultation process (undertaking meetings / report findings etc). TSRA will undertake consultation opportunistically combining with other meetings (e.g. AFMA fish receiver meetings, top western projects);

- AFMA will seek scientific advice (through the future Finfish RAG) on the possible impacts of removing the closure on stocks, noting advice that the fishing grounds/habitat may be different in the west compared to the eastern area. There is concerned that the reefs are shallower and possibly more susceptible to localised depletion.

21. AFMA sought preliminary technical advice form the Finfish RAG (FFRAG 1 9-10 Nov 2017) on what inter-sessional work will likely be required to assess the likely stock impacts from removing the western line closure. The FRAG had limited amount of time available and FRAG requested a further opportunity to consider the matter. The FRAG did however provide the following preliminary observations:

    - Management is not proposing to increase the TACs for coral trout. In line with this it was suggested that removing the closure might spread the current commercial fishing effort to a broader area.

    - RAG noted previous considerations about coral trout catch rates and considered that economic impacts would likely come into effect (hook-shy fish leading to a drop in local catch rates) before ecological impacts might occur.

    - Some consideration was given to how the western habitats may be shallower than eastern habitats but data would be required to assess this.

    - More fishing operations and freezers may open in the western Torres Strait in line with the outcomes of the current TSRA infrastructure project meaning there may be a total increase in fishing effort with more fishers entering the sector.

22. At their FFRAG 4 meeting (13-14 March 2019) the RAG provided the following advice to support PZJA consideration on releasing a proposal to remove the closure for public comments:

    The RAG noted advice from industry members that water turbidity means that fishers in Gudumalagal (top western) communities have fewer months of the year to target finfish compared to eastern, central and south-western Torres Strait communities. The RAG considered that western Torres Strait may be comprised of shallower reef habitats which may have lower carrying capacity than other areas of Torres Strait. Further Traditional Inhabitant boat sector licensed fishers will likely enter the fishery from Western Communities should the closure be removed. The RAG noted that catch data will be collected from operations in these waters through the mandatory Fish Receiver System which will allow monitoring of these extra harvests with analysis through future stock assessments.

    The RAG provided the following advice on likely stock impacts from removing the Western Line Closure:

    a) Stocks impacts would likely be negligible, noting removal of the spatial closure would simply increase the total fishable area of the Fishery while all other management arrangements including recommended TACs for coral trout are to remain unchanged; and

    b) The boundary of the Western Line Closure is not likely to correspond to any natural stock boundary. Therefore there is no requirement for separate stock management arrangements within the Protected Zone for finfish species.

ATTACHMENTS

4.1a Letter to stakeholders on harvest strategies and western line closure proposal.
4.1b Written submission received from Cape York Land Council.
4.1c Summary of community views and concerns raised during community visits to discuss the proposal to remove the Western Line Closure.
4.1d Report on all community visits.

Australian Government
Australian Fisheries Management Authority

8 April 2019

Dear Torres Strait licence holder

I am pleased to advise that the Protected Zone Joint Authority (PZJA) agreed at its meeting on 1 April 2019 to release draft harvest strategies for the Torres Strait Protected Zone Tropical Rock Lobster (TRL) and Beche-de-mer (BDM) Fisheries for public comment. The PZJA also agreed to seek stakeholder views on removing the 'western line closure' in the Torres Strait Finfish Fishery.

The PZJA agreed to commence a review of how Developmental Permits are used for training purposes in all Torres Strait Fisheries. The TSRA will lead the review and it is expected this will be concluded by around September 2019. The PZJA agreed it will not consider any further applications for training under Developmental Permits until new arrangements are established, following the review. It is expected the review will lead to the creation of detailed criteria, against which any future applications for Developmental Permits will be assessed. The PZJA continues to acknowledge and support the aspirations of Traditional Inhabitants for 100 per cent ownership of access to commercial fisheries, and wants to be confident that the Developmental Permit arrangements are contributing to this goal. More details on the PZJA decision is enclosed.

Copies of the draft harvest strategies together with frequently asked questions (FAQs) about harvest strategies in general and brief overviews of each are enclosed. Also enclosed is information concerning the removal of the western line closure in the Torres Strait Finfish Fishery. Further copies of these documents may also be obtained from the PZJA website at www.pzja.gov.au or by contacting the AFMA Torres Strait Office on 07 4069 1990 or by email to FisheriesTI@afma.gov.au.

The PZJA looks forward to hearing from stakeholders on these proposed management initiatives. There are a number of ways you can provide your views to the PZJA. These are described below.

Canberra
PO Box 7051
Canberra Business Centre ACT 2610
P 02 6225 5555 F 02 6225 5500

Darwin
PO Box 131
Darwin NT 0801
P 08 8943 0333 F 08 8942 2897

Thursday Island
PO Box 376
Thursday Island QLD 4875
P 07 4069 1990 F 07 4069 1277

Public meetings

Subject to approval from Prescribed Body Corporate (PBC) Chairpersons, AFMA is planning to attend each Torres Strait and Northern Peninsula community to explain the draft harvest strategies and the proposal to remove the western line closure. A further meeting will be held in Cairns, subject to stakeholder interest, at a date and venue to be determined. All meetings will be concluded by 31 May 2019.

AFMA has written to all PBC Chairpersons to arrange these community meetings. Final meeting dates and locations will be advertised on the PZJA website and within each community as soon as details are finalised. If you are interested in meeting with AFMA in Cairns please register your interest with Georgia Langdon by phone on 07 4069 1990 or email at georgia.langdon@afma.gov.au.

Make a written submission

All written submissions need to be submitted to AFMA by close of business on 31 May 2019. Submissions can be sent to:

AFMA
Torres Strait Office
PO Box 376
Thursday Island, QLD, 4875
Australia

Or by fax to 07 4069 1277

Or by email to FisheriesTI@afma.gov.au

Please note that **all written submissions will be made public** unless confidentiality is requested.

Phone AFMA

If you wish to provide your views on the phone, please call the AFMA Torres Strait Office on 07 4069 1990.

Should you wish to discuss any of the matters contained in this letter, please contact the AFMA Torres Strait Office on 07 4069 1990 or by email to FisheriesTI@afma.gov.au.

Yours sincerely

Anna Willock
Executive Manager, Fisheries

Enclosed documents

1. PZJA media release.
2. Frequently asked questions (FAQs) about harvest strategies
3. An overview, and copy of, the draft harvest strategy for the Torres Strait Tropical Rock Lobster Fishery
4. An overview, and copy of, the draft harvest strategy for the Torres Strait Beche-de-mer Fishery
5. Information concerning the removal of the western line closure in the Torres Strait Finfish Fishery

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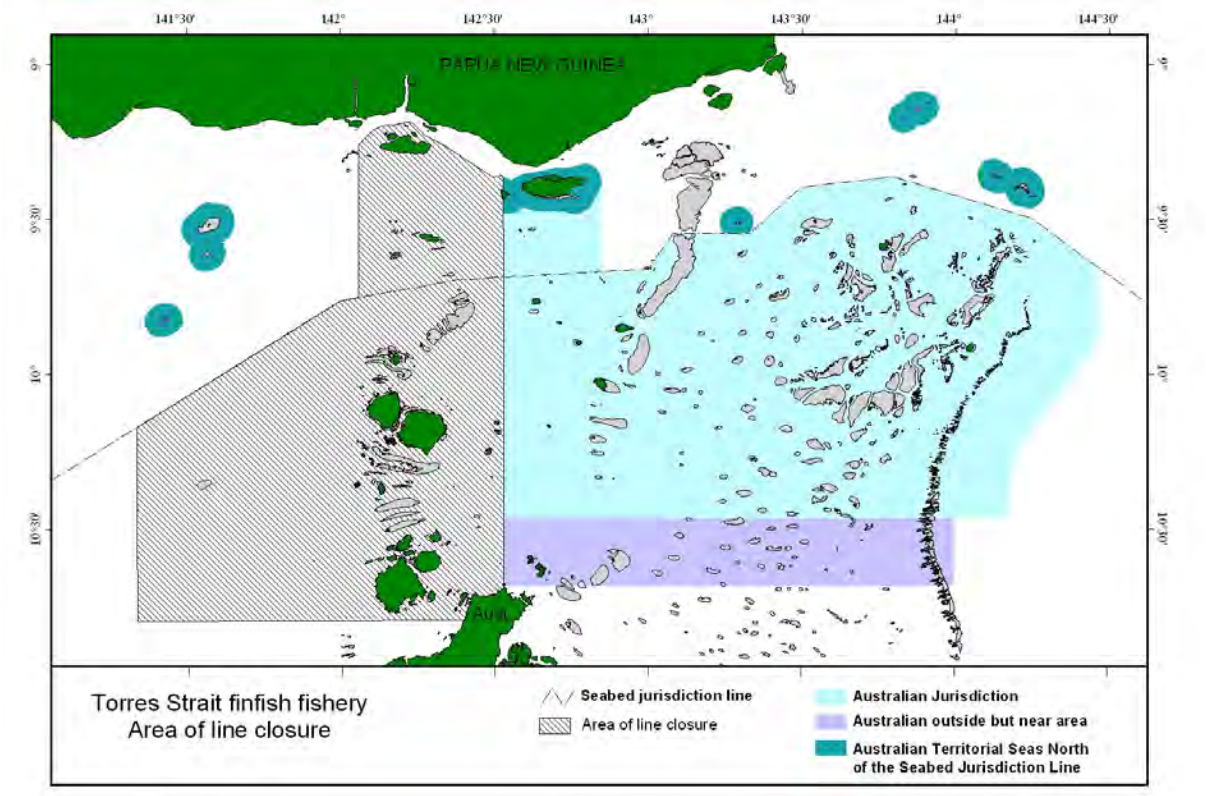
Australian Government
Australian Fisheries Management Authority

WESTERN LINE CLOSURE FOR FINFISH

An Overview



Commercial fishing for reef-line finfish species (e.g. coral trout, trevallies and emperors) is banned in the area of the Torres Strait Finfish Fishery west of 142° 32'E. This is referred to as the western line closure (see map above). The closure does not apply to mackerel commercial fishing or traditional fishing.

The closure effects all Traditional Inhabitant Boat licenced fishers who fish commercially for finfish species under a reef-line (LN) endorsement. Western communities including Boigu, the western half of Dauan, Mabauiag, Badu, Moa, Keriri, Ngurupai, Muralag and Waiben lie within the closure.

The closure does not serve a purpose in managing the fishery and reflects an historic boundary that was carried over when the Fishery was transferred to a single jurisdiction under the PZJA.

What will happen if the closure is removed?

If the closure is removed the area of the Fishery available for commercial reef-line fishers will increase.

AFMA will continue to monitor catches and participation in the fishery through the Fish Receiver System and will work with the PZJA Finfish Resource Assessment Group and Working Group to monitor how the fishery is performing.

Finfish Resource Assessment Group and Working Group advice

AFMA has gathered advice on potentially removing the western line closure from PZJA Finfish Resource Assessment Group and the PZJA Finfish Working Group. Both advisory groups support the removal of the closure.

Draft regulation to remove the closure

If communities support removing the closure the PZJA would need to make a new Fisheries Management Instrument.

In making a new instrument for the fishery, the current mesh net restriction on Australian Traditional Inhabitants engaged in traditional fishing for finfish will be removed to reflect that the PZJA's jurisdiction does not extend to traditional fishing.

If you have any questions contact AFMA on (07) 4069 1990 or via email FisheriesTI@afma.gov.au

Cape York Land Council Aboriginal Corporation
ICN 1163 | ABN 22 965 382 705

7 June 2019

AFMA
Torres Strait Office
PO Box 376
Thursday Island QLD 4875

Email: FisheriesTI@afma.gov.au

Dear AFMA

Re: TSPZ Fisheries Management

Cape York Land Council (CYLC) functions as the Native Title Representative Body (NTRB) for the Cape York region. In that NTRB role we fulfil statutory functions under the *Native Title Act 1993* (Cth). In our broader Land Council role we support, protect and promote Cape York Aboriginal peoples' interests in land and sea to positively affect their social, economic, cultural and environmental circumstances and aspirations. In this capacity CYLC welcomes the opportunity to comment on AFMA's draft harvest strategies for the Torres Strait Protected Zone (TSPZ) Tropical Rock Lobster (TRL) and proposed removal of the "western line closure" in the TSPZ Finfish Fishery.

CYLC has an interest in management of Torres Strait fisheries for a number of reasons including that:

- we support the aspirations of Torres Strait Islanders for greater control over their traditional resources and their participation in mainstream commercial activity;
- the Cape York region adjoins Torres Strait and management of Torres Strait fisheries may set precedents for management of Cape York fisheries;
- Cape York Aboriginal people hold similar aspirations for greater control over their traditional resources and participation in mainstream commercial activity to support their social and economic development;
- many Cape York communities have many families with strong traditional and historical ties to Torres Strait communities and families;
- southern sections of TSPZ fisheries extend into waters that are the traditional country of Cape York Aboriginal people, and this southern TSPZ area is within the area of a CYLC native title sea claim, so Cape York Aboriginal people have plausible, and soon to be determined, rights to fisheries resources in this area;
- prospective Aboriginal holders of native title sea rights and interests will include some people who are currently eligible for access to TSPZ commercial fishing rights, but far from all of these prospective native title holders will have access to the TSPZ fishing rights in their traditional waters. Conversely, the current TSPZ Indigenous commercial fisher arrangements create rights for Indigenous people who will not be identified as native title holders through Cape York sea claims;
- AFMA must review the current TSPZ fisheries arrangements to ensure Cape York Aboriginal native title holders have a recognised interest in and access to the fisheries for those sea

areas where they hold or will hold native title, and that agreements are in place between Cape York Aboriginal native title holders and other parties who access fisheries in the seas where Cape York Aboriginal people hold native title rights.

TRL Fishery

CYLC is concerned that the objectives of the draft TRL harvest strategy, and the decision rules designed to achieve these objectives, may result in unsustainable levels of harvest that will cause a long term decline in TRL populations.

Because the TSPZ TRL fishery extends into the traditional waters of Cape York Aboriginal people, and they have aspirations to commercially harvest TRL, Cape York Aboriginal people have a strong interest in the sustainability of the TRL populations and submit that:

- the objectives of the draft TRL Harvest Strategy should be amended to seek to return the stock to 90 per cent of the original unfished size of the TRL spawning stock in 1973, and to maintain TRL stock above a lower limit of at least 50 per cent of the original unfished size; and
- Decision Rule 1 should set a maximum catch limit of 250 tonnes per season so that the above TRL population objectives may be achieved.

CYLC also supports the aspirations of traditional inhabitants to own 100 percent of the Torres Strait TRL Total Allowable Catch, as outlined in the 2014 Roadmap Agreement signed by TSRA, and that this target is achieved as soon as possible. AFMA should consider how the harvest strategy could be utilised to accelerate the transition to 100 per cent ownership of the TAC by traditional inhabitants.

CYLC also advocates that a native title corporation should hold, manage and allocate the Total Allowable Catch for TRL and other species for the Traditional Inhabitants Boat sector. The right of traditional inhabitants to take TRL for commercial purposes is partly based on their native title rights, so the Malu Lamar (Torres Strait Islander) Corporation, as the Registered Native Title Body Corporate (RNTBC), should be the management entity because it holds and manages Torres Strait Islander native title rights and interests.

CYLC is interested in management arrangements for the Torres Strait TRL fishery because similar arrangements should also apply to Queensland's east coast TRL fishery which operates almost exclusively on Cape York's east coast north of Cape Melville. However, unlike the Torres Strait TRL fishery, AFMA and other fisheries regulators responsible for Cape York waters have not established a TRL fishery management plan that allocates a Total Allowable Catch quota to the Cape York Traditional Inhabitants Boat sector. Consistent with the transition to 100 per cent ownership of the TSPZ TRL Total Allowable Catch quota by traditional inhabitants, the Cape York TRL Total Allowable Catch quota should be 100 per cent owned by Cape York traditional owners.

If such an arrangement existed for Cape York it would provide desperately needed opportunities for Aboriginal people to participate in this commercial fishery in their traditional waters. In the absence of such an arrangement the allocation of Cape York's allowable catch is effectively limited to large non-Indigenous fishing companies and Cape York Aboriginal people are effectively excluded.

Given that CYLC has registered native title claims over northern Cape York seas, and further sea claims will be lodged in the near future, AFMA must recognise that it must start working with other fisheries regulators to develop a Cape York TRL fishery management plan that reserves 100% of the Total Allowable Catch quota for Cape York Aboriginal people. CYLC requests that AFMA and other fisheries regulators meet with CYLC as soon as possible to discuss how to progress this important matter.

Western line closure for finfish
CYLC is very concerned about the proposed removal of the western line closure so that commercial line fishing may be undertaken for finfish species in western Torres Strait waters. We note comments in AFMA's Discussion Paper that the existing closure is based on a historic management boundary, and not a specific management need for the fishery. However, CYLC is concerned about widerspread and consistent anecdotal evidence that TRL populations, and therefore the TRL commercial fishery, are negatively affected by the introduction of commercial line fishing.

Because of the possible risk to the TRL commercial fishery, the importance of this fishery to Traditional Inhabitant fishers, and because the TSPZ western fin fishery extends into the traditional waters of Cape York Aboriginal people, CYLC considers that more research and further consultation must be done before the closure can be removed to clearly ascertain and settle the current questions from fishers about the relationship between commercial line finfishing and TRL populations. CYLC submits that the precautionary principle must be applied in this situation and that the western line closure for finfish remain in place.

CYLC supports that access to the commercial line fishery, within the existing open area, is limited to Traditional Inhabitants because this arrangement makes an important contribution to Indigenous employment and economic development opportunities. However, as proposed by CYLC for the TRL fishery and other fisheries, the Total Allowable Catch for the finfish line fishery should be held, managed and allocated by the Malu Lamar (Torres Strait Islander) Corporation. If this was the arrangement then CYLC would also support the participation of non-Traditional Inhabitant fishers in the fishery through leasing of a temporary licence from Malu Lamar because the benefits from this arrangement would be redistributed to Malu Lamar's native title holder members. This will not be the case if the TSRA continues to manage licences for the Total Allowable Catch for the Traditional Inhabitant Boat sector.

Issues with TSPZ fisheries management plans
As outlined above, CYLC supports that AFMA's TSPZ management plans provide greater commercial opportunities for Torres Strait Islander fishers in Torres Strait Islanders' traditional waters through the allocation of 100 per cent of total allowable catches to traditional inhabitants and the management of fishing allocations by the Malu Lamar RNTBC.

However, CYLC is concerned that management plans for TRL, finfish and other species provide rights for non-traditional owners in the traditional waters of Cape York Aboriginal people without their consent. This issue will become more critical as Cape York native title sea claims are determined and confirm the rights of Cape York Aboriginal people in these waters. AFMA must commence a process immediately to establish agreements between the traditional owners of these claimed waters and the parties who are accessing the fisheries in these waters.

Attachment 1 shows where native title has been determined to exist in Torres Strait, and Attachment 2 shows where native title has been claimed in Cape York seas. AFMA fisheries management plans must be more cognizant of these legally recognised rights and interests of native title holders and plans amended accordingly and agreements negotiated where necessary.

This issue would be partially resolved if AFMA and other fisheries regulator relevant to Cape York seas prepared fisheries management plans for a range of Cape York commercial species, whereby the Cape York fisheries management plans provided that:

- 100 per cent of the Total Allowable Catch is allocated to the Traditional Inhabitants Boat sector for each Cape York fishery;
- the Total Allowable Catch for the Traditional Inhabitants Boat sector is held, managed and allocated by the relevant RNTBC. For example, for waters within the amalgamated Cape York Aboriginal people's native title sea claim the relevant RNTBCs will be the Ipima Ikaya

Aboriginal Corporation RNTBC and the Kaurareg Native Title Aboriginal Corporation RNTBC. Further south, the Kuuku Ya'u Aboriginal Corporation RNTBC should hold and manage Total Allowable Catches for the waters where it holds native title. As other Cape York native title sea claims are lodged and determined the ensuing RNTBC should hold and manage fishing allocations for their relevant waters;

- for Cape York waters where a native title claim has not been lodged or determined, the CYLC has interim responsibility to hold, manage and allocate licences to the Traditional Inhabitants Boat sector, and to hold benefits from the allocation of licences pending transfer to the RNTBC upon establishment;
- eligibility for a Traditional Inhabitants Boat licence is restricted to the Aboriginal Traditional Owners of those waters;
- if the Total Allowable Catch has not been fully allocated to Traditional Owners, and no further expressions of interest are received from Traditional Owners, then non-Traditional Inhabitant fishers may lease a temporary licence from the RNTBC with the consent of the Traditional Owners;
- Traditional Owners are identified by the RNTBC for determined waters, and the TOs are identified by CYLC anthropology processes for claimed and unclaimed waters; and
- the RNTBC distributes benefits from the allocation of fisheries licences to the native title holder members of the RNTBC.

By implementing these proposed arrangements AFMA would make a significant contribution to the participation of Cape York Aboriginal people in mainstream economic activity, and help close the gap on Aboriginal socio-economic disadvantage.

CYLC requests that AFMA makes arrangements to meet with CYLC to discuss the matters raised in this submission with a view to progressing these proposals.

In the meantime, if you wish to discuss any matter raised in this submission please do not hesitate to contact me.

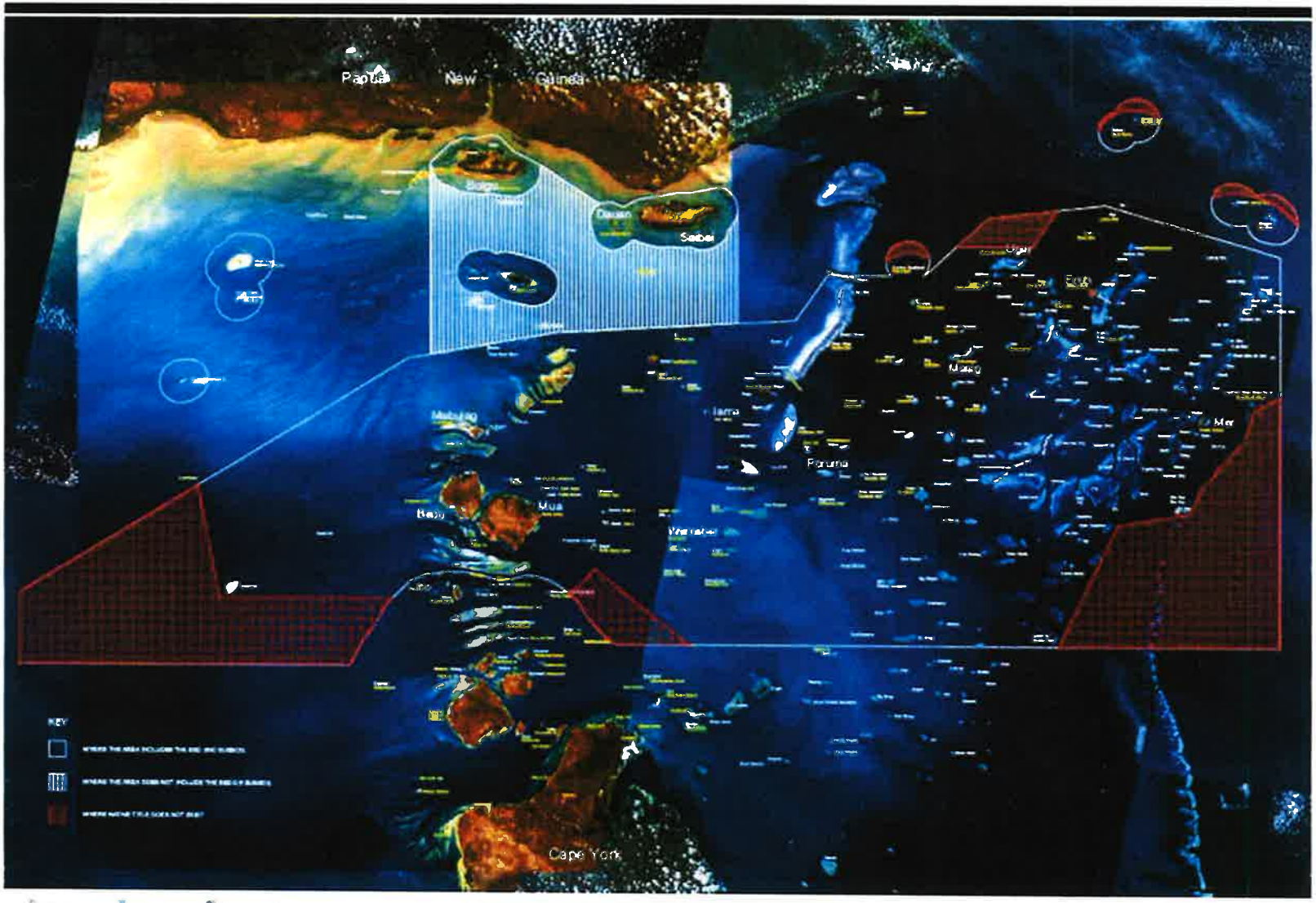
Yours sincerely

Richie Ah Mat
Chair
Cape York Land Council

ATTACHMENT 1

113

Document No: 7615206

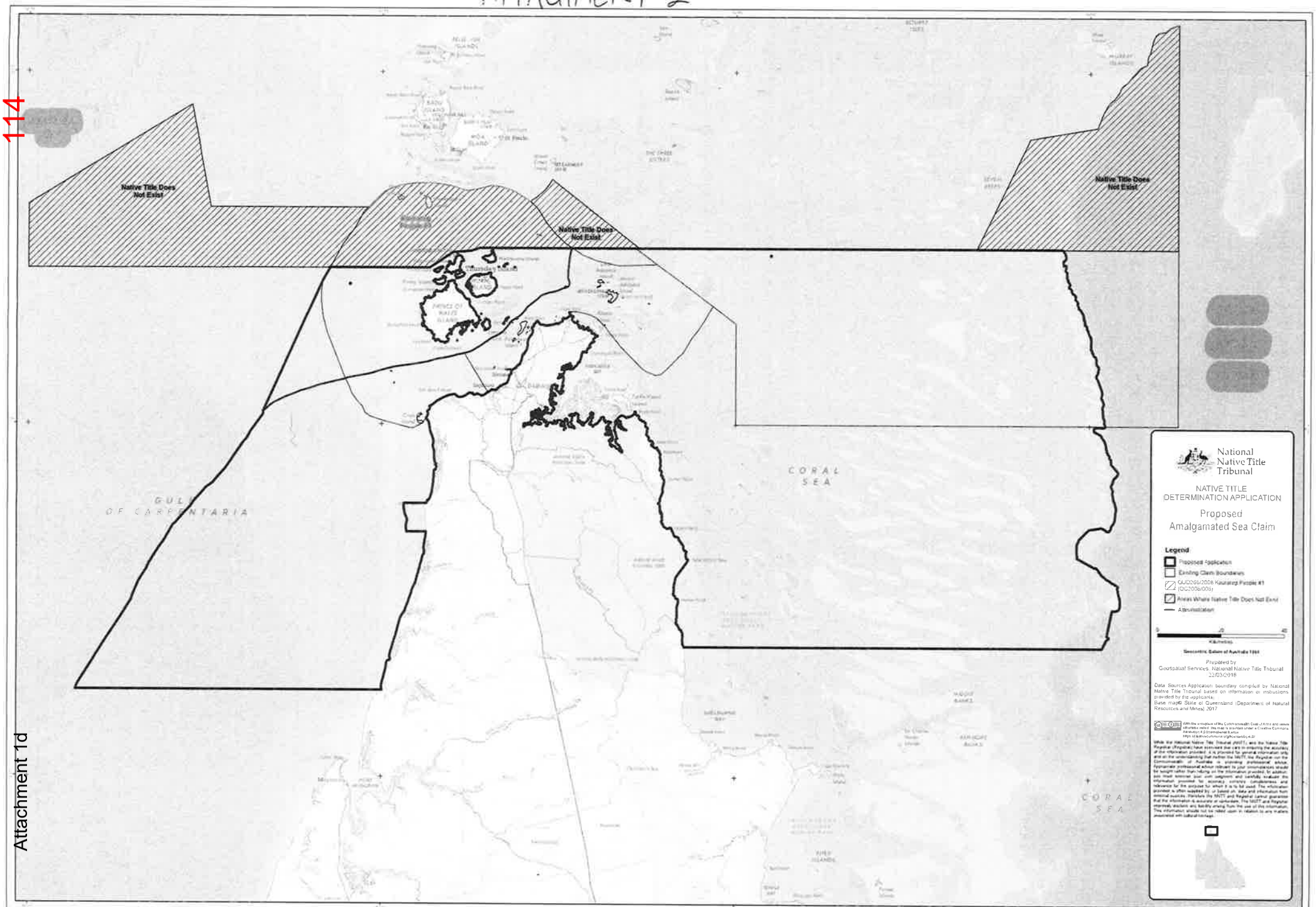


TORRES STRAIT REGIONAL SEA CLAIM - QUD 6040/01
SCHEDULE 7

11

Attachment 1d

ATTACHMENT 2



Attachment 1d

Attachment 4.1c

Summary of community views and concerns raised during community visits to discuss the proposal to remove the Western Line Closure.

Community	Date of visit	Summary of views on Western Line closure review
Masig (Yorke)	8-Apr	Concerns with how removing the closure will impact on the distribution of sunset leases.
Erub (Darnley)	8-9 April	Not formally supported as the proposal does not directly apply to the Erub community however general support expressed for the western communities to remove the closure if they wish. General concern with how removing the closure may change where fishing effort is concentrated.
Boigu	17-Apr	Very supportive of the proposal to remove the closure and to open up access to the fishery for the Boigu community.
Poruma (Coconut)	11-12 April	Limited interest in proposal as very little commercial finfish fishing occurs in Poruma. Concerns with how removal of the closure may impact the finfish TAC.
Badu	15-16 April	Concern that removing the closure will impact the sustainability of TRL stocks. Proposal to remove the closure not supported by Malu Lamar nor a number of Badu fishers.
Ugar (Stephen)	12-Apr	Community members withheld from making comment on proposal as not directly relevant to Ugar waters. Some concern that removing closure will result in more western community's access key eastern fishing grounds. Supportive of spatial controls.
Saibai	1-May	Generally supported.
Warraber (Sue)	11-Apr	No concerns raised.
Mer (Murray)	18-Apr	Community members withheld from making comment on proposal as not directly relevant to Meriam waters. General comments that more coral trout fishing is desired to alleviate natural trout predation on TRL. Anecdotes that the more coral trout is fished, the more habitat is available for TRL.
New Mapoon (NPA)	9-May	No formally expressed support or concerns raised.
Injinoo (NPA)	10-May	No formal support or concerns raised.
Thursday Island (Torres Shire)	20-May	A number of concerns raised regarding the proposal to remove the closure: - Negative impact on TRL - Negative impact on availability of coral trout and ability to fish for subsistence (kai kai).
Mabuiag	21-22 May	Generally supported.

Australian Government
Australian Fisheries Management Authority

Torres Strait Fisheries Community Visits Report

April - May 2019

Contents

Glossary

Acronym	Definition
AFMA	Australian Fisheries Management Authority
BDM	Beche-de-mer
CDR	Catch Disposal Record
CPUE	Catch Per Unit Effort
CSIRO	Commonwealth Scientific and Industrial Research Organisation
FRAG	Finfish Resource Assessment Group
FRS	Fish Receiver System
FWG	Finfish Working Group
HCWG	Hand Collectables Working Group
NPA	Northern Peninsula Area
PBC	Prescribed Body Corporate
PZJA	Protected Zone Joint Authority
TAC	Total Allowable Catch
TDB02	The catch disposal record book
TIB	Traditional Inhabitant Boat
TRL	Tropical Rock Lobster
TRL RAG	Tropical Rock Lobster Resource Assessment Group
TRL WG	Tropical Rock Lobster Working Group
TSIRC	Torres Strait Island Regional Council
TSPZ	Torres Strait Protected Zone
TSRA	Torres Strait Regional Authority
TSSAC	Torres Strait Scientific Advisory Committee
TVH	Transferable Vessel Holder
WLC	Western Line Closure

Executive Summary

Between 8 April and 22 May 2019, AFMA undertook a round of visits to communities across the Torres Strait and Northern Peninsula Area to meet with interested stakeholders and community members and discuss a range of issues relating to Torres Strait fisheries. The purpose of the visits was to:

- provide a follow up education and awareness program in support of the newly implemented Fish Receiver System (FRS). Prior to implementation on 1 December 2017, AFMA had been working with fishers and industry members to rollout the new mandatory reporting system and acknowledged that a secondary round of community meetings was required to follow up with industry and identify any issues or barriers to adoption that users were experiencing;
- report back to industry on how the FRS had been working and what data was being reported;
- consult on three key fisheries management issues, specifically the draft Tropical Rock Lobster (TRL) harvest strategy, the draft Beche-de-mer (BDM) harvest strategy and a proposal to remove the Western Line Closure within the Finfish Fishery.

Familiarisation with the FRS varied greatly among communities depending on the level of active fishing occurring at each island/community. The summaries of what data had been reported in each fishery and from which areas was consistently well received and generated good discussions among communities about the level of fishing across the Torres Strait. Many were impressed with the vast improvements in catch and effort reporting coverage. Most attendees gained a good understanding of how important the provision of data is, and how that data is used to inform management decisions across Torres Strait fisheries.

These messages then supported following discussions about harvest strategies. Although the term ‘harvest strategy’ was unfamiliar for many, the link between data provision and how a harvest strategy requires that data to guide management decisions (i.e. setting a total allowable catch) was evident. Most communities expressed general support for both the draft TRL and BDM harvest strategies with no significant concerns or comments. Badu was the only community that expressed strong concerns about the BDM harvest strategy, highlighting that the current management arrangements in the BDM Fishery do not necessarily support growth of the fishery/industry.

Views on the Western Line Closure proposal varied, particularly between island clusters. Generally, Kemer Kemer Meriam communities abstained from providing comment on the proposal but expressed support for those communities that would be impacted by the proposal (e.g. Gudumalulgal, Maluialgal and Kaiwalagal). Gudumalulgal communities expressed a strong desire to remove the closure to enable fishers from those communities to have similar opportunities (e.g. to commercially fish for reef line species) as those further east. Kulkalgal communities expressed similar views. Contrastingly, communities within Kaiwalagal and Maluialgal expressed different concerns regarding the potential impacts of the proposal on the TRL stock should reef line species be commercially fished, or the ability to then fish for reef line species traditionally or for kai kai.

In addition, each community was advised of the public call for comments concerning the draft TRL and BDM harvest strategies and Western Line Closure proposal and the means to make a submission.

AFMA staff were accompanied by Protected Zone Joint Authority Traditional Inhabitant members to a number community visits. The involvement of consultative forum members was very valuable, not only in generating engagement within communities but in communicating some of the more complex issues.

This report summarises the discussions and views expressed at each community meeting. At the time of writing, community consultations had not taken place at Iama, St Paul's, Kubin village or Dauan due to a lack of availability in the period visits were conducted.

Summary of Community Views

Table 1. Summary of views by community on each key consulted.

Community	TRL harvest strategy	BDM harvest strategy	Western Line Closure	Other issues
Masig (Yorke)	No concerns raised	No concerns raised	Concerns with how removing the closure will impact on the distribution of sunset leases.	Advice sought on obtaining a TIB licence in the absence of owning a boat Concerns with the processing for achieving sign-off on Traditional Inhabitant ID forms Request that the PBC Chair should be a signatory to the ID forms instead of the Mayor
Erub (Darnley)	General support	General support	Not formally supported as the proposal does not directly apply to the Erub community however general support expressed for the western communities to remove the closure if they wish. General concern with how removing the closure may change where fishing effort is concentrated.	
Boigu	General support	General support, with some concern that additional restrictions (i.e. minimum size limits) may cause the BDM Fishery to be economically unviable.	Very supportive of the proposal to remove the closure and to open up access to the fishery for the Boigu community.	
Poruma (Coconut)	No concerns raised	No concerns raised	Limited interest in proposal as very little commercial finfish fishing occurs in Poruma. Concerns with how removal of the closure may impact the finfish TAC.	Number of questions regarding the TRL Management Plan
Badu	Not supported by Malu Lamar. Concern that HS should be designed for full time operators only.	Not supported by Malu Lamar.	Concern that removing the closure will impact the sustainability of TRL stocks. Proposal to remove the closure not supported by Malu Lamar nor a number of Badu fishers.	A range of other issues were raised relating to management arrangements in the BDM Fishery, including the prohibition on hookah and the 7m boat length restriction.

Community	TRL harvest strategy	BDM harvest strategy	Western Line Closure	Other issues
	No concerns raised by other attendees.		Outside of the meeting, some fishers expressed support to remove the closure.	
Ugar (Stephen)	No concerns raised.	No concerns raised however strong desire for traditional knowledge to be incorporated.	Community members withheld from making comment on proposal as not directly relevant to Ugar waters. Some concern that removing closure will result in more western community's access key eastern fishing grounds. Supportive of spatial controls.	Concern that the use of hookah in the TRL Fishery is unfairly impacting the free-diving sector. Suggestion for a cap to be implemented within the TIB TRL catch share to limit hookah catches.
Saibai	Not discussed.	Not discussed.	Generally supported.	
Warraber (Sue)	No concerns raised.	No concerns raised.	No concerns raised.	Concern that inner island fishers have a disproportionate influence on fisheries management processes over outer islands.
Mer (Murray)	No concerns raised.	Supported in recognition of how the HS guides re-opening of closed species (e.g. black teatfish)	Community members withheld from making comment on proposal as not directly relevant to Meriam waters. General comments that more coral trout fishing is desired to alleviate natural trout predation on TRL. Anecdotes that the more coral trout is fished, the more habitat is available for TRL.	Strong desire for a licensing review to implement area controls on licencing conditions (e.g. to prohibit non Meriam fishers fishing in Meriam waters). Concerns raised regarding the inability for the TIB sector to fill the finfish TACs and the desire to establish a program that aims to upskill TIB operators.
New Mapoon (NPA)	No concerns raised.	No concerns raised.	No formally expressed support or concerns raised.	Concern with the use of hookah on the tops of reefs.
Injinoo (NPA)	No concerns raised.	No concerns raised.	No formal support or concerns raised.	
Thursday Island (Torres Shire)	Not discussed at the request of attendees.	Not discussed noting that the BDM HS is not a high priority for stakeholders.	A number of concerns raised regarding the proposal to remove the closure: - Negative impact on TRL - Negative impact on availability of coral trout and ability to fish for subsistence (kai kai)	Concerns with how the TSSAC identifies research priorities in the Torres Strait.
Mabuiag	No concerns raised.	Not discussed at the request of attendees noting that the community does not fish for beche-de-mer.	Generally supported.	

Masig (Yorke) Community

Date	8 April 2019
AFMA staff	Georgia Langdon and Natalie Couchman
Traditional Inhabitant Members	Hilda Mosby, Kulkalgal – FRAG Paul Lowatta, Kulkalgal – FWG
Attendance List	Refer to Table 2

Fish Receiver System

1. A number of attendees were not familiar with the FRS and so the delivery of information was simplified and messages about why AFMA collects data, how that data is used, and how fishers and fish receivers contribute to the overall process were reinforced.
2. Attendees were very interested in the data summaries for each fishery and reported that there is more TRL taken in the eastern areas than was represented in the data summary. It was noted that more than 50 per cent of voluntary location data is not reported on CDRs. Contrastingly, attendees agreed that the finfish data summary seemed more accurate. Others made comments in the margins of the meeting indicating that the catch of Prickly Redfish is under-reported.
3. Fishers acknowledged that if they want to be better represented in the data then they need to be providing the voluntary location data.
4. Some attendees suggested an option be developed to electronically submit CDRs as the post is deemed too slow and administratively onerous. AFMA advised that scanned copies or photos of CDRs are able to be submitted if they are clear and legible, and if that is the preference of the fish receiver, noting however that the AFMA does not have established systems in place to do this as the default at this stage. It was also noted that the original white copy is still required to be submitted to AFMA. One attendee recalled an earlier mention that the TSRA perhaps has scope to facilitate electronic reporting services through iPads.

ACTION ITEM – AFMA to follow up with TSRA regarding the status of proposed iPads for electronic reporting.

5. Some attendees suggested one option to improve the accuracy and completeness of data, would be by AFMA employing a person in each community to complete CDRs for all fishers in that community. While this is not within the remit of AFMA's role, attendees were informed that the FRS is flexible in that it could accommodate communities nominating a central fish receiver (e.g. community freezer) to weigh and record all catch landed in a community.
6. Some fishers sought clarity on the three day submission requirement for CDRs. There were some concerns that the three day timeframe is not workable if TRL are held in cages for up to two weeks after being caught and are not sold until sometime later. It was clarified that the submission of the data must be within three days of weighing and recording the data which must be done as soon as fish are bought to land (i.e. landing), and not within three days of catching the product. This was well understood.

Harvest Strategies

7. Many attendees were not familiar with or had a good understanding of current Torres Strait fisheries management arrangements or the development of harvest strategies. Again, the information presented was simplified, starting with simple explanations of TACs and other common terms used by fisheries managers. The effectiveness of harvest strategies was linked back to the importance of providing accurate and complete data to AFMA and reinforcing how that data is used in the overall management process.
8. Attendees did not raise any concerns regarding the harvest strategies. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

9. The proposal to remove the Western Line Closure in the Finfish Fishery was well understood. Some attendees raised concerns about the effect of removing the closure on finfish sunset licence lease money. Currently lease money from sunset licences are held in trust by the TSRA on behalf of the eastern communities. Attendees were concerned with how the lease money might be distributed further with other non-eastern communities if the closure is removed. Masig attendees expressed a strong view that the lease money should be allocated to eastern communities only (i.e. Erub, Ugar, Mer and Masig).
10. Some attendees sought to better understand when and why the Western Line Closure was originally implemented.

ACTION ITEM – AFMA to clarify and report back to Hilda Mosby about when and why the Western Line Closure was originally implemented.

Licensing

11. A number of attendees sought information on how a person can commercially fish if they do not own a boat (e.g. many younger fishers cannot afford their own boat). AFMA advised that under the current system, a boat needs to be nominated to a TIB licence, though there is provision under the legislation for hand collection licences (e.g. commercial fishing without the use of a boat), though the administrative procedures are not currently in place to issue these licences.
12. An alternative option discussed was to fish using another person's boat, and under that person's licence as an authorised agent.
13. A number of attendees expressed frustration regarding the delays they are experiencing in receiving sign-off from Mayor Gela (Regional Council Mayor) on Traditional Inhabitant Identification forms. It was advised that three people in the community have been waiting more than three months for sign-off and have had difficulty contacting the Mayor's office to follow up. AFMA offered to support the process and contact the TSIRC office to query the status of these forms, but also suggested that applications also needed to be followed up by the applicant.
14. A number of community members strongly suggested that the PBC Chair be able to sign-off on Traditional Inhabitant Identification forms, as they have a much better understanding of who is who in their community in comparison to the relevant Council Mayor (who may not know the Traditional Inhabitant background of the person in question).

ACTION ITEM – AFMA to follow up with TSIRC Mayor Gela's office regarding outstanding Traditional Inhabitant Identification forms.

Other Business

15. One community member advised that the TVH BDM licence currently held in trust by TSRA (originally owned by Nyall Ledger) should be 'given back' to the Masig community, who first held the licence under historical community licensing arrangements. The community members expressed frustration that the original owner, not the community, made $1.5 million when the licence was sold.
16. AFMA advised that while the TSRA currently holds this licence in trust, it is not currently in use and TSRA would need to advise what will happen to this licence when the independent entity is established. Attendees were also advised that TSRA were to be visiting all Torres Strait communities in May 2019 to discuss the regional ownership and management of fisheries assets (i.e. the Entity).

ACTION ITEM – AFMA to raise the issue of TVH licences held in trust and associated monies with TSRA Fisheries Program ahead of their community visits in May 2019.

17. Community members encouraged AFMA staff to do an overnight visit next time to allow more time to consider the issues. An overnight stay would also allow more face to face time to address licensing queries and general fisheries questions.

Erub (Darnley) Community

Date	8 – 9 April 2019
AFMA staff	Andrew Trappett, Gabrielle Miller and Hannah Howard
Traditional Inhabitant Members	Rocky Stephen, Kemer Kemer Meriam – TSSAC, FWG, FRAG Michael Passi, Kemer Kemer Meriam – HCWG
Attendance List	Refer to Table 3

Fish Receiver System

18. Some attendees expressed concern that fish receivers are not submitting data to AFMA on time due to missing signatures from fishers. Several fish receivers' in attendance at the meeting acknowledged that it is difficult to fill in the paperwork with bloody or wet hands, and to get signatures from fishers while processing catches, if fishers want to leave the premises quickly. AFMA reminded attendees of the fisher and fish receiver joint responsibilities in landing and reported catches.
19. Attendees were very pleased with level of reported catches and agreed that the species composition data for BDM species looked accurate.
20. A number of attendees noted a general concern from some fishers about providing voluntary data about the area where fish are caught and suggested that greater awareness needs to be built about what happens with the data that is collected, who sees it and what it is used for. This would encourage more fishers to provide voluntary data. AFMA showed some key examples of how data is used in the most recent Spanish mackerel assessment.
21. Many attendees were familiar with the FRS. Key questions included:
    a. the difference between commercial and traditional fishing;
    b. when to land catch, i.e. if TRL is kept offshore in a cage, or if product is freighted or flown to Cairns/Horn Island. It was explained that catch needs to be landed to a licensed fish receiver as soon as it comes onto land;
    c. who needs to complete a CDR. Some fishers were uncertain if they should complete a CDR, as their product was being flown/freighted to Cairns/Horn Island. It was explained that catch needs to be landed to a licensed fish receiver as soon as it comes onto land. Some fishers raised concerns that some product is not currently being landed correctly by the fish receivers/buyers in Cairns/Horn Island; and
    d. the difference between a catch disposal record and a daily fishing logbook;

Harvest Strategies

22. Attendees noted both draft harvest strategies with general support for their structure and function. There was some confusion with technical language, e.g. empirical harvest control rules, though all agreed that this was the necessary language required.
23. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

24. The proposed removal of the Western Line Closure was noted as well as removal of traditional fishing rules (mesh netting). The community, led by the PBC Chair did not wish to formally support the removal noting it doesn't directly impact the Erub community however there was general support for those western communities to remove the closure should they wish. The key comment from the Erub community was that increasing the size of the Finfish Fishery may change areas where fishing is conducted, shift effort around and may affect how the available TAC is filled. Agreed with the AFMA advice that, should the closure be lifted, the focus will be on monitoring and data analysis through Finfish RAG.

Licensing

25. Some attendees queried the arrangements for using another person's boat undertake commercial fishing and if this was permitted under the current licensing system. The authorised agent system was explained involving the authorisation of a person to operate under another person's TIB licence. Feedback from attendees agreed that more awareness was required around authorised agents among communities.

ACTION ITEM: AFMA to develop and disseminate more information about authorised agents to communities.

Other Business

26. The Erub Fisheries Management Association freezer is the main receiver for finfish product (coral trout, Spanish mackerel) on Erub, receiving product from fishers from the other eastern islands. The freezer has not been operational in recent months, due to a delay in repairs. However when the freezer is fully operational it employs 3-5 staff. It was noted that fishers are unlikely to resume fishing for finfish while the freezer is non-operational.
27. The meeting noted the outcomes of the most recent Spanish mackerel assessment including the estimated level of biomass (approximately 32 per cent of pre-commercial fishing levels) the downwards trend in recent Catch Per Unit Effort estimates and the corresponding reduction in total allowable catch. Community members were concerned about the apparent decline in catch rates and also were concerned that the data supporting this stock assessment came mainly from non-indigenous fishers (sunset licence holders). Community noted that further data from the TIB sector would help improve the scientific understanding of the health of the Spanish mackerel stock.

Boigu Community

Date	17 April 2019
AFMA staff	Georgia Langdon and Gabrielle Miller
Attendance List	Refer to Table 4

Fish Receiver System

28. Attendees showed some knowledge of the FRS. It was understood by the active fishers that they need to land their catch to a fish receiver and that the fish receiver completes a CDR for them. A few attendees were confused as to whether they needed to have their own TBD02 book or not. This was clarified.
29. The fishers in attendance mostly land TRL to Seafari (a carrier boat and fish receiver anchored off Horn Island) as they fish south of Boigu. It was advised that sometimes fishers will transport their catch to Thursday Island to offload at a land based fish receiver. Fishers advised there are very limited times they can fish around Boigu as the waters are muddy and only clear enough to dive during a quarter moon.
30. Additional time was spent discussing what the requirements are for both fishers and fish receivers and explaining when the catch needed to be recorded in a CDR (i.e. when the catch is first brought to land).
31. There was a good response to the summary 'area fished' data presented. Fishers advised that they may not be giving accurate location data due to fear of their fishing spots becoming known. However, they agreed that the TDB02 area maps were broad enough that the exact reef could not be identified, and understood how useful this data is to the management of fisheries.

Harvest Strategies

32. Both the TRL and BDM harvest strategies were well received, with attendees agreeing that they were a good idea. They appeared to have a good understanding of the key differences between the two strategies in terms of what data and information is available and how this impacts on the level of management required in each fishery, including how the TACs are generated.
33. Some questions were asked about whether the full time commercial fishers were happy with the TRL harvest strategy. The group discussed more about how the strategies were developed over time with significant input from various stakeholders, particularly Gudumalugal PZJA traditional inhabitant members, Aaron Tom and Tenny Elisala.
34. PBC Chair, Keith Pabai raised concerns that the restrictions in the BDM Fishery may make it economically unviable for the fishers. Specifically, the proposed increase in minimum size limits and the prohibition on the use of hookah gear to access deeper species such as white teatfish.
35. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

36. Attendees were very supportive of the proposal to remove the Western Line Closure in the Finfish Fishery and were strongly supportive of opening up access to the fishery to enable their communities to have the same opportunities as others in the Torres Strait.

37. The PBC Chair advised that the TSRA is providing Boigu with a freezer through their Fisheries Infrastructure Project, and that local fishers should be able to commercially fish for coral trout (and Spanish mackerel) to utilise the resource and the freezer to its capacity.

Other Business

38. A number of attendees enquired about the new coxswains' requirement through the Australian Maritime Safety Authority (AMSA) and were instructed to directly contact Jade Morris at MyPathways.

Poruma (Coconut) Community

Date	11-12 April 2019
AFMA staff	Georgia Langdon and Natalie Couchman
Traditional Inhabitant Member	Patrick Bonner, Kulkalgal – HCWG
Attendance List	Refer to Table 5

Fish Receiver System

39. The majority of attendees were familiar with the FRS. The community hall also had FRS fact sheets in A3 size displayed on the walls.
40. Attendees sought clarification on the time frames for completing CDRs when TRL are being held in cages and then flown to Horn Island or Cairns. This discussion also touched on how authorised agents work within the FRS.
41. Attendees also enquired about what data requirements the TVH fishers are required to comply with. AFMA staff passed around a copy of the TRL04 daily fishing logbook for attendees to look at and explained how TVH fishers are required to fill in much more detailed information about what they are catching, how and when, each day they are out fishing, in addition to completing a CDR when they land their catch.
42. The group was very interested in the area fished data summaries, noting the areas are large enough not to reveal specific fishing locations, but small enough to understand general areas in which fish are being caught.
43. One attendee queried whether the CDR data could be used to support future allocation discussions amongst communities. AFMA advised that although this is not the reason why the data is collected, it is possible that if an allocation process was agreed to by communities, CDR data could be used. However, the group noted that such discussions have not been had yet, and TSRA is currently working to develop an Entity to hold and manage Torres Strait fisheries assets.

ACTION ITEM – AFMA to advise Patrick Bonner about the membership of the TSRA board sub-committee working on the Entity project.

44. Attendees reported that there is more TRL taken in the central area (e.g. Dungeness Reef/Area 14) than what is represented in the data summary, noting more than 50 per cent of location data was not reported.
45. Fishers agreed that the finfish data looked accurate but noted that Poruma fishers do not fish for finfish commercially, largely as there are no buyers, and that the processing is more intensive than for TRL. Others noted that there is good fishing grounds for finfish but no one is fishing it commercially.
46. Attendees also noted that fishing for BDM has recently declined. Patrick Bonner's operation is temporarily closed and most fishers on the island are fishing for TRL. Caroline Enterprises is processing BDM and sending it through to Independent Seafood Producers (ISP) in Cairns. Clarification was provided to attendees about the requirement for a CDR to be completed by a fish receiver at the point fish is first landed, not by the buyer.
47. Attendees gained a good understanding of the benefits of submitting voluntary data to assist in understanding the health of stocks and how fisheries are performing.

Harvest Strategies

48. Learning from earlier community visits, the discussion on harvest strategies started with a very simple overview of 'what is a harvest strategy?' Both harvest strategies were linked back to the importance of providing catch and effort data to AFMA and reinforcing how that data is used in managing each fishery. It was emphasised how harvest strategies were developed in consultation with PZJA forums and industry stakeholders and attendees were encouraged to take home the overview fact sheets and come back following day with any questions.
49. Key questions included what is the difference between a Management Plan and a harvest strategy? It was explained that management plans set out who can access a resource and a harvest strategy sets out how the PZJAs determines how much can sustainably be taken each season. Generally well received.
50. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

51. There was limited interest in the proposal to remove the Western Line Closure in the Finfish Fishery given the lack of commercial finfish fishing by Poruma fishers. Attendees supported the removal, recognising that reef-line species are community resources and all communities should have access.
52. Some attendees queried whether the removal of the closure will impact the finfish TAC. AFMA advised that removing the closure will likely impact where the TAC may be caught and may mean more fishers from the western islands become active in the reef line fishery, however the way the TAC is set each season will not change to reflect a larger area of the fishery. It was noted that preliminary advice from scientists has indicated removing the closure poses no risk to the sustainability of the stock.

ACTION ITEM – AFMA to report back to Poruma fishers about whether there any TIB operated finfish sunset licences.

Licensing

53. A number of attendees queried whether a person can commercially fish if they do not own a boat (e.g. many younger fishers ca not afford their own boat, but can still go fishing e.g. reef walking).
54. AFMA advised that usually a boat needs to be nominated to a TIB licence, though there is provision for hand collection licences. Another option is to fish using another person's boat, and under that person's licence (as an authorised agent).

ACTION ITEM – AFMA to provide clear guidance on whether TIB licences can be issued without a boat.

Other Business

55. Some fishers expressed an interested in selling shark fin to Chinese buyers. The rules for fishing for sharks were explained (i.e. requiring reef-line endorsement, maximum size limits, finning at sea prohibitions and no take species). The group also discussed the rational for these restrictions

including the importance of sharks in the ecosystem, their vulnerability to overfishing and optimal utilisation of whole animals.

56. Patrick Bonner advised that Mura Porumalgal Fishers Corporation recently held their Annual General Meeting. Patrick remains the President however there is a new board of Directors in place. He noted the Corporation was very pleased with the AGM outcomes and believes they have a good team on board now to achieve things.

ACTION ITEM: – AFMA to follow up with Patrick Bonner with details of who sits on the Poruma fisheries association and their contacts.

57. AFMA staff had a detailed conversation with one Poruma fisher regarding how Torres Strait legislation and policy works. They also discussed a desire of the Poruma community to have their cultural protocols respected out on the water and how AFMA/TSRA can support them in this. He advised the Fishers Corporation had a discussion on this issue at the AGM, in particular around non-Poruma fishers (largely TVH operators, but also some TIB) respecting protocols concerning anchoring near communities, seeking permission to fish on home reefs, using hookah on reef tops and anchoring near islands during certain cultural ceremonies. He explained concerns that boats anchoring near islands during coming of age ceremonies are scaring off dugongs/turtles which results in young people not able to successfully hunt as part of that ceremony.
58. AFMA advised that we need a better understanding of what their community protocols are, and then to have a broader discussion with all stakeholders on how we can work together to have them respected, whether at a community level or through regulation. Other options were discussed including developing a code of practice with TVH fishers, and that other fisheries in the Commonwealth operate under codes of practice developed through their industry associations.
59. One attendee questioned whether there will be enough TRL to get to the end of the season, noting catches to date. AFMA advised that more analysis is being done on the data now and that AFMA will flag with fishers if this is looking like a possibility.
60. Attendees questioned whether the sectoral catch shares could be overturned now by the PZJA if there were any appeals during the allocation phase under the TRL Management Plan. AFMA advised that TVH operators can only appeal their small slice of the 33.83 per cent pie but that if their small slice increases slightly, this does not mean that the overall TVH catch share increases rather that all other TVH operators ‘slices’ would need to be adjusted accordingly. AFMA also advised that depending on how long the appeals process takes, the PZJA may need to make another decision to keep the interim arrangements in place for coming seasons until the formal allocation process is completed. However, the PZJA remains committed to pursuing 100% ownership in the TRL Fishery and not renewing the interim arrangements while appeals are underway would not be consistent with this commitment.

Badu Community

Date	15-16 April 2019
AFMA staff	Georgia Langdon and Natalie Couchman
Traditional Inhabitant Members	James Ahmat, Maluialgal – TRL RAG Frank Loban, Maluialgal – HCWG
Attendance List	Refer to Table 6

Fish Receiver System

61. The majority of attendees were familiar with the FRS however there was a low level of engagement during discussions.
62. AFMA staff reinforced key messages concerning the need for voluntary data to better understand the health of stocks and how fisheries are performing. Attendees were very interested in the data summaries. Some people requested TVH and TIB catches be split out and shown. There was no other specific feedback on the FRS.

Western Line Closure

63. One attendee raised concerns that removing the Western Line Closure may impact on the sustainability of kaiar stocks and queried whether any research has been undertaken into the potential impacts of removing the closure. AFMA advised that this matter had been considered by the Finfish Resource Assessment Group and the Finfish Working Group and preliminary advice indicated there was no sustainability concerns at this time.
64. Some attendees went further to explain that coral trout are often found sharing the same habitat with TRL and questioned whether fishing coral trout would have a negative impact on TRL. AFMA advised that the outcomes from the FRAG and FWG consideration of sustainability impacts could be provided to the group out of session. It was advised that Malu Lamar would not support the removal of the western line closure until there is assurance that it won't create sustainability concerns. A number of other fishers at the meeting supported this, noting the importance of TRL to local fishers on Badu.
65. Contrastingly, on the second day of the AFMA visit, other fishers expressed support to remove the closure.

ACTION ITEM – AFMA to provide Malu Lamar with details of FRAG/FWG consideration of sustainability impacts of removing the western line closure.

Harvest Strategies

TRL Harvest Strategy

66. The Malu Lamar Chairperson claimed that the draft TRL harvest strategy should be designed around full-time operators and not those that fish part time so as to allow full time fishers to make the most of the resource.
67. AFMA explained that the harvest strategy was not designed to cater for any one sector over another. Instead the strategy recognises that the resource is shared and is important to the way of life and livelihoods of Traditional Inhabitants in the Torres Strait and Papua New Guinea. This

is reflected in the objectives, reference points and decision rules. The Chairperson advised that Malu Lamar do not support the harvest strategy and will write to the PZJA expressing this view.

BDM Harvest Strategy

68. The Malu Lamar Chairperson claimed the harvest strategy will be ineffective as accompanying management arrangements in the BDM Fishery force fishers to only "fish the top of the pyramid". Further, currently fishers are limited to only a few species with low TACs resulting in a lot of fishing effort being concentrated on home reefs and observations of a decline in key target species such as prickly redfish. The view was expressed that two management rules exacerbate this problem specifically the prohibition on hookah and the 7m boat length restriction. The Malu Lamar Chairperson suggested that these restrictions be lifted in order to take the pressure off home reefs, and this needs to happen at the same time the harvest strategy is implemented otherwise it will be ineffective.
69. The Malu Lamar Chairperson advised that Malu Lamar do not support the BDM harvest strategy and will write to the PZJA expressing this view and their concerns regarding the management arrangements within the BDM Fishery.
70. Attendees were advised as to how they can make a submission in response to the public call for comment.

Other Business

Membership on PZJA forums

71. The Malu Lamar Chairperson expressed a strong desire for Malu Lamar to seek membership on all PZJA Forums and advised that their lawyers will be writing to the PZJA on this matter.

Consultation with Malu Lamar

72. The Chairperson requested that AFMA consult with Malu Lamar concerning any amendments to legislation. AFMA advised that Malu Lamar are consulted as per requirements under the *Native Title Act 1993*, and that AFMA had written to them directly concerning the latest management proposals (e.g. harvest strategies and Western Line Closure).

Compliance

73. Two attendees expressed concerns that the AFMA Compliance program is ineffective, alleging that TVH operators are fishing illegally to circumvent the sectoral catch shares arrangement. Allegations were made that TVH fishers are fishing in the Torres Strait and landing the product as Queensland product. Other allegations included primary vessels anchoring near the Southern jurisdictional line of the Protected Zone with tenders fishing in Torres Strait waters but landing the product as Queensland product. AFMA advised about how AFMA took over domestic compliance mid-2018 and highlighted how a range of tools (e.g. VMS, catch reporting, aerial surveillance, inspections and other compliance tools) are used to monitor TVH operations.
74. Attendees were advised to report any suspected illegal fishing to AFMA noting how these reports are important to an effective compliance program.

Use of hookah breathing apparatus

75. The Malu Lamar Chairperson expressed a strong desire for industry to fish for white teatfish using hookah. AFMA advised that this issue had been discussed at length at previous HCWG meetings, at which he was present. The HCWG advised there were some sustainability concerns around using hookah to fish for BDM that need to be addressed and this is exacerbated by the lack of data on the health of BDM stocks more broadly. The Chairperson noted a developmental permit was issued in 2011 to allow fishing for BDM species (largely white teatfish) to a non-Traditional Inhabitant operator, and advised that if that was allowed then it should be allowed now.
76. The Malu Lamar Chairperson advised that Malu Lamar will write to the PZJA on this matter and requested that the data from the developmental permit be released to communities. AFMA advised it had been considered in the HCWG.

ACTION ITEM – AFMA to assess whether the data summaries from the 2011 hookah developmental permit can released to communities.

7m boat length restriction

77. The Malu Lamar Chairperson expressed a concern that the current 7m boat length restriction in the BDM Fishery prevents operators from fishing a greater area in the fishery, forcing them to fish only on home reefs. AFMA explained the origin of this rule as a blunt tool to control effort. Further, AFMA explained the biological vulnerabilities of BDM, which means that in lieu of more complex fisheries management arrangements (e.g. rotational fishing) blunter tools have been used to control effort in the fishery to prevent overfishing.
78. AFMA advised that good fisheries data is needed to support changes to current management settings, which until the FRS was implemented, the fishery was very data poor.
79. The Chairperson advised that Malu Lamar will write to the PZJA on this matter.

General

80. Some fishers expressed the view that PNG persons should not be eligible for a TIB licence. AFMA explained the current eligibility criteria under the *Torres Strait Treaty* and PZJA policy. There was also a query as to whether a PNG person with a TIB licence can have another PNG person working on their boat. AFMA advised this is only possible if that person is deemed a Traditional Inhabitant as defined by the *Treaty* and PZJA policy.
81. In the margins of the meeting, some fishers noted that the views expressed by Malu Lamar was not shared by all in attendance.

Ugar (Stephen) Community

Date	12 April 2019
AFMA staff	Andrew Trappett and Gabrielle Miller
Traditional Inhabitant Members	Rocky Stephen, Kemer Kemer Meriam – TSSAC, FWG, FRAG Michael Passi, Kemer Kemer Meriam - HCWG
Attendance List	Refer to Table 7

Fish Receiver System

82. Most attendees were generally familiar with FRS, however a significant misunderstanding was evident in terms of the function of authorised agents, and the issues with fishers receiving their own catch. The group discussed in detail the issue of requiring two separate parties verifying and signing off on the catches received and how an authorised registered agent can assist fishers who are also receivers in ensuring the Catch Disposal Records are filled out correctly.
83. Attendees were very interested in the volume of reports and reported catches in the TRL, Finfish and BDM Fisheries.
84. Attendees noted how the provision of BDM catch data will help support future openings for Black Teatfish, acknowledging that reported catches within the last the opening for black teatfish were significantly delayed resulting in an over-catch of the TAC.

Harvest Strategies

85. Generally, attendees were pleased with the level of involvement two of their community members (Rocky Stephen and William Stephen) had in developing the draft BDM harvest strategy in recent years.
86. Attendees expressed a strong need for traditional knowledge and on-water observations (seabed health for BDM) to be incorporated in the harvest strategy and in stock assessments. It was acknowledged that this sentiment is captured as an objective the draft BDM harvest strategy.
87. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

88. Community members from Ugar abstained from making comment on the proposal to remove the Western Line Closure, noting it was an issue not directly relevant to their waters.
89. Some expressed concern that removing the closure will result in more western community fishers accessing key eastern fishing grounds for coral trout and mackerel with larger boats in future.
90. Attendees advised that some spatial control on harvests will be required in future. As an example, during a black teatfish opening, it is not satisfactory that fishers are licensed to fish in the whole of Torres Strait noting that home reefs and community reefs traditionally fished need to be respected and reserved for those home communities.

Other Business

91. There appears to be a general lack of understanding of the Torres Strait Prawn Fishery with concern that the prawn trawl fleet is destroying seabed habitat, have unlimited catches, unlimited

fishing effort, no monitoring, and are catching bycatch of other finfish species which is impacting on Torres Strait finfish commercial catches. Attendees suggested that AFMA could provide general facts and information about the Torres Strait Prawn Fishery to help communities understand more about how the fishery operates and is managed.

92. Similarly, there appeared to be a general lack of understanding of the TRL Management Plan and how the new quota management system works (e.g. sectoral catch shares).
93. Attendees expressed concerns that hookah method is taking most of the TIB sector TRL catch and this unfairly impacts free-diving fishers. It was suggests that a cap or split be implemented within the TIB TRL sectoral catch share to retain catch available for free-diving fishers in years with low TACs.
94. Concerns that the new AMSA coxswains requirement will result in some TIB fishers leaving the fleet as they may not be able to pass coxswains course.

Spanish mackerel

95. The group discussed the Spanish mackerel assessment in detail and examined the downwards trend in CPUE and corresponding decrease in total allowable catch.
96. Some attendees expressed concern that sunset finfish fishers were impacting the breeding stock at Bramble Cay and these effects flow on and disadvantage the rest of the TIB fleet. The group was reminded of the current finfish management arrangements in already having secured 100 per cent TIB access to ownership.
97. After substantial discussion on potential factors causing the decline, attendees agreed that monitoring the fishery via reported catch data was the best way to improve our understanding of the fishery. Some fishers expressed a desire to contribute to the strength of the CPUE signal through voluntarily completing TSF01 Daily Fishing Logbooks. As a result, two TSF01 logbooks were issued to fishers.
98. Attendees noted that it is important for TIB sector catch and effort to be tabled for analysis as the sunset sector (and subsequent catch and effort data) comes from a substantially different area of waters (compared to the TIB sector) due to the 10nm closures around inhabitant eastern island communities.
99. TIB fishers present suggested recent mackerel catches have been strong on Ugar with good catch rates and good size class fish (~15kg).

Saibai Community

Date	1 May 2019
AFMA staff	Georgia Langdon, Natalie Couchman and John Jones
Attendance List	Not available

100. The consultation at Saibai did not go ahead in the same manner as other community visits. This was due to a lack of facilities available on Saibai on that day, in conjunction with an accidental double booking of Government agencies holding community meetings. The TSRA Land and Sea Management Unit offered AFMA staff a window to present to community members in the margins of their own meeting, which was preceded by a TSRA Fisheries Infrastructure Program presentation. While presentation time was limited, the access to a broader range of community members was welcomed.

101. A formal attendance list was not recorded, however attendees included TSRA rangers, fishers, My Pathways and respected elders of the Saibai community.

Fish Receiver System

102. The majority of attendees were not familiar with the FRS or general commercial fishing licensing requirements. AFMA staff took the opportunity to discuss primary licence conditions for commercial fishing in the Torres Strait and the requirement to land catches to a licenced Fish Receiver. AFMA staff also touched on the importance of the need for voluntary data fishing effort data to understand the health of stocks and how well fishers are operating.

103. Questions and suggestions from stakeholders included:

a. Requiring the marking of cray cages, pots and nets to identify them as TIB fishing gear;
b. Requiring a fisher to be in possession of a licence card in order to legally fish with the intent to stop the misuse of commercial licences. This suggestion also included the introduction of magnetic strips on licence cards to be used to record catch through an electronic system.
c. Whether a licenced fisher can have unlicensed persons on their boat. AFMA staff advised this is possible, however such crew members are required to be traditional inhabitants. In the event a TIB boat is crewed by non-traditional inhabitants, it is the TIB licence holder who is liable if any fishing offence is made.
d. Whether a TIB licence can be issued without a boat. AFMA staff advised that if a person does not have a boat, they could use a licenced boat with the permission of the owner, however the owner is liable for the actions of the person using the boat. This arrangement can be made formal by registering an authorised agent to act on the licence holders behalf.

ACTION ITEM –Clear guidance to be developed on whether a TIB licence can be issued to a traditional inhabitant without a boat.

Harvest Strategies

104. Due to the nature of the community consultation and lack of facilities to show a powerpoint presentation, AFMA were unable to present on draft harvest strategies. Attendees were advised

that all TIB licence holders were mailed a package containing information on the draft harvest strategies out for public comment and encouraged people to provide comment.

Western Line Closure

105. The proposal to remove the Western Line Closure was understood. One of the TSRA Rangers was very useful in facilitating the discussion and outlining the issue. Those in attendance supported removing the closure, noting it would support the operation of the community freezer once up and running.

Other Business

Community freezer

106. A representative from the TSRA fisheries infrastructure project presented on the development of a Saibai community freezer:

- The Saibai freezer will be one of six freezers to be built across the Torres Strait region. A network of freezers will provide for improved continuity of fisheries product supply and potentially pooling of catch and other resources.
- All freezers will be the same design to facilitate maintenance and repairs. Freezers will be built to accommodate both live and frozen product, occurring in 3-4 stages with building of the Saibai freezer to commence by the end of June over a 30 day contract period.
- Fishers will be paid beach price immediately on landing and TSRA will fund 6 positions at the freezer (manager, book keeper and 4 filleters/processing staff).
- Any profits from the freezer will be reinvested back into its operation.
- Designed to meet domestic food safe requirements but will not meet export requirements. This is because export requirements are considered too expensive and not necessary as all product will pass through export grade facilities in Cairns before leaving Australia.

Biosecurity risks

107. The TSRA Land and Sea Management Unit gave a general awareness presentation regarding the biosecurity risks from PNG (various invasive fish species and plant diseases) or from south of Saibai (e.g. carried by Seaswift barges (cane toads)). The presentation also touched on existing controls for deer which are reportedly increasing in numbers and having detrimental impacts on local swamplands.

Warraber (Sue) Community

Date	11 April 2019
AFMA staff	Selina Stoute and Gabrielle Miller
Traditional Inhabitant Members	James Billy, Kulkalgal – TRL RAG
Attendance List	Refer to Table 8

Fish Receiver System

108. Attendees raised concern about confidentiality of location and effort data and queried whether fishers on Thursday Island or from the TVH sector see the spatial data.
109. Concerned that fish receivers are sharing fishing area information with others, some fishers questioned whether there are any rules preventing fish receivers from releasing data to others. AFMA advised no, no such rules exist.
110. Further, attendees questioned what information the TVH sector are required to supply and whether discarded catches are included in CDRs and accounted for under the TAC.

Harvest Strategies

111. No specific comments were made about the draft harvest strategies. AFMA staff advised that explanatory material has been provided to licence holders to assist and AFMA is available on phone anytime to discuss.

Western Line Closure

112. Attendees queried by the closure was first introduced. AFMA advised the closure is a carryover for a historical management boundary when QLD Fisheries solely managed fisheries in this region.
113. No formal support or opposition in relation to the Western Line Closure was expressed by the Warraber community.

Other Business

114. A fisher made anecdotal reports and observations of dumping mass quantities of dead crays in the Thursday Island harbour from a full cage.
115. Attendees expressed concern that Thursday Island based fishers have disproportionate influence in the fisheries management process without understanding the views of outer island communities. Attendees recommended that all communities should be informed about all meetings and consulted on all matters.
116. AFMA staff advised that the AFMA Thursday Island office has an open door policy, and stakeholders are encouraged to meet with AFMA when on Thursday Island, or contact AFMA staff by phone anytime. AFMA staff agree to the importance of meeting with communities to better understand outer island community views.
117. Further, views can be conveyed through PZJA advisory forums (e.g. TRL Working Group). Attendees noted that building effective communication and engagement is a joint

responsibility between AFMA and industry/communities. This is particularly effective where industry associations/organisations are in place.

118. By way of example, participants reiterated that the Malu Lamar court case decision in 2018 that overturned the hookah ban was not known about beforehand at Warraber and not supported by the Warraberalgal community.

Development permit

119. Attendees questioned a current Developmental Permit and raised concern that it was being used primarily for fishing not training. AFMA advised that at their most recent meeting in April, the PZJA agreed to commence a review of how developmental permits are used for training purposes in all Torres Strait fisheries. Further, the PZJA agreed that until a policy has been developed, the PZJA will not be considering any applications for developmental permits that seek an exemption of the policy for TIB boats to be fully owned and crewed by traditional inhabitants.

General questions – TRL

120. Attendees had a number of general questions and concerns about the TRL Fishery;
    a. How the quota system works, whether shares will change and whether the TVH boats will be able to lease quota from the TIB sector;
    b. Concerns that TVH boats will fish for a full season when TAC is high (i.e. still be operating on TIB grounds) and if measures are able to be put in place to avoid this happening? AFMA advised any such measures are not possible through quota system, however other avenues may provide a pathway to address this concern. This includes the continued pursuit of 100% ownership, and industry codes of practice with TVH boats around home reefs. Under a more certain access agreement (i.e. quota allocation), industry codes of practice may be easier to develop;
    c. Whether closures could be implemented to stop TVH entering some areas of the fishery. AFMA advised closures can be made however these need to be fair and consistent with objectives of the *Torres Strait Fisheries Act 1984.*
    d. Whether AFMA consulted on the TRL management plan? AFMA staff advised that there were two full rounds of community visits and consultation in developing the TRL management plan in addition to the 2018 Fisheries Summit and form Native Title Notification;
    e. What is QLD East Coast TRL Fishery TAC? AFMA advised the East Coast Fishery operates under a 195 tonne constant catch strategy. The East Coast does not benefit from an annual independent fishery survey, like the Torres Strait. Industry on the East Coast would need to fund a survey in order to move away from a constant catch strategy.
    f. Concern that East Coast boats unload east coast catch in Thursday Island yet declare it as caught in Torres Strait. AFMA advised that a range of tools are used to monitor the activities of boats, including the Vessel Monitoring System (VMS), mandatory QLD pre-unload reports (when, how much and where) and verified landing reports noting that QLD is set to have VMS on all boats (primary and tender) for east coast TRL by the 2020 season.

Mer (Murray) Community

Date	18 April 2019
AFMA staff	Georgia Langdon and Andrew Trappett
Traditional Inhabitant Members	Rocky Stephen, Kemer Kemer Meriam – TSSAC, FWG, FRAG Michael Passi, Kemer Kemer Meriam - HCWG
Attendance List	Refer to Table 9

Fish Receiver System

121. Attendees were eager to see the reporting progress under the FRS and were satisfied with the level of reporting that was occurring, noting in particular how poor catch reports used to be prior to FRS implementation. Most were generally happy with the trends in the data with regards to areas reported.
122. Some attendee's role-played an example fish receiver transaction using the example pages from the TDB02 book. This method proved very useful in helping people to understand each field in the form and how to complete the record. Attendees appeared comfortable with the role of both fishers, fish receivers and authorised agents and the importance of providing details to one another to complete the form.
123. The Spanish mackerel assessment was used to demonstrate an example of how the voluntary effort data helps build the understanding of CPUE series, highlighting how and why AFMA collects catch and effort information. AFMA staff reiterated that the FRS supports fishers but only if fishers are supporting the FRS.
124. Attendees were vocal about sunset fishers harvesting near their waters and the group discussed the requirements sunset fishers have under their lease arrangements, including their permit conditions, VMS, logbooks, compliance inspections and spatial closures. Attendees expressed a strong desire to understand what the 'big boats' (sunset licences) are catching, with some assuming that the declining finfish catch rates are from the 'big boats'.
125. A member of the TSRA Finfish Quota Management Committee noted how important it is to have fish receiver data in the context of allocation for finfish, acknowledging tonnage is allocated to the TIB sector first, and the remainder is available to be leased to the sunset (TVH) sector.
126. It was suggested that AFMA should be paying people in communities to collect data on behalf of the fishers – there was general support from others about this.
127. Attendees also questioned why AFMA won't allow TIBs to have big boats and fish the way the sunset licensed boats do. AFMA staff advised that TIB fishers are able to operate a boat up to 20m in length, noting however that there are additional requirements (e.g. VMS) for larger boats.

Harvest Strategies

128. Attendees acknowledged the differences between the draft TRL and BDM Harvest Strategies, particularly regarding the level of data and information available in each fishery and how that impacts our understanding of the health of the respective stocks and in return impacts to the management in both fisheries.
129. Those in attendance supported the draft BDM harvest strategy noting it will help set out how to re-open closed species (i.e. black teatfish).

130. Attendees noted that a larger BDM survey across the Torres Strait may be occurring but is subject to funding. It was emphasised that a survey is not the only key for opening a species like black teatfish and that AFMA is still committed to pursuing an opening and how and what that opening looks like will be discussed at the next HCWG meeting.
131. The group discussed how communities can implement their own measures above and beyond the Harvest Strategy or other fishery rules (e.g. Mer & Erub agreement to let Big Mary, Little Mary reefs lie fallow to protect prickly redfish). AFMA reiterated that there is nothing prohibiting communities implementing their own complimentary fishery rules and that the beche-de-mer harvest strategy is designed to enable this.
132. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

133. The proposal to remove the Western Line Closure was well noted with general consensus to not provide specific advice on the proposal. It is considered a western islands issue and western communities should be the ones to decide what to do with the closure.
134. General comments indicated that western communities want more fishing for trout to alleviate predation TRL and to enhance the abundance of TRL. Some anecdotal comments were made indicating that the more coral trout is fished, the more habitat is opened for TRL (i.e. holes in the reef).
135. General comments were also made that Western communities should make sure to get their management settings in order before sunset licences might access their waters – referring to the tensions prior to the implementation of the 10nm radial closures excluding sunset fishing effort around Mer, Ugar, Massig and Erub communities.

Other Business

136. The PBC Chair stated that more generally that there is a need for licencing review to occur and for further area controls on licencing permits. Most fishers seemed dissatisfied that a TIB licence technically permits a fisher to access the whole fishery (Torres Strait wide) which is in conflict with cultural protocols. This issue results in community tensions during black teatfish openings or when primary-tender operations from the west, come to fish in Meriam waters.
137. A number of attendees queried whether there was to be a future establishment of an EEZ or territorial zones around inhabited islands, or changes to licence conditions to prohibit TIB boats from one particular island cluster fishing in another, and vice versa. Attendees advised this is currently ailan custom but that in order for it to be effective, it needs to be regulated through licencing conditions. If people want to fish in Meriam waters they should have to ask permission from the Meriam community. The issue was parked and suggested that the upcoming commercial entity formation would be the vehicle to progress this idea. All attendees were strongly encouraged to share these views with TSRA who are leading the development of a commercial fisheries entity.
138. Fishers expressed concerns and reports that they are having to travel further to find good catches of prickly redfish and that the sizes of prickly redfish are decreasing.
139. The PBC Chair advocated strongly for licensing reform, stating that Traditional Inhabitants own 100 per cent of the rights in most fisheries but don't have the capacity to fill the TACs (i.e. in finfish). He requested that the Australian Government work on a program that is designed to have clear outcomes for TIB taking more of the harvest using larger primary-tender operations

in major communities. Such boats need to be training boats, set up to upskill local fishers. Attendees suggested this concept was something the Entity could establish with AFMA's assistance.

140. A number of attendees expressed criticism about the TSRA holding finfish lease licence money and the lack of feedback to communities and transparency about what money was or was not being used for. It was noted that the funds are still being held in trust but that there has been political debates about how the funds are to be distributed. Those in attendance expressed strong support that the money should be put back in to communities to develop fishing capacity so that fishers are able to fish for finfish, to utilise the fishery better and therefore no longer need to lease licences to non-indigenous operators. AFMA suggested this issue be raised with the TSRA in the context of the formation of an Entity.

141. Further criticism was expressed in relation to the fisheries infrastructure renewal project. Given that there are land disputes on Mer, not all businesses will be able to benefit from a community based freezer, particularly if they have to travel onto another clan's land to access the establishment. Others advised that since the community freezer has been in disrepair since 2010 they have had to themselves invest in their own infrastructure and a community freezer will not benefit their business now they have gone an alternate route.

142. Attendees advised there is a general community ban on the use of hookah in Meriam waters in all fisheries including TRL.

143. A number of reports were made to AFMA regarding fisheries compliance:

- Reports of Indonesian blue boats seen transiting through Meriam waters and Cumberland passage;
- Concerns of possible illegal fishing in Area 20 (referring to TDB02 map) with reports that although those reefs have been deliberately left to fallow for over a year, fishers have returned the reefs to discover they have been completely fished out (BDM species).
- Discovery of washed up bleach bottles over certain periods suggests to community members that offshore IUU fishing may be occurring using this destructive fishing practice.

144. All were consistently encouraged to report any suspected illegal fishing to AFMA with as much detail as possible in a timely manner, via the CRIMFISH hotline. Float keyrings were handed out to attendees with the CRIMFISH phone number and the AFMA Office phone number.

New Mapoon Community (NPA)

Date	9 May 2019
AFMA staff	Georgia Langdon, Kayoko Yamashita, John Jones and Natalie Jorna
Attendance List	Refer to Table 10

Fish Receiver System

146. Most attendees were not familiar with the FRS though some recalled the voluntary docket book system (TDB01). Some attendees were licenced TIB fishers but many had never held a TIB licence and there was a general lack of awareness in relation to PZJA managed fisheries within the Protected Zone versus areas of jurisdiction managed by Queensland Fisheries.

147. The group worked through the TDB02 example handouts in detail, with fishers reading through each field to understand the information that is being asked on each form. AFMA staff emphasised the need for voluntary data to understand the health of stocks and how well or poorly the fishery is performing. This was well received, and most understood the value in providing basic 'area fished' information, confident that the areas were broad enough to not give away their specific fishing spots.

148. Attendees were very interested in the maps of where fish were reportedly caught. There was a good understanding of how only part of the story is told with the 'area fished' data, particularly for TRL where almost 60% of the area fished data was not provided.

Harvest Strategies

149. The draft harvest strategies information was generally well received and understood in terms of how TACs are set and linked well with the importance of reporting catch and effort data.

150. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

151. No formally expressed support for the Western Line Closure however the proposal was generally well understood. Participants were encouraged to go away with information handouts and discuss further with their communities and provide comments back to AFMA with any views.

Other Business

152. Several attendees expressed concern regarding the use of hookah on the tops of reefs. AFMA advised that there are no formal rules about where hookah can be used (as opposed to rules about when, i.e. moon-tide hookah closures), however industry codes of conduct or 'gentlemen's agreements' are options that can be explored by communities with operators to establish rules about the use of hookah around community home reefs. AFMA advised that it would be very difficult to enforce rules relating to the depth of hookah use given current monitoring tools but that AFMA and/or the TSRA can support communities in establishing codes of conduct and facilitate communicating this information between communities and fishing operators.

153. Some concern expressed from attendees about keeping cray cages in coastal waters, stating they had been advised by Queensland Fisheries that the practice was prohibited. AFMA advised that this practice is common with fishers in the Protected Zone but that perhaps QLD Fisheries have particular rules about this in QLD coastal waters. AFMA were not able to provide firm advice on this matter.

154. Fishers queried whether it was legal to catch and sell barramundi from Mapoon on the west coast of Queensland. AFMA advised that under a TIB licence this is not permissible, however QLD Fisheries may have different rules about barramundi on the west coast.

155. Overall, there was general lack of awareness about PZJA/TIB fishing rules and Queensland Fisheries rules and jurisdictions. Communities would benefit greatly with some very clear maps and targeted communications about PZJA fisheries management arrangements.

ACTION ITEM: AFMA to provide copies of the BDM Species ID Guide books to Michael Bond, Councillor of New Mapoon.

Injinoo Community (NPA)

Date	10 May 2019
AFMA staff	Georgia Langdon, Kayoko Yamashita and John Jones
Attendance List	Refer to Table 11

Fish Receiver System

156. Very few attendees were familiar with TIB licences, or the old voluntary docket book system. No one present had heard of the FRS and there was again a general lack of awareness about PZJA managed fisheries within the Protected Zone.
157. The presentation was simplified to basic licencing requirements in the Protected Zone, what a TIB licence permits a fisher to do, who AFMA are and who the PZJA are.
158. There was a lot of concern expressed about the Part B sea claim and how commercial fishing impacts the sea claim and Aboriginal rights in the NPA.
159. AFMA advised of the ability for traditional inhabitants of the five NPA communities to apply for a TIB licence, providing them the option to fish commercially within the Protected Zone and Outside But Near Areas.
160. Attendees were very interested in the effort data shown by area fished, however some were very concerned that the TDB02 map of Area Fished has arrows pointing south for Area 21 (east of Cape York). AFMA were unable to provide any advice as to why the arrows point down, or why there are any arrows at all. Attendees suggested that Area 21 should have more fish reported from that area.
161. Attendees then spent time examining detailed maps of the fisheries to better understand exactly where the area of the fisheries are, versus the Protected Zone, and the Outside But Near Area, in relation to where their communities are on the mainland NPA.

ACTION ITEM: AFMA to send copies of the BDM Species ID Guide to the Ipima Ikaya Secretary, Amanda Ewart.

Harvest Strategies

162. Despite presenting to a community that is quite unfamiliar with PZJA fisheries management arrangements or language, attendees appeared to have a good understanding of the importance of data collection and how it impacts management decisions.
163. Attendees were advised as to how they can make a submission in response to the public call for comment.

Western Line Closure

164. No formal support or opposition expressed by the group but attendees were encouraged to discuss further with their communities and other fishers not in attendance.
165. The Western Line Closure proposal generated a number of questions about the Finfish Fishery in terms of barramundi, netting restrictions, size limits and no take species. Summary information from *Torres Strait Fisheries Management Instrument No. 8* was provided to the PBC Secretary following the meeting.

Thursday Island (Torres Shire) Community

Date	20 May 2019
AFMA staff	Selina Stoute, Georgia Langdon, Natalie Couchman and Eva Plaganyi
Attendance List	Refer to Table 12

Fish Receiver System

166. Many people within the Torres Shire are very familiar with the FRS, and so only a brief overview was provided to those present.

167. No major concerns were raised with the FRS. One attendee queried whether discards or mortalities of TRL are recorded. AFMA advised that currently, this data is not captured on CDRs however there is a sub-group of the TRLRAG tasked with examining this issue.

Harvest Strategies

168. Harvest Strategies were not discussed at this meeting.

Western Line Closure

169. A number of concerns were raised in relation to the proposal to remove the Western Line Closure, including:

a. Whether AFMA had already made a decision to remove it. AFMA advised that no decision had been made. Consultation on the issue was still on going, and that the outcomes of the consultation will then be put back to both the Finfish RAG and Working Group to discuss further.

b. Concern that coral trout are very territorial and don't move around reefs much, meaning that removing the closure may impact on the availability of coral trout in the area.

c. Whether lifting the closure could only apply to TIB operators. AFMA advised that this could be considered through advice from stakeholders and the Finfish Working Group.

d. Concerns that top western communities who have supported removing the WLC, won't actually utilise the opportunity to fish for reef line species if the closure is lifted.

e. Concern with the potential impact on TRL stocks and the ability for fishers to fish for coral trout for kai kai.

170. Other attendees noted that there is 'no trout on the grounds and no life on the bottom' around the inner islands this TRL season.

Other Business

171. Dr Eva Plaganyi from CSIRO delivered a comprehensive presentation about the science that underpins the management of the Torres Strait TRL Fishery and stock assessment, including the annual fishery independent survey. This was very well received by a number of industry members.

172. Some active fishers present noted that;

a. the abundance of TRL around Thursday Island is worse than last season although the TAC is higher;

b. there a high numbers of 0+ lobsters being observed on reefs this season; and

c. habitats have changed around Thursday Island with more mud instead of reef.

173. Sandie Edwards, from Torres Straits Seafood offered to provide size samples of landed TRL to CSIRO to contribute to the length frequency data set used in the TRL stock assessment.

174. One attendee questioned who the members of the PZJA consultative committees are, particularly the Torres Strait Scientific Advisory Committee (TSSAC) and added that Torres Strait Islanders should be setting the agenda for what is researched in the Torres Strait. It was emphasised that the Chair of all Working Groups and RAGs should be Torres Strait Islanders. AFMA advised that a call for applications for all non-traditional inhabitant positions on PZJA fisheries consultative committees had recently been advertised.

Mabuiag Community

Date	21-22 May 2019
AFMA staff	Georgia Langdon, Natalie Couchman, Kylie McKillop and Hannah Howard
CSIRO staff	Dr Eva Plaganyi
Attendance List	Refer to Table 13

Fish Receiver System

175. Despite there being a number of active TIB fishers present, only some people recalled the voluntary docket book system and very few were familiar with the FRS. At the time of the community meeting, there were no licenced Fish Receivers based on Mabuiag, and fishers reported that they take their catches to Badu or down to Thursday Island to be received.
176. Fishers raised a number of technical queries around whether you can be a TIB fisher and a Fish Receiver at the same time. AFMA advised the importance of having two separate (ideally independent) parties sign the CDR and outlined the options for enlisting an Authorised Agent to ensure that two different parties are signing the paperwork.
177. Most attendees appeared comfortable with providing voluntary effort and area data and understood how useful that information can be in understanding the health of the stocks and how well the fishery is performing.
178. One industry member expressed concern over the Area Fished map in the TDB02 book, highlighting that the broad areas outlined do not reflect how the people of Mabuiag view their waters traditionally. It was suggested that the map would be more useful to communities if the map areas were divided up in to community boundaries as understood by communities. This would allow communities to use and understand their catch data more effectively, particularly if they want to make decisions about their own fisheries management. AFMA advised that the areas were originally devised based on habitat similarities across the Torres Strait, but agreed that there is scope to adjust the areas. As an example, in the TRL Fishery, the TDB02 areas do not align well with the areas used by CSIRO in the stock assessment and this issue was being considered by the TRLRAG.

Harvest Strategies

179. At the request of attendees, and noting that the community does not fish for BDM, only the draft TRL harvest strategy was presented.
180. Although no specific comments on the draft harvest strategy was made, the concept of how the harvest strategies guide the way TACs are sustainably set in the TRL Fishery was well received.
181. Attendees were advised as to how they can make a submission in response to the public call for comment.
182. The discussion on harvest strategies was followed up with a comprehensive presentation from Dr Eva Plaganyi from CSIRO on the science that underpins the management of the TRL Fishery in the Torres Strait. The group spent some time discussing the life cycle of TRL, in particular how the level of recruitment of young TRL is heavily influenced by environmental factors and not just fishing pressure.

Western Line Closure

183. AFMA introduced the proposal to remove the Western Line Closure and shared some of the diverse views already shared by other communities during previous consultations, in particularly the potential interplay between TRL and coral trout. In consideration of these issues, there was general support for the closure removal in principle through a show of hands. No firm opposition to the proposal was expressed. A TSRA Ranger advised that further discussions needed to be had within the Mabuiag community, particularly with the islands' elders.

Licensing

184. A number of licencing queries and applications were made, as well as queries about holding a TIB licence without a boat.

185. Some community members expressed frustration with the difficult in getting sign off from both their local Councillor and the Regional Island Council Mayor on Traditional Inhabitant ID forms.

Summary of Action Items

Description	Status	Comment
AFMA to follow up with TSRA regarding the status of proposed iPads for electronic reporting	Ongoing	AFMA has raised this with the TSRA Fisheries Program and is awaiting further advice.
AFMA to clarify and report back to Hilda Mosby about when the Western Line Closure came in to place.	Complete	Advice was provided to Ms Mosby via email on 15 July 2019.
AFMA to follow up with TSIRC Mayor Gela's office regarding outstanding Traditional Inhabitant ID Forms.	Ongoing	Mayor Gela's office has advised that all TIB ID applications should be sent directly to Ursula.nai@tsirc.qld.gov.au or through a local TSRIC office who can pass it directly to Mayor Gela's office.
AFMA to raise the issue of TVH licences held in trust and associated monies with TSRA Fisheries Program ahead of their community visits in May	Complete	The TSRA Fisheries Program has been made aware of this issue.
AFMA to develop and disseminate more information about authorised Registered Agents to communities.	Ongoing	AFMA has drafted some materials regarding this topic.
AFMA to report back to Patrick Bonner about the membership of the TSRA board subcommittee working on the Fisheries Entity project	Complete	Advice on the membership of the Entity project was provided on 27 June 2019 via email
AFMA to report back to Poruma fishers about whether there any TIB operated finfish sunset licences.	Complete	Advice on the membership of the Entity project was provided on 27 June 2019 via email
AFMA to provide clear guidance on whether TIB licences can be issued without a boat.	Ongoing	AFMA is seeking legal advice on this matter
AFMA to follow up with Patrick Bonner with details of who sits on the Poruma fisheries association and their contacts.	Complete	Nil.
AFMA to provide Malu Lamar with details of FRAG/FWG consideration of sustainability impacts of removing the western line closure	Complete	Copies of relevant meeting papers and meeting records of both FRAG and FWG meetings where the WLC was discussed was circulated to Malu Lamar via email on 27 June 2019
AFMA to assess whether the data summaries from the 2011 hookah developmental permit can released to communities.	Ongoing	AFMA is seeking advice on this matter.

Description	Status	Comment
AFMA to provide copies of the Beche-de-mer Species ID Guide books to Michael Bond, Councillor of New Mapoon.	Complete	Guides were posted on 28 June 2019.
AFMA to send copies of the Beche-de-mer Species ID Guide to the Ipima Ikaya Secretary, Amanda Ewart.	Complete	Guides were posted on 24 May 2019.

Attendance Lists

Table 2. Masig (Yorke) Community attendance list

Name	Organisation
Charles Asai	
Francis Nai	TSRA Land & Sea Management Unit – Ranger
Gabriel Nai	Police Senior Sargent
Hilda Mosby	Kulkalgal PZJA Traditional Inhabitant Member on Finfish Working Group
Laskem Samuel	My Pathway
Leroy Kris	My Pathway
Loretta Adidi	My Pathway
Mary Lowatta	My Pathway
Ned Mosby	IBIS
Ned Mosby	Masig PBC Deputy Chair
Paul Lowatta	My Pathway Fisher Kulkalgal PZJA Traditional Inhabitant Member on Finfish Resource Assessment Group
Percy Misi	My Pathway
Samson Mosby	My Pathway
Simon Naawi	TIB Licence Holder
William F Mosby	My Pathway/Fisher
Willie Gamia	TIB Licence Holder

Table 3. Erub (Darnley) Community attendance list

Name	Organisation
Amina Ghee	
Bert Matysek	Erub Fisheries Management Association
Chris Sailor	Erub Freezer
Dan Sailor	Finfish rep (Erub)
Eddie Savage	Erubam Le PBC
Harry Ghee	Torres Strait Island Regional Council
Jimmy Gela	Erubam Le PBC
Les Pitt	PZJA Traditional Inhabitant member for Kemer Kemer Meriam on TRL Working Group and Resource Assessment Group.
Mary Savage	
Michael Passi	Mike Passi Divers PZJA Traditional Inhabitant member for Kemer Kemer Meriam on Hand Collectables Working Group
Rocky Stephen	Brother Bear Fisheries PZJA Traditional Inhabitant member for Kemer Kemer Meriam on Finfish Resource Assessment Group and Working Group
Yana Gesa	

Table 4. Boigu Community attendance list

Name	Organisation
Kada Tom	My Pathway
Keith Pabai	PBC Chair
Pabai Pabai	My Pathway
Robert Gizu	My Pathway
Wusuru Wurukii	My Pathway

Table 5. Poruma (Coconut) Community attendance list

Name	Organisation
David Mari	Boat Decky
Douglas Gaidan	Builder
Francis Clark	Fisher
Francis Pearson	Poruma Councillor
Frank Fauid	TSRA Board Member PBC Chair
Gibson Billy	Fisher
Harry Ketchell	Builder
Joseph Pearson	Builder/Fish Receiver
Lawrence Mosby	Fisher
Nicholas Pearson	Fisher
Patrick Bonner	Fisher/Fish Receiver
Timothy Fauid	Fisher
Victor Billy	Fulltime diver
Wrench Larry	Fisher/Fish Receiver
Yessie M Pearson	Fisher

Table 6. Badu Community attendance list

Name	Organisation
Anthony Garnier	My Pathway
Barry Nona	Police Liaison Officer
Dick Williams	TSRA Ranger
Edmund Tamwoy	Fish Receiver
Emmanuel Simitzis	Australian Live Seafood
Frank Loban	PZJA Traditional Inhabitant Member for Maluialgal
George Asse	
Gerald Bowie	TSRA Ranger
James Ahmat	PZJA Traditional Inhabitant Member for Maluialgal
Jermaine Ruben	
Maluwap Nona	Chairperson of Malu Lamar
Philemon Nona	
Phyllis Tamwoy	
Troy Stow	TSRA Ranger
Youngas Bowie	Fish Receiver

Table 7. Ugar (Stephen) Community attendance list

Name	Organisation
Alapasa Panuel	Sol Fishers
Jennie Morris	
Michael Passi	Mike Passi Divers PZJA Traditional Inhabitant member for Kemer Kemer Meriam
Pau Stephen	Brother Bear Fisheries Biosecurity
Robert Modee	
Rocky Stephen	Brother Bear Fisheries PZJA Traditional Inhabitant member for Kemer Kemer Meriam
Victor Morris	
William Stephen	Sol Fishers

Table 8. Warraber (Sue) Community attendance list

Name	Organisation
Aken Baragud	TSRA Ranger
Alfred Billy	My Pathway
Boggo Billy	My Pathway
Elizabeth Mari	My Pathway
Ettie Gela	Torres Strait Island Regional Council
Ewelu Mene	My Pathway
Harold Pearson	Macoy Enterprise/TSIRC
Ian Larry	My Pathway
James Billy	Torres Strait Island Regional Council
James Bob	My Pathway
John Bob	My Pathway
John Bowie	My Pathway
John Larry	My Pathway
Joseph Mari	My Pathway
Kabay Tamu	Warraberalgal PBC Chair
Laura Pearson	Macoy Enterprise/TSRA Ranger
Nasona Bob	My Pathway
Nathan Pearson	Torres Strait Island Regional Council
Pattison Larry	My Pathway
Paul Mari	My Pathway
Peter Bob	Torres Strait Island Regional Council
Yessie Pearson	My Pathway
Young Bob	TSRA Ranger

Table 9. Mer (Murray) Community attendance list

Name	Organisation
Beimop Tapim	PBC
Ben Barsa	Fisher
Cyril Gabey	Gelam Tail Seafoods
Falen D Passi	PBC Chair
Fraser Wailu	Fisher/diver
Gawomi Passi	MDW Fishers
James Zaro	Fisher
John K Tabo	MDW Fisheries TSRA Fisheries Quota Management Committee PZJA Traditional Inhabitant member for Kemer Kemer Meriam
John S Tabo	PBC
Lyall Kelly	Fisher
Michael Passi	Mike Passi Divers PZJA Traditional Inhabitant member for Kemer Kemer Meriam
Nakimie Maza	Fisher/diver
R M Kaigey	
Rocky Stephen	Brother Bear Fisheries PZJA Traditional Inhabitant member for Kemer Kemer Meriam
Sabu Wailu	Fisher/diver

Table 10. New Mapoon Community (NPA) attendance list

Name	Organisation
Aaron Bamaga	
Albert Bond	
Billy Daniel	
Daniel Sebasio	
James Bond	
Mervyn Bond	
Michael Bond	Northern Peninsula Area Regional Council
Trevor Lifu	

Table 11. Injinoo Community (NPA) attendance list

Name	Organisation
Amanda Ewart	Ipima Ikaya RNTBC
Jerry Songoro	
Manihera Blarrey	
Nicolas Thompson	Deputy PBC Chair, Ipima Ikaya RNTBC
Roger Williams	

Table 12. Thursday Island (Torres Shire) Community attendance list

Name	Organisation
Charles David	
Graham Hirakawa	Fisher
Koro Samai	Fisher
Ned David	Gur A Baradharaw Kod Land and Sea Council (GBK)
Richard Takai	Fisher
Sandie Edwards	Torres Straits Seafood
Tony Shibasaki	Fisher
Yacoba	Fisher

Table 13. Mabuiag Community attendance list

Name	Organisation
Desmond Kris	
Deusia Ware	My Pathway
Douglas Bani	My Pathway
Evrardus Kaise	
Flora Warrior	TIB licence holder
Frank Whap	Community member
Gibson Joe	My Pathway
Harry Kris	
Jack Whap	My Pathway
Jimmy Kris	
Kadiab Gizu	Fisher
Noel Misi	My Pathway
Patrine Misi	
Phillip Billy	
Phillip Kepi	
Ricky Gizu	My Pathway
Ryan Kris	
Sarion Bani	My Pathway
Ted Whap	TSRA Ranger
Thomas J Holland	
Thomas Mene	Fisher
Tigi Bani	
Tyrus Fujii	My Pathway
William Gizu	Fisher
William Misi	My Pathway

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
MANAGEMENT AND SCIENCE Australian Spanish mackerel stock assessments	Agenda Item No. 4.2 FOR DISCUSSION

RECOMMENDATIONS

That the Finfish Resource Assessment Group:

1. **NOTE** an overview of Spanish mackerel stock assessment and trends in catches from other Australian mackerel fisheries including East Coast (Queensland and New South Wales), Gulf of Carpentaria, Northern Territory and Western Australia.

2. **NOTE** presentations from FFRAG invited participants Dr Stephen Newman (Principle Research Scientist WA Department of Primary Industries and Regional Development) and Mark Grubert (NT Department of Primary Industry and Resources) (please note final confirmation of attendance is pending).

KEY ISSUES

1. In considering the results of the Spanish mackerel stock assessment update in 2019, the FRAG noted that the stock biomass is on a down cycle with catch rates declining since 2010-11. The FRAG noted that the decline may be associated with factors other than fishing. It was further noted that similar unexplained declines over the last four to five years were reported for other Spanish mackerel stocks in Western Australia, Northern Territory and Queensland suggesting that broader environmental factors could be driving trends in these fisheries.

2. To assist the FRAG understand and explore possible trends in Spanish mackerel stocks across northern Australia AFMA has invited two research scientists from Northern Territory and Western Australian state government fisheries agencies to the meeting. The scientists will provide an assessment overview for Spanish mackerel stocks in their jurisdictions. Please note AFMA is still working with the State agencies to confirm attendance).

3. Along with *ABARES Annual Fishery Status Reports* which evaluate trends and the outlook for Australian commercial fisheries (http://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status-2019), the *Status of Australian Fish Stocks* is a valuable online resource that brings together available biological, catch and effort information for a range of Australian wild capture fish stocks. A summary of Spanish mackerel is available here: https://www.fish.gov.au/report/253-Spanish-Mackerel-2018 and the site examines stock status across five Australian fisheries (**Table 1** below).

Table 1. Stock status determination for Spanish mackerel stocks across Australian commercial fisheries.

Stock status determination				
Jurisdiction	**Stock**	**Fisheries**	**Stock status**	**Indicators**
Commonwealth	Torres Strait Spanish Mackerel Fishery	TSFF	Sustainable	Biomass, fishing mortality, catch and effort
New South Wales, Queensland	East Coast	OTLF, ECSMF	Sustainable	Biomass, fishing mortality, catch, effort, catch rate, length and age structure, TAC
Northern Territory	Northern Territory	DF, ONLF, SMF, ACL	Sustainable	Biomass
Queensland	Gulf of Carpentaria	GOCIFFF, GOCLF, GOCDFFTF	Sustainable	Catch, effort, catch rate, fishing mortality, length and age structure
Western Australia	Mackerel Managed Fishery	MMF	Sustainable	Catch, catch rate, SimpleSA

ACL Aboriginal Coastal License (NT)
DF Demersal Fishery (NT)
ECSMF East Coast Spanish Mackerel Fishery (QLD)
GOCDFFTF Gulf of Carpentaria Developmental Fin Fish Trawl Fishery (QLD)
GOCIFFF Gulf of Carpentaria Inshore Fin Fish Fishery (QLD)
GOCLF Gulf of Carpentaria Line Fishery (QLD)
MMF Mackerel Managed Fishery (WA)
ONLF Offshore Net and Line Fishery (NT)
OTLF Ocean Trap and Line Fishery (NSW)
SMF Spanish Mackerel Fishery (NT)
TSFF Torres Strait Finfish Fishery (CTH)

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
MANAGEMENT AND SCIENCE **Use of Vessel Monitoring Systems to support Finfish Fishery data needs**	**Agenda Item 4.3** **FOR ADVICE**

RECOMMENDATIONS

1. That the Finfish RAG **DISCUSS** and **PROVIDE ADVICE** on the potential scientific benefits from using Vessel Monitoring System data to address data needs in the Finfish Fishery such as stock assessments.

KEY ISSUES

1. FFRAG are asked to provide advice on how VMS may potentially be used to support scientific understanding, stock assessments and address data needs in the Torres Strait Finfish Fishery including any advice on costs and benefits and comparison to other potential options.
2. Vessel Monitoring Systems (VMS) are used by AFMA for the delivery of near real time vessel information though satellite communications on all Commonwealth endorsed fishing vessels and have been mandatory on all licenced primary and carrier vessels fishing in the Torres Strait Protected Zone since 1 July 2017.
3. FFRAG has previously identified (in the context of the coral trout stock assessment delivered at FFRAG 4, 12-13 March 2019) that limited information is available on areas fished by tenders associated with primary boats in the reef-line sector, mainly targeting coral trout. While location of the primary vessel is recorded in the daily fishing logbook, industry advise that the tenders for these vessels do roam over a broad area and may fish at a number of coral bombies prior to returning to the primary vessel.
4. FFRAG 1 meeting identified that spatial data for Spanish mackerel catches has had limited utility in past assessments and recommended an action to address this data need would be to consider how VMS data might be analysed for stock assessment purposes (see Agenda Item 5.4, Table 2).
5. QDAF have advised that VMS data have been successfully used to address data needs in the east coast Scallop Trawl fishery. Since the year 2000, VMS data have been used by scientists in assessing the scallop fishery and has been used to identify hot spots of scallop abundance to inform the model which would be challenging to capture through a paper logbook. VMS data on place and duration of fishing effort from each scallop trawl vessel is correlated against reported catch in an assessment model.
6. Globally, data scientists and researchers are developing algorithms which, for example, can use VMS data alone to identify ship positions that are indicative of fishing vessel type and activity.
7. VMS technology has recently advanced to the point where small mobile units can cost effectively be fitted to tenders. This technology is a requirement on all QDAF managed commercial tender vessels and is in the process of being rolled out. No PZJA consideration has been given to the use of VMS on tenders in Torres Strait fisheries; such a decision would need to take in to account a broader range of considerations such as implementation costs across all licence holders.

TORRES STRAIT FINFISH RESOURCE ASSESSMENT GROUP	Meeting 5 31 Oct – 1 Nov 2019
RESEARCH Outcomes from Torres Strait Scientific Advisory Committee (TSSAC)	Agenda Item 5.1 For INFORMATION

RECOMMENDATIONS

1. That the Finfish RAG **NOTE** the outcomes of the recent TSSAC annual research cycle.

KEY ISSUES

1. In December 2018, the TSSAC released a call for research, which included 7 scopes for proposed projects. Two additional projects (8 and 9 in **Table 1**) were funded however didn't go out through the call as there were existing contractors who would undertake this work.

2. Nine projects were recommended for funding, and funded through AFMA and TSRA budgets. Copies of each funding application can be provided upon request. The meeting record from this TSSAC meeting is available online here: https://www.pzja.gov.au/pzja-and-committees/what-pzja-committees-exist-and-who-are-the-members/torres-strait-scientific-advisory-committee-tssac

3. The AFMA funded projects have fully committed AFMA research funds for 2019-20, and approximately $365,000 (of a possible $411,000) for 2020-21. This leaves the TSSAC with approximately $45,000 for any urgent tactical research projects during the upcoming 2020-21 financial year.

4. Updates on funded projects relevant to the Finfish Fishery will be provided at agenda items 5.2.1 through 5.2.3 and the FFRAG will discuss and provide advice on an updated five year research plan for the Fishery at agenda item 5.4.

Table 1. Outcomes of TSSAC research funding round for 2019/20.

Research Projects	Fishery research is relevant to	Was the project recommended by the TSSAC for funding?	Has the project been funded?
1. Fishery independent survey, stock assessment, Harvest Strategy and Recommended Biological Catch calculation for the Torres Strait Tropical Rock Lobster Fishery.	Tropical Rock Lobster	Yes	This project has been funded by AFMA and contracted.
2. Spanish mackerel stock assessment	Finfish	Yes	This project has been funded by AFMA and contracted.
3. Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment.	Finfish	Yes	This project has been funded by AFMA and contracted.
4. Climate variability and change relevant to key fisheries resources in the Torres Strait — a scoping study	All fisheries	Yes	This project has been funded by AFMA and contracted.
5. Torres Strait Sea Cucumber Stock Status Survey	Beche-de-mer	Yes	This project has been funded by TSRA and contracted.
6. Measuring non-commercial fishing (indigenous subsistence fishing and recreational fishing) in the Torres Strait in order to improve fisheries management and promote sustainable livelihoods	All fisheries	Yes	This project has been funded by TSRA and contracted.
7. Management Strategy Evaluation of Torres Strait Finfish Harvest Strategy	Finfish	No. This project was not supported at this time, as it wasn't considered cost effective. The TSSAC recommended the RAG consider other more cost effective methods for achieving the same result for future funding.	This project has been funded by AFMA and contracted.

PROJECTS FUNDED WHICH WERE DIRECT SOURCED DUE TO THE LOW BUDGET AND SPECIALIST EXPERTISE			
8. Management Strategy Evaluation (MSE) for the Torres Strait Prawn Fishery harvest strategy	Torres Strait Prawn	Yes	This project has been funded by AFMA and contracted.
9. Ecological Risk Assessment (ERA) for the Torres Strait Beche-de-mer Fishery	Beche-de-mer	Yes. Although this is a mandatory project required by AFMA.	This project has been funded by AFMA and contracted.

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
RESEARCH Research updates: Enhancing biological data inputs to the Torres Strait Spanish mackerel stock assessment	Agenda Item 5.2.1 FOR INFORMATION

RECOMMENDATIONS

1. That the Finfish RAG **NOTES** an update on the jointly AFMA and TSRA funded project *Enhancing biological data inputs to the Torres Strait Spanish mackerel stock assessment (Project Number 2019/0832)* (full proposal at **Attachment 5.2.1a**).

BACKGROUND

2. The project aims to work with indigenous and non-indigenous commercial fishers to assist with the collection of information on the age, sex and length of commercially caught Spanish mackerel from Torres Strait during 2019 and early 2020. This information will be used to support the 2020 scheduled stock assessment. The project is aiming to sample 50 catches (around 1500 length measurements) and up to 500 otoliths from a range of areas across Torres Strait.

UPDATE

3. A project team (Jo Langstreth, QDAF Fishery Monitoring Program, Dr Michael O'Neill (QDAF stock assessment team), AFMA, TSRA) has been formed consisting of the project co-investigators. Two project team meetings have been conducted (08/07/19 and 08/08/19) to discuss project progress and discuss and decide on the design and logistics of sampling from both the Indigenous and non-Indigenous (sunset) commercial fishing sectors.
4. A project flier has been developed and distributed in communities (**Attachment 5.2.1b**).
5. Non-Indigenous (sunset) fishers have been consulted on the project and engaged to participate in the sample and data collection for the project. Sampling kits and instruction have been provided to non-Indigenous fishers that have commenced fishing for the season. These fishers have commenced collecting samples and data using the sampling kits provided.
6. The project team have held initial community workshops on Erub (17 September 2019), Masig (19 September 2019) and Ugar (9 October 2019) to engage with key island contacts, fishers, staff at freezer facilities and other interested community members. The workshops were well attended by community members and feedback was positive on videos showing how the science is used to support management and how the lab processes samples. Several interested fishers have signed up to help the project collect length-frequency information and otoliths. Interested fishers were provided with hands on training on collecting samples (4 of the 5 sunset licence holders and 7 fishers from across Erub, Masig, Ugar requested and were issued with sampling kits).
7. Collection of samples and data from sunset fishers has commenced with samples received by the QDAF Fishery Monitoring Program laboratory. Some processing of these samples has started with length, sex and catch information recorded and otoliths removed for ageing of these initial samples. As of 16 September 2019, 304 length frequency measures from seven catches have been received along with 67 otoliths. Sampling and processing will continue into the first half of 2020 with an end date of 1 June 2020.

Torres Strait Scientific Advisory Committee research application

Please indicate the type of application you are submitting – an EOI in response to a call for research; or a full proposal in response to TSSAC advice that your initial application has been approved for further development:

	Pre-proposal (Please complete Sections 1-4 inclusive)
Y	**Full Research Proposal** (Please complete sections 1-8)

SECTION 1 - ADMINISTRATIVE SUMMARY

Project title: Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment

Applicant (organisation or person): Queensland Department of Agriculture and Fisheries

Contacts

Administrative

Title/Name:	Malcolm Pearce	Phone:	07 4241 1277
Position:	Manager	Email:	Malcolm.Pearce@daf.qld.gov.au
Organisation:	QDAF	Postal	PO Box 5396, Cairns, QLD 4870

Principal Investigator (person)

Title/Name:	Joanne Langstreth	Phone:	07 4241 1245
Position:	Fisheries Biologist	Email:	Joanne.langstreth@daf.qld.gov.au
Organisation:	QDAF	Postal	PO Box 5396, Cairns, QLD 4870

Co-investigator (s):

Title/Name:	Dr. Michael O'Neill	Phone:	07 5381 1349
Position:	Principal Fisheries Scientist	Email:	Michael.O'Neill@daf.qld.gov.au
Organisation:	QDAF	Postal	PO Box 5083, Nambour, QLD 4560

Co-investigator (s)

Title/Name:	Allison Runck	Phone:	07 4069 0700
Position:	Fisheries Project Manager	Email:	Allison.Runck@tsra.gov.au
Organisation:	TSRA	Postal	PO Box 261, Thursday Island QLD

Co-investigator (s)

Title/Name:	Andrew Trappett	Phone:	07 4069 1990
Position:	Senior Fisheries Manager	Email:	Andrew.Trappett@afma.qld.gov.au
Organisation:	AFMA	Postal	GPO Box 46, Brisbane, QLD, 4001

Co-investigator (s)

Title/Name:	Tom Roberts	Phone:	07 3087 8071
Position:	Fisheries Manager	Email:	Tom.Roberts@daf.qld.gov.au
Organisation:	QDAF	Postal	GPO Box 46, Brisbane, QLD, 4001

Planned Start and End Date

Start Date: 1 July 2019 End Date: 01 June 2020

SECTION 2 – PROJECT DESCRIPTION

PROJECT BUDGET: (Excluding GST)

Financial Year	AFMA	Applicant (in kind)	Appli	Other
2019-20	$79,400	$35,409		$30,000 TSRA *2 x workshops on 4 island communities (travel)*
Totals	$79,400	$35,409		$30,000

SECTION 3 – PROJECT DESCRIPTION

Background and need (max 250 words) - *detail any important background relating to the project. Why it is important and being proposed (need). Any related projects or other information the TSSAC should know when considering it for funding.*

The Torres Strait Spanish mackerel stock assessment is based on commercial catch rate data. However, the data that provide important insights into the status of the stock and catch at age, in particular, have not been reviewed for several years and catch rates appear to be declining in recent seasons. Consequently, there is need to include more up-to-date ageing and length-frequency data from fishery catches into the stock assessment that informs management and the setting of a Recommended Biological Catch for the fishery. A targeted and cost-effective sampling program for ageing and length-frequency data needs to be designed and implemented. The samples are to be processed and data delivered to AFMA for incorporation into future stock assessments. Queensland Department of Agriculture and Fisheries has conducted biological monitoring of stocks of Spanish mackerel for 20 years including previous monitoring in the Torres Strait and can readily implement biological sampling in the Torres Strait fishery.

Objectives / performance indicators (max 250 words) - *list the major objectives or planned outcomes of the project. These will form your project milestones:*

In agreement and collaboration with the AFMA and the Torres Strait finfish stock assessment team:

Phase 1

- Design a cost effective and efficient sampling design to collect the required fishery dependent biological data streams from fishers (ageing data and length frequency analysis) for informing advice on stock status and catch limits for Spanish mackerel in the Torres Strait.

Phase 2

- Engage with non-indigenous and indigenous fishing sectors to collect fish length measurements to determine length-frequency. Collect and process fish specimens and conduct ageing of fishes sampled as per existing standardised Spanish mackerel ageing protocols and quality assured methodologies.
- Delivery of age- and length-frequency, plus an associated report, to AFMA within an agreed time frame.

The project would address concerns outlined in the recent stock assessment (O'Neill & Tobin 2016) that sampling recorded mostly younger fish (2+ to 4+ year olds) with up to 10 years old recorded, however potential for older fish in the population may be present in other regions of the Torres Strait.

The project will deliver on the objectives within the 2019-20 year.

The project will focus on sampling from the traditional inhabitant (TIB) and commercial sunset fishers (TVH) to deliver on the project objectives for length frequency that is spatially and seasonally representative of the fishery, and the collection and ageing of samples for ageing (otoliths).

Alternatively, Option 2 involves additional funding from TS SAC in the 2020-21 year to deliver on the age frequency data and more comprehensive final report.

The length and age frequency information will be supplied to the Torres Strait stock assessment project that will utilise the data.

Milestones in Section 4 and 5 of this proposal have been amended to an adjusted total budget of $ 79,400. The additional milestone to cover the ageing of samples and a more comprehensive analysis and report has been added.

Consultation and Engagement - *Note consultation is required for both the pre- and full-proposal phases for TSSAC projects. This differs from AFMA Research Committee Proposal requirements.*

Pre-proposal phase consultation
Briefly detail (this will form the skeleton of your community engagement strategy which must be developed as part of full proposal phase):

- *the areas in the Torres Strait region where the proposed research activities may occur*
- *the Torres Strait community groups or individuals that you will engage/involve from these areas in the development of and or during the project if it reaches full proposal phase (refer to Step 2 of Attachment A - Procedural Framework for Researchers in the Torres Strait).*
- *how you plan to engage/involve key stakeholders (e.g. community notices, telephone, email, employment, interviews, meetings, workshops) in the project development. Note, any potential fee for service rates need to be factored into your research project budget.*

Previous biological monitoring (2000-2002) that focused on the main fishery grounds around Bramble Cay determined length-age that was spatially and seasonally representative of the main commercial fishery. Recommendations from the recent stock assessment (O'Neill and Tobin 2016) include long-term monitoring that is spatially representative of the Torres Strait to determine the length-age frequency of the Spanish mackerel population across the Torres Strait, which is additional to previous spatial sampling. The research will aim to collect data and samples from catches across the main fishing grounds including Bramble Cay and from around the eastern islands (Erub, Ugar, Mer and Masig noting 10 nm radial closures exclude non-indigenous fishers from accessing these parts of the fishery near these communities). Sampling effort will focus on these main geographic regions.

Phase 1 of the project will involve determining a robust sampling design to determine target numbers of samples from the different geographical areas to be sampled and appropriate sampling strategies. AFMA, the Torres Strait finfish stock assessment team, and PZJA committees will be consulted during development of the sampling design. The design will involve a number of sampling strategies and the strategies applied will be influenced by the level of participation of the fleet and additional support through industry stakeholders.

Phase 1 will require engagement with island freezer facilities currently in operation (Erub) and also other freezer facilities expected to come online or where commercial TIB fishing activity is focused (Mer, Masig, Ugar) and Fisherman's Associations (Erub Fisherman's Association) and businesses. Engagement with island councils and body corporates will be conducted to communicate the activities involved in the project and the presence of project staff in the Torres Strait including attending and presenting on project activities at community meetings and AFMA visits to the islands. Engagement with commercial TVH fishers and TIB fishers will occur via phone calls, AFMA text message fishery alerts and face-to-face port meetings during both phases of the project.

Phase 2 of the project will involve working with fishers to collect fish length measurements that can be used to determine length-frequency, as well as collecting and processing fish specimens for ageing of fishes sampled.

Consultation and engagement cont.

The research project team will work with and seek advice from PZJA consultative committees that work within the guidelines for research ethics outlined in the Procedural Framework for Researchers in the Torres Strait 2018 document. These consultative committees (chiefly Finfish Resource Assessment Group and Finfish Working Group) have Traditional Inhabitant Industry Members whose role is to provide expert advice to the PZJA from communities actively engaged in finfish fishing. A detailed stakeholder engagement strategy will be developed and initial consultation conducted and reported on in the full proposal.

O'Neill, MF, and Tobin, A. (unpublished), *Torres Strait Spanish mackerel stock assessment II, 2015.* Torres Strait AFMA Project Number: RR2014/0823, Department of Agriculture and Fisheries, Queensland Government.

*If there has been any initial consultation and engagement outline with whom and key outcomes (note consultation is **not** necessary at the EOI stage but has sometimes occurred through existing relationships).*

'as per pre-proposal'
This pre-proposal has been developed in consultation with a number of key stakeholders. Andrew Trappett from AFMA provided advice on the project requirements, fishery data needs and fishery operations. Discussions with stock assessment scientist Dr. Michael O'Neill have taken place regarding data requirements and monitoring recommendations from the recent TS Spanish mackerel stock assessment (O'Neill and Tobin 2016).
David Brewer (David Brewer Consulting) was also consulted on the proposed project application.
Initial inquiries with Allison Runck from the TSRA Fisheries portfolio and Kenny Bedford Erub Fisheries Association will need to be followed up to discuss potential involvement.

Full proposal consultation and engagement

In accordance with the Procedural Framework for Researchers in the Torres Strait (Nakata 2018; Procedural Framework), the TSSAC full proposal requires two different aspects be completed.

1. Develop a stakeholder engagement strategy, including a plain-English community consultation package which should be used to undertake preliminary consultation with relevant stakeholders as part of your full proposal application. Follow instructions in Appendix 4 of the procedural framework (Attachment A).

2. Provide documentation and outcomes from the preliminary consultation and engagement conducted, including:

- *The level of stakeholder support – particularly from Traditional Inhabitants for the proposed work (include a list of who was contacted and whether they support the project, or if not, why).*
- *Any perceived risks or stakeholder considerations with the project.*
- *How traditional knowledge might be considered or incorporated to enhance the project, its outcomes and benefits.*

- *Any activities suggested by Traditional inhabitants to improve the project, or bring it into alignment with community needs.*

Stakeholder support

The need for biological length-age data from the Torres Strait Spanish mackerel fishery has been discussed at a number of FRAG Finfish RAG (FRAG 1, 9-10 Nov 2017)(FRAG 3, 19-20 Nov 2018)(FRAG 4, 13—14 Mar 2019) and FWG meetings, and is identified in the 5-year strategic research plan as a research need to inform the stock assessment and for future catch setting. This is particularly important in light of the apparent decline in abundance suggested by the available fishery-dependent Catch Per Unit Effort series. FRAG meeting records available here: https://www.pzja.gov.au/torres-strait-finfish-groups

The TSRA has voiced a strong support for the project and Allison Runck (TSRA) is also a co-investigator on the project. In-kind support has been offered by the TSRA to arrange and fund a series of 2 fisher workshops on four island communities (on project initiation and follow-up meeting).

AFMA is supportive of the project and has offered in-kind staff time of Mr Andrew Trappett, Torres Strait Finfish Fishery Manager in a stakeholder liaison and data services role. AFMA are able to support stakeholder engagement with the project through their existing stakeholder communication channels: txt message fishery alerts, community notices, PZJA webpage, stakeholder letters, community visits and local radio spots.

Rocky Stephens (FFRAG, FW, and TSSAC member) (Ugar) is strongly supportive of this project going ahead.

Kenny Bedford (FFRAG member) and previous Erub Fisherman Association President (Erub) is aware of this proposal and supports it. He has suggested the Erub freezer is an ideal target point for this purpose with the required endorsement and cooperation of EFMA.

Andrew Trappett has consulted with Erub community members at industry meetings in April 2019 and members were supportive of the project. Bert Matyschek at the Erub community freezer was consulted on the project and the likely methods for sample collection at the freezer facility. He is supportive of the project and feedback received indicates he feels the sampling is feasible.

All 21 PBCs and 13 council members identified by AFMA have been notified via email and sent the project summary approved by AFMA (Lisa Cocking) and invited to contribute feedback on the proposed project. Jimmy Gela (Erub) supports the project and has advised that Erub mackerel fishers have agreed to assist. Further feedback received from this consultation will be provided.

FQMC and Finfish RAG/WG members have also been notified via email and sent the project summary and invited to contribute feedback on the proposed project. Further feedback received from this consultation will be provided.

Stakeholders will be clearly advised that their data supplied to support the project will be treated as commercial-in-confidence, will be housed securely, will not be publically accessible and will not be reported at a level which will enable any individual fishing businesses catch and effort to be discernible in the reported data.

Dr. Michael O'Neill (Principal scientist for the TS Spanish mackerel stock assessment) – was consulted on the sampling design and suitable minimum sample sizes. He supported the project methodologies proposed here and initial proposed sample sizes.

Perceived risks/considerations identified by stakeholders
There are no identified perceived risks or considerations that have been identified to date.

Traditional knowledge
The project will involve working with Traditional Inhabitants to collect length information and samples for ageing. Traditional knowledge of the size structure and temporal and spatial trends in the catch of Spanish mackerel over time as well as any other biological information may be used to interpret length and age information collected during the project.

Suggested improvements by Traditional Inhabitants
There were no suggested improvements by Traditional Inhabitants identified to date.

Benefits to Traditional Inhabitants
The project will provide fish length and age information from fishery catches and will be included in an update of the stock assessment for Torres Strait Spanish mackerel. This additional information will provide important insights into the length and age structure of fish being caught across different areas of the fishery and will be used to compare to previous information collected (2000-2002). Data from this project may provide more certainty in the catch levels that are set as a result of future stock assessments. This will assist the long term health and sustainability of the fishery and will help to maximise the catch that can be taken in the fishery. Project staff will engage with Traditional Inhabitants to advise of the project, and there will be opportunities for fishers and staff at community freezer facilities to be involved in collecting data and fish samples. There will be options for small payments (based on number of samples collected or catches measured) to cover the time contribution of collecting samples and information and utilisation of freezer space for storage.

The Spanish mackerel fishery is 100% owned by traditional inhabitants. Due to the current uncertain status of the stock and low information, the TAC has reduced over the last three years from 187 tonnes to 82 tonnes. This is a significant reduction in the value of this fishery and this project will provide important information about stock status to improve the setting of catch levels in the fishery that are sustainable and maximise the fishery's long- term value.

- *How the research outcomes will benefit Traditional Inhabitants directly or indirectly, or why it is not relevant/ applicable (i.e. projects in the prawn fishery).*

Attach the stakeholder engagement strategy (which should have been updated as required following initial consultation) with your full proposal application.

Methods (max 250 words) – *Please detail the basic methods that will be used to undertake this project.*

Phase 1 of the project will involve conducting an evaluation of the options for collecting age-length data using fishery dependent sampling methodologies that can be used to inform stock status and stock assessment processes for Torres Strait Spanish mackerel. A robust sampling design will be developed to determine target numbers of samples from the different geographical areas to be sampled and appropriate sampling strategies to be implemented across different sector groups of the fishery. Analysis of spatial and seasonal trends in reported catch (data to be sourced through an AFMA data request) will be used to ensure that the sampling design is structured to be spatially and seasonally representative of the fishery. A cost effective and efficient sampling design and sampling strategy options will be determined and discussed with project team members for input. Based on request from the TSSAC, the collection of additional information on otolith morphometric data will be reviewed and options will be progressed for the collection of this information by university students as a student project.

Phase 2 of the project will involve implementing a suite of sampling strategies, many of which are currently used by Qld DAF, to sample lengths from representative catches from both TIB and TVH fishers in the Torres Strait. The suitability of these strategies will be assessed in Phase 1 of the project and may focus on catch measuring by fishers at sea (water proof measuring board sheets) and by facility staff at island processor/freezer facilities. For collection of biological samples for fish ageing (and sex) strategies may focus on collection of frames at sea (heads bagged and tagged by fishers) and at freezer/processor facilities.

Biological samples collected by fishers or processor/freezer facilities will be freighted back to DAF's Northern Fisheries Centre (Cairns) laboratories where the processing and ageing of fish would occur. Existing quality-assured methods for ageing Spanish mackerel in neighbouring biological stocks (east coast and Northern Australian stock [Gulf of Carpentaria]) would be applied to determine age estimates from whole otoliths for Torres Strait Spanish mackerel.

Planned outcomes and benefits (max 150 words) – *this should include how the research will be used by management to benefit the fishery and other stakeholders:*

The age-length frequencies will be used to verify length-age trends from early monitoring (2000-2002). Biological data collected in the project will be directly used to inform stock status, mortality estimation, and stock assessment processes for Torres Strait Spanish mackerel. Project results can be used to determine future monitoring options for Torres Strait Spanish mackerel.

Project extension (max 100 words) - *are there possible future research options that could result from this project?*

Aside from on-going biological monitoring of Torres Strait Spanish mackerel in the future, the project could be expanded to collect additional priority information.

This includes collection of genetics samples which could be easily collected during the one-year project and stored for later analysis, requiring low additional resources. Reproductive (macroscopic) staging information could also be collected seasonally and spatially if required and would require additional at-sea monitoring or sample collection.

The sampling methodologies presented here may also be extended to include age-length frequencies of coral trout in the Torres Strait as a possible future extension of this sampling project to determine critical biological data to inform future stock assessments of Torres Strait coral trout.

Risk Analysis - *be sure to consider risks specific to conducting research in the Torres Strait including community support or lack there-of.*

Threat: Low support received by fishing industry and key stakeholders. Initial engagement and ongoing communication with island communities and major stakeholders will reduce the risk in loss of project support. This is minimized by engaging with multiple non-indigenous and indigenous fishers as well as staff at community freezer facilities to sample length-age frequencies that will mitigate the risk of failing due to lack of support as well as provide spatial coverage of samples.

Threat: Key project staff not being available to complete the project. It is unlikely that staff will be unavailable during this one-year project. Contingency: There are opportunities for substitution of staff.

Threat: Health and Safety Issues of staff. Workplace risk assessments and Standard Operating Procedures documents are available and applicable for current Qld DAF staff conducting research and monitoring in remote areas, on commercial fishing operations and in commercial processor facilities. These can be readily applied to project staff working in the Torres Strait.

Related Projects and Research Capacity (max 100 words) - *Are there any past or current projects relevant to this proposal funded through the TSSAC, TSRA, FRDC or other organisation? Outline the Investigators' experience in the proposed research and Torres Strait region.*

Qld DAF has conducted annual biological monitoring of Spanish mackerel stocks for 20 years, collecting length-age information used directly in stock status, stock assessments and fishery management. The monitoring program has well established industry linkages, sampling and analysis methodologies, ageing protocols and reference collections and staff expertise to interpret Spanish mackerel otoliths. The principal investigator has 20 years' experience in long-term biological monitoring including experience coordinating and reporting on biological monitoring and stock status assessments of Spanish mackerel. Co-investigator, Michael O'Neill, a lead stock assessment scientist with QDAF has long term experience in Spanish mackerel stock assessments and fishery harvest strategies, including recent assessments and monitoring recommendations for Torres Strait. His experience will help steer the development of sampling options to meet the specific data needs of future stock assessments for Torres Strait Spanish mackerel.
Co-investigator Allison Runck is the Fisheries Project Manager, TSRA.
Andrew Trappett (AFMA); ten years' experience in fisheries management with AFMA with two years working in Torres Strait. Manager of Torres Strait Finfish Fishery.
Fishery manager Tom Roberts (QDAF) has long-term experience in the management of finfish line fisheries including Spanish mackerel and has well-established linkages with Torres Strait resource working groups and committees.

SECTION 4 - Schedule of Payments

As a general rule, up to 10% of the total project cost may be provided as an initial payment and a minimum of 30% of the total project cost must be left for the final report.

Milestones	Deliverable date (Please refer to instructions)	Schedule of AFMA payment(s) (excluding GST)
Initial payment on signing of contract	01/07/2019	$6,000
Engagement with stakeholders, sampling design determined and sampling kits constructed	30/08/2019	$12,135
Collection and processing of data and samples collected during main fishing season	15/12/2019	$23,865
Ageing of samples and data analysis	31/03/2020	$13,540
Final report	01/06/2020	$23,865
TOTAL		$79,400

SECTION 5 - Description of Milestones

Details on each milestone must provide sufficient information to justify the milestone cost and should match the performance indicators. The description field will describe the work to be completed for that milestone with the justification field elaborating further on the categories of cost - for example salary.

01/07/201901/

Milestone: 1. Initial payment on signing **Date:** 01/07/2019

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$6000.00	$0.00	$0.00	$0.00	**$6000.00**

Description:

Initial payment on signing of contract.

Justification:

Initial payment on signing of contract and project staff time in conducting data collation, any required permits, initial project team planning meetings.

Milestone: 2. Engagement and planning **Date:** 30 / 08 / 2019

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$6,390.00	$2,935.00	$2,810.00	$0.00	**$12,135.00**

Description:

Engagement with stakeholders, sampling design determined and sampling kits constructed

Justification:

Staff time, stakeholder engagement, travel to Torres Strait for initial meetings, operational planning and development of sampling kits, outlining, documenting and discussing the sampling design and methodologies, development of communications items.

Milestone: 3. Sampling conducted through main season **Date:** 15/12/2019

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$12,780.00	$2,935.00	$8,150.00	$0.00	**$23,865.00**

Description:

Collection and processing of data and samples collected during main fishing season. Conducted sampling through the main commercial season with assistance of the TVH and TIB fishers and staff at community freezer facilities. Collected and processed data to date. Brief progress report provided.

Justification:

Staff time, face-to-face meetings and training with fishers, regular contact with fishers and staff at island community freezers, travel to islands, organise fisher payments, logistics for samples and freight, processing fish frames in laboratory and storing of otoliths, data collection, entry, verification and management.

Milestone: 4. Ageing and analysis **Date:** 31/03/2020

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$13,140.00	$0.00	$400.00	$0.00	**$13,540.00**

Description:

Processing of further samples and data collected outside of main fishing season, ageing of otolith samples collected. Data management and analysis. Data and ageing samples provided.

Justification:

Staff time to complete additional lab and data processing of fish samples and data collected outside of main fishing season. Staff time to analyse data to construct length and age frequencies.

Milestone: 5. Final Report **Date:** 01/06/2020

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$23,860	$0.00	$0.00	$0.00	**$23,860**

Description:

Final report within AFMA report template, delivered with brief non-technical summary. Data and ageing samples provided.

Justification:

Staff time to prepare and deliver final report, data and auditing requirements. Present outcomes at stakeholder meetings. Communications materials for feedback.

Section 6 – Special Conditions

If relevant, this field will be used to assist in contract preparation for any special conditions. Examples of special conditions may relate to marine spatial closures (including access) or any other clauses not specifically contained in the contract.

There are no special conditions identified.

Section 7 - Data management

Identify the appropriate Intellectual Property category applicable to this application. Choose ONE from below:

Code	Description
1	Published, widely disseminated and promoted, and/or training and extension provided. Relates mainly to outputs that will be available in the public domain.
2	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that will largely be available in the public domain, but components may be commercialised or intellectual property protected.
3	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that may have significant components that are commercialised or intellectual property protected.

The following IP category applies to this application:

Code 1 applies – Open disclosure will be encouraged as much as possible.

I have searched for existing data (refer to guidelines on how to search the Australian Spatial Data Directory and Oceans Portal):

No. Existing datasets that include spatial, fishery, and biological data for Torres Strait Spanish mackerel have already been identified by AFMA and QDAF agencies and previously utilised in fishery assessments.

Provide a brief description of the data to be generated from the project and how this data will be stored for future protection and access, including:

- information on data security or privacy issues and applying to the data
- Nominated data custodian

Sensitive and confidential data and information collected during the research on the catch and effort and product details of fishers and processors will remain confidential and data entered and stored with QDAF secure databases.

All data supplied by AFMA and other organisations will be stored in a single secure MS Access database that will be stored in the 'Fishery Monitoring Security Group' directory on the DAF server behind a firewall. The AFMA form 'deed of confidentiality' will be signed to cover the authority/access for the PI to analyse the data.

This project will collect biological and catch information from the fishery from the island communities and commercial fishers leasing quota. This will be maintained in a secure location at DAF where it will be stored in the 'Fishery Monitoring Security Group' directory on the DAF server behind a firewall as per any AFMA data sourced.

When the project is complete a copy of the database and data description (meta data) will be made available to AFMA under the 'deed' agreement, to allow future updates and enable the data to be made available for future stock assessment projects. Clear and accurate records will be kept to allow verification, replication and review of the research work. Data will later be provided to stock assessment teams as a data request and data confidentiality will be included in the data request agreement.

Only grouped data from multiple fishers (>5) will be presented and released or made publicly available so that no data or information from any individual or island group may be identified.

- Document how research data, traditional knowledge and intellectual property will be handled during your project, including but not limited to:
- Acknowledging where the data or information used in research comes from, so that any income made from selling a concept in the future will be adequately linked to a community's contribution/ knowledge so they also receive financial or other benefit from "selling" a concept onward.
- How you will negotiate use and publish of traditional knowledge with communities. For example do traditional inhabitants allow public publication of information or only for project activities and reported on in internal reports? This will depend on data sensitivity and privacy (such as fishing grounds etc).
- Are there any other ethical considerations you have identified for this project which need to be managed?
- Are you committed to gaining ethics approval for this project from a suitable body such as a university or AIATSIS?

The data and information collected during the project will be provided to AFMA as the custodians of the data. Information will be summarised as feedback to stakeholders. Appropriate acknowledgements of contributors and funding sources will be made in any reporting and communications. Project staff will ensure that Prior Informed Consent is in place for the acknowledgement, attribution, and citation of local traditional knowledge and fisheries data.

Project staff are aware of and will adhere to the Procedural Framework for Researchers in the Torres Strait and the TSRA Cultural Protocols Guide when planning and conducting work with Traditional Inhabitants. Project staff will work with and seek advice from PZJA consultative committees that work within these cultural guidelines and have established relationships with key Torres Strait island contacts.

Requirements for gaining ethics approvals for working with Traditional Inhabitants will be followed up with AIATSIS and information presented to the next TS SAC meeting.

As mentioned above, confidential data and information, including traditional knowledge, collected during the research on the catch and effort and product details of fishers and processors will remain confidential. Only grouped data from multiple fishers (>5) will be presented, released or made publicly available and will be in a format that ensures that no data or information from any individual or island group may be identified.

Collecting biological data on Spanish mackerel in the Torres Strait

About the research project

Torres Strait Spanish mackerel are harvested from the ocean by line and troll fishing. They are an important traditional food source and income for communities.

The Torres Strait Spanish mackerel commercial fishery is very seasonal. Harvests are mostly taken between September and November from eastern Torres Strait and Bramble Cay waters.

The Protected Zone Joint Authority uses a stock assessment tool to set the amount of fish that are allowed to be caught each year by all fishers across the fishery. The most recent stock assessment for the Torres Strait Spanish Mackerel Fishery shows that catch rates in the fishery appear to be declining.

We need to update the length and age information used in the stock assessment. This information will help us understand more about the Spanish mackerel caught across different fishery areas.

The Department of Agriculture and Fisheries, Australian Fisheries Management Authority and the Torres Strait Regional Authority staff will work with commercial fishers and Torres Strait Islander communities to collect biological data from commercial catches of Spanish mackerel.

The Australian Fisheries Management Authority and the Torres Strait Regional Authority is funding this research.

Project objectives

The project will collect information on the age and length of Spanish mackerel caught by commercial fishers in the Torres Strait during 2019 and 2020. This information will be used in the Spanish mackerel stock assessment.

Research locations

Sampling will focus on the eastern areas of the Torres Strait, where commercial fishing operations target Spanish mackerel.

Project staff will aim to visit Erub (Darnley Island), Masig (Yorke Island), Ugar (Stephen Island), Mer (Murray Island) and Thursday Island to meet with fishers and representatives from fishing groups. They will discuss the project and ask fishers and staff at community freezer facilities to collect data and fish samples during the project period.

Figure 1 A Spanish mackerel

Data collection

The project will involve:

- collecting length, age and sex information of Spanish mackerel from commercial catches
- working with Indigenous and non-Indigenous commercial fishers and staff at community freezer facilities to assist in the collection of length data and fish frame samples. These samples will help determine the length, sex and age of each fish
- a stratified sampling design to make sure most of the fish length, sex and age information is collected at times and places where most of the fish are being caught

- freighting fish frames to Cairns to be processed in the Department of Agriculture and Fisheries Northern Fisheries Centre laboratories. The ear bones (otoliths) will be removed from the fish and used to determine the age of each fish (see Figure 2).

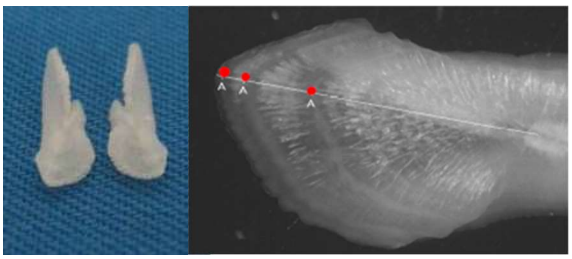


Figure 2 (left) A pair of whole otoliths (ear bones) from a Spanish mackerel

Figure 2 (right) An otolith under a microscope with three annual bands, each representative of a year of life, marked by red dots

Working with fishers and communities

Project staff will talk to Torres Strait Islander communities and fishers about the project. There will be opportunities for fishers and community freezer facilities staff to be involved in collecting data and fish samples.

Figure 3 Scientific staff member removing otoliths from a Spanish mackerel

How will the information be used?

The length, sex and age data will provide important insights into the structure of Spanish mackerel stock caught by the fishery. The data will be incorporated into future Torres Strait Spanish Mackerel Fishery stock assessments.

This project may provide more certainty in the catch levels set by the Protected Zone Joint Authority. This will assist the long-term health and sustainability of the fishery and will help to maximise the catch that can be taken in the fishery.

Summarised results will be available at the end of the project, and presentations will be conducted to communicate the major project findings.

For more information

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joanne.Langstreth@daf.qld.gov.au

Liz McCrudden, Torres Strait Regional Authority:
07 4069 0700
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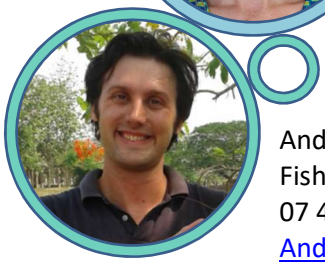

Andrew Trappett, Australian Fisheries Management Authority:
07 4069 1990
Andrew.Trappett@afma.gov.au

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
RESEARCH **Research updates: Torres Strait Spanish mackerel stock assessment with appraisal of environmental drivers.**	Agenda Item 5.2.2 FOR INFORMATION

RECOMMENDATIONS

1. That the Finfish RAG **NOTES**:
    a. an update from project principle investigator Rik Buckworth on the AFMA funded project Torres Strait Spanish mackerel stock assessment with appraisal of environmental drivers (full proposal at **Attachment 5.2.2a**);

    b. that an updated stock assessment for Spanish mackerel is scheduled for FFRAG 6 on 27-28 November 2019.

KEY ISSUES

1. FFRAG are asked to note an overview of the funded project, progress to date and objectives and performance indicators of the project as follows:
    a. Characterise the Torres Strait Spanish Mackerel fishery, reviewing and updating the assessment with 2018-19 and 2019-20 seasons' data, presented at 2019 and 2020 Finfish Fishery Resource Assessment Group (FFRAG) meetings.
    b. Review environmental associations with Torres Strait Spanish mackerel, e.g. by comparing environmental data such as temperature, rainfall, productivity etc, with catch patterns, recruitment anomalies, and trends in catchability, presented at the 2019 RAG meetings.
    c. Conduct an assessment of the fishery including new 2018-19 season catch and effort information acquired to 30 June 2019, presented at the 2019 RAG meetings.
    d. Conduct an assessment of the fishery including new 2019-20 season catch and effort information acquired to 30 June 2020, presented at the 2020 RAG meetings for technical review, ahead of a final presentation and report to the Finfish Working Group.
    e. Provide recommendations on research and monitoring needs to support future assessments.

BACKGROUND

2. Recent Spanish mackerel stock assessment updates (using fishery dependent catch and effort data from daily fishing logbooks and catch disposal records up to the end of the 2017-18 season) have had associated uncertainty about stock status (O'Neill et al. 2019).

3. Regular annual harvests of less than 100 tonnes, recent declines in fish catch rates and the absence of older fish in age samples from the early 2000s were signs of a small, sustainable fishery of around 100 t. The assessment suggests that the fishery would probably not sustain harvests like those reported before 2007 of 150–200 t. However, higher productivity and future harvests of Spanish mackerel might yet be indicated if catch rates improve and new fish age information are able to reflect older fish in the population. This would signal a recovery from past heavy fishing, and improved environmental conditions for fish recruitment, survivability and catchability.

4. At their 28-29 May 2019 meeting the Torres Strait Scientific Advisory Committee (TSSAC) agreed to recommend the Finfish stock assessment proposal for funding by the TSSAC. Updating stock assessments in November 2019 and 2020 as proposed would include additional catch rate data and possibly fish age-length data collected in 2019–20. More data should improve our understanding and evaluation of stock status.
5. The stock assessments will support setting sustainable annual catch limits and inform monitoring needs. Further, the project will appraise the role of environmental drivers on Spanish mackerel and assessment results. Recent similar declines in Spanish mackerel catch rates have reportedly occurred in WA, NT and Qld fisheries, suggesting broad regional influences on fish recruitment, survival rates or catchability

Torres Strait Scientific Advisory Committee research application

Please indicate the type of application you are submitting – an EOI in response to a call for research; or a full proposal in response to TSSAC advice that your initial application has been approved for further development:

	Pre-proposal (Please complete Sections 1-4 inclusive)
X	**Full Research Proposal** (Please complete sections 1-8)

SECTION 1 - ADMINISTRATIVE SUMMARY

Project title: **Spanish mackerel stock assessment, with appraisal of environmental drivers**

Applicant (organisation or person): Sea Sense Australia Pty Ltd

Contacts

Administrative			
Title/Name:	Dr JM Buckworth	Phone:	0401110180
Position:	Director	Email:	Jenny.buckworth@gmail.c
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Organisation:	Sea Sense Australia	Postal address:	PO Box 304 Charles
Co-investigator (s)			
Title/Name:	Mr Andrew Trappett	Phone:	0740691990
Position:	Senior Management Officer	Email:	andrew.trappett@afma.gov.au
Organisation:	Australian Fisheries Management Authority	Postal address:	PO Box 376, Thursday Island, QLD, 4875
Co-investigator (s):			
Title/Name:	Dr Michael O'Neill	Phone:	07 5381 1349;
Position:	Principal Fisheries	Email:	michael.oneill@daf.qld.go
Organisation:	Department of Agriculture & Fisheries, Qld	Postal address:	Maroochy Research Facility, 47 Mayers Road, PO Box 5083 SCMC, Nambour Qld 4560

Planned Start and End Date

Start Date:	1 Aug 2019	End Date:	31 May 2021

SECTION 2 – PROJECT DESCRIPTION

PROJECT BUDGET: (Excluding GST)

Financial Year	AFMA	Applicant (in kind)	Applicant	Other
2019-20	$46,442	$3,000.00 (Sea Sense) $10,800.00 (QDAF) $TBA (AFMA)		
2020-21	$45933	$3,000.00 (Sea Sense) $11,300.00 (QDAF) $TBA (AFMA)		
	$0.00	$0.00		
Totals	$92375	$46100+TBA		

SECTION 3 – PROJECT DESCRIPTION

Background and need (max 250 words) - *detail any important background relating to the project. Why it is important and being proposed (need). Any related projects or other information the TSSAC should know when considering it for funding.*

The Spanish mackerel (*Scomberomorus commerson*) stock of the Torres Strait (TS), shared with Papua New Guinea, is targeted by traditional and non-traditional inhabitant commercial fishers (leasing from traditional). It is fished for subsistence by TS communities and non-traditional inhabitant recreational anglers.

Recent assessment (data to 2017–2018) was "uncertain" about stock status (O'Neill et al. 2019). Regular annual harvests < 100 t (~ current), recent declines in fish catch rates, and the absence of older fish in age samples from the 2000s were signs of a small, sustainable fishery of around 100 t. The assessment suggests that the fishery would probably not sustain harvests like those reported before 2007, of 150–200 t. However, higher productivity and future harvests of Spanish mackerel might yet be indicated if catch rates improve and new fish age information reflect older fish in the population. This would signal a recovery from past heavy fishing, and improved environmental conditions for fish recruitment, survival and catchability.

Updating stock assessments in November 2019 and 2020 would include additional catch rate data and possibly fish age-length data collected in 2019–2020. More data should improve the evaluation of stock status.

The stock assessments will support setting sustainable annual catch limits and inform monitoring needs. Further, we will appraise the role of environmental drivers on Spanish mackerel and assessment results. Recent similar declines in Spanish mackerel catch rates have occurred in WA, NT and Qld fisheries, suggesting broad regional influences on fish recruitment, survival rates or catchability.

Objectives / performance indicators (max 250 words) - *list the major objectives or planned outcomes of the project. These will form your project milestones:*

1. Characterise the TS Spanish Mackerel fishery, reviewing and updating the assessment with 2018-19 and 2019-20 seasons' data, presented at 2019 and 2020 Finfish Resource Assessment Group (RAG) meetings.
2. Review environmental associations with TS Spanish mackerel, e.g. by comparing environmental data such as temperature, rainfall, productivity etc, with catch patterns, recruitment anomalies, and trends in catchability, presented at the September and November 2019 RAG meetings.
3. Conduct an assessment of the fishery including new 2018-19 season catch and effort information acquired to 30 June 2019, presented at the September & November 2019 RAG meetings.
4. Conduct an assessment of the fishery including new 2019-20 season catch and effort information acquired to 30 June 2020, presented at the September & November 2020 RAG meetings for technical review, ahead of a final presentation and report to the Finfish Working Group.
5. Provide recommendations on research and monitoring needs to support future assessments.

Consultation and Engagement - *Note consultation is required for both the pre- and full-proposal phases for TSSAC projects. This differs from AFMA Research Committee Proposal requirements.*

Pre-proposal phase consultation

Briefly detail (this will form the skeleton of your community engagement strategy which must be developed as part of full proposal phase):

- *the areas in the Torres Strait region where the proposed research activities may occur*
- *the Torres Strait community groups or individuals that you will engage/involve from these areas in the development of and or during the project if it reaches full proposal phase (refer to Step 2 of Attachment A - Procedural Framework for Researchers in the Torres Strait).*
- *how you plan to engage/involve key stakeholders (e.g. community notices, telephone, email, employment, interviews, meetings, workshops) in the project development. Note, any potential fee for service rates need to be factored into your research project budget.*

This project will be relevant to all Torres Strait communities fishing Spanish mackerel commercially or for subsistence. As this project is 'desktop' in nature and is based on updating an existing statistical model, supported by the PZJA for use in decision making, it is not envisaged that extensive community engagement is required or that any employment opportunities for communities will be created. We will nevertheless use all AFMA and PZJA channels of communication that are already in place for the extension of information to stakeholders.

*If there has been any initial consultation and engagement outline with whom and key outcomes (note consultation is **not** necessary at the EOI stage but has sometimes occurred through existing relationships).*

The development of the proposal has been informed by discussion with the fishery managers and the Finfish Resource Assessment group members.

This project includes fishery manager Andrew Trappett as Co-investigator. Fishery managers and PZJA agencies are principal stake-holders in the assessment results *per se* – those who will interpret and apply those results in the broader community. The role of the C-I will be to liaise with the AFMA data team to provide up to date information to the stock assessment team as well as ensuring the acquisition of data from the monitoring work planned in 2019 and 2020. The AFMA CI will ensure that the results are well-communicated not only within the PZJA management agencies but also to PZJA consultative committees (Finfish Resource Assessment Group, Finfish Working Group) and to raise awareness with the broader stakeholder group including fishers and community members. Proposed communication methods are: letters to stakeholders, text message alerts, local radio pieces (Radio 4MW Meriba Wakai AFMA segments) and sharing outcomes via AFMA social media.

PJZA consultative committees have industry members who bring expertise-based advice from their communities. These industry members will provide an opportunity for the project team to incorporate traditional knowledge of past catch rates and environmental changes into the assessment update.

Full proposal consultation and engagement

In accordance with the Procedural Framework for Researchers in the Torres Strait (Nakata 2018; Procedural Framework), the TSSAC full proposal requires two different aspects be completed.

1. Develop a stakeholder engagement strategy, including a plain-English community consultation package which should be used to undertake preliminary consultation with relevant stakeholders as part of your full proposal application. Follow instructions in Appendix 4 of the procedural framework (Attachment A).

2. Provide documentation and outcomes from the preliminary consultation and engagement conducted, including:

- *The level of stakeholder support – particularly from Traditional Inhabitants for the proposed work (include a list of who was contacted and whether they support the project, or if not, why).*
- *Any perceived risks or stakeholder considerations with the project.*
- *How traditional knowledge might be considered or incorporated to enhance the project, its outcomes and benefits.*
- *Any activities suggested by Traditional inhabitants to improve the project, or bring it into alignment with community needs.*
- *How the research outcomes will benefit Traditional Inhabitants directly or indirectly, or why it is not relevant/ applicable (i.e. projects in the prawn fishery).*

Attach the stakeholder engagement strategy (which should have been updated as required following initial consultation) with your full proposal application.

Overview of proposed stakeholder engagement strategy

Direct community involvement is not being sought for this project as the work is desktop in nature and is applying an established assessment framework which has been adopted by the PZJA for decision making. Industry members on the PZJA Finfish Resource Assessment Group and Working Group will provide expert advice to the project team through scheduled PZJA advisory group meetings. We note that AFMA has explicitly requested the project team ensure that stakeholders remain engaged in the outputs of the project and that the project best supports the RAG in progressing our understanding of the Torres Strait Spanish mackerel stock.

Prior to the formation of this project there has been strong support from Finfish RAG and Working Group for stock assessment work performed to date on Spanish mackerel. A round of AFMA-led community visits (Torres Strait, Cairns and Northern Peninsula Area) in April-May 2019 have exposed communities to the outcomes of the 2018 Spanish mackerel stock assessment (data up to 30 June 2017) and underlined the importance of reliable and accurate catch and effort fishery data to support ongoing assessment of this stock, particularly in reference to the apparent declining CPUE series since 2010.

Anticipated outcomes of this project will be presented to the Finfish RAG and Working Group. AFMA will use the project outcomes to inform the PZJA and support their setting of Total Allowable Catch limits for the 2020-21 and 2021-22 fishing seasons.

AFMA has a role in this project with liaison and extension work with fishers and other stakeholders planned:

- Project milestone reports will be published on the PZJA webpage (administered by AFMA).
- Plain English outcomes of the two stock assessments will be posted as Community Notices and also posted via social media (AFMA Facebook).
- AFMA CI will participate in local radio (Station 4MW) media interviews to discuss the project outcomes in the context of fishery health and PZJA setting sustainable catch limits.
- AFMA will send txt messages to Finfish Fishery licence holders advising on assessment outcomes noting strongly positive feedback from fishers for txt message fishery alerts.

Through the project communications strategy, communities will be made aware that their fishery catch and effort data (from the Fish Receiver System) are commercial-in-confidence and are being used for both stock assessments and are treated with respect and in the utmost confidentiality and will never be reported at a

Methods (max 250 words) – *Please detail the basic methods that will be used to undertake this project.*

The existing assessment model (O'Neill 2019) is with Qld Department of Agriculture and Fisheries via Co-Investigator O'Neill, DAF are engaged in this project. AFMA support, C-I Trappett, ensures communications with the fishery management team, industry and PZJA stakeholders.

The fishery will be characterised using spatial distribution of effort and catches, vessel characteristics, and changes over time. We will include the TIB data we are able to acquire and feasibly include in the assessment. We note the sensitivities around data used in the assessments. We will attempt to incorporate existing data sets and knowledge from studies on the reef-line sector of the Torres Strait Finfish Fishery, noting some historic Traditional Inhabitant mackerel catch data are available from past reports. We will evaluate the 'paper fish' issue analysing effort through 2000-2007 with a heat map approach and identifying data of interest. We will apply a sensitivity analysis to investigate the influence of these data in assessments. Every effort will be made to help stakeholders understand this process.
We will describe the data analysed through previous stock assessments, providing a table illustrating the data sets, data sources (number of records, years, areas). This will be presented to stakeholders to show how these data have been cleaned, filtered and analysed in previous and present assessments.
The project will provide clear characterization of the impacts of the 10nm radial closures on reported catch data. The project will

aim to provide stakeholders with a succinct summary of the spatial spread of catch and effort from both TVH and the TIB sectors.
The new assessments comprise:

1. Stage 1- Updating existing model during 2019-20, including new harvest and catch rate data from the fishery from the 2018-19 fishing season (data up to 30 June 2019) including newly available catch data from TIB licence holders acquired under the Fish Receiver System.
2. The investigation and analysis of the associations of environmental drivers with Spanish mackerel data, entailing the acquisition of SST, wind, rainfall, river flow and climatic indices (e.g. ENSO). We will examine effects on catch rates (e.g. within 'fishing power' analyses) and recruitment (relationships between drivers and recruitment anomalies); For incorporation in the Harvest Strategy, empirical relationships will be investigated;

Bridging analyses including a sequence agreed by the RAG will be adopted. The proposed sequence is:

a) Model code updates will be introduced into the existing assessment, any change in outputs evaluated, and,

b) Updates to data set(s) will be introduced in the order of new catch rate data, new length and age data, then environmental drivers, and evaluated in a step wise fashion; and,

3. Stage 2. 2020-21 assessment with new monitoring (fish age-length frequencies), harvest and catch rates from 2019-20 fishing season (data up to 30 June 2020). The inclusion of new monitoring data will likely improve the stock assessment.

Reporting, each stage, will comprise a preliminary report to PZJA Finfish Resource Assessment Group (Finfish RAG) for technical review (each assessment) and a general report to include recommendations on research and monitoring needs plus ways environmental drivers might be accounted for in the Harvest Strategy for the fishery.

A final presentation and report to the Finfish RAG will incorporate feedback from their previous reviews.

Planned outcomes and benefits (max 150 words) – *this should include how the research will be used by management to benefit the fishery and other stakeholders:*

The primary purpose and outcome of the project will be to inform application of the harvest strategy for the fishery.
It will specifically provide a Recommended Biological Catch value for consideration by management and the PZJA.
The project will provide recommendations for future data collection and monitoring activities. This will have the outcome of supporting improvements in future assessments.

Project extension (max 100 words) - *are there possible future research options that could result from this project?*

Future assessments will utilize the approach of this project.Should it be considered appropriate for future investigations, the modelling work could be used as the basis of a Management Strategy Evaluation.

Risk Analysis - *be sure to consider risks specific to conducting research in the Torres Strait including community support or lack there-of.*

As a desktop study, the project has few physical risks.
A significant risk to the project will be if new fishery / monitoring data are not available within the project period. In response, the project timetables will be adjusted.
The project staff include two experienced stock assessment scientists, so that the project is insured against the loss of a P-I or C-I.
AFMA are involved in liaison and communication roles and have a rapport and regular contact with community members. The project proposes using existing AFMA communication networks within TS (stakeholder letters, txt messages, social media, local radio) to foster community support for the project and its outcomes.

REFERENCES

O'Neill, M. (2019). Assessment of the Torres Strait Spanish Mackerel fishery, including fishery data to 30 June 2018. Report to the Protected Zone Joint Authority. (***in prep***.)

Related Projects and Research Capacity (max 100 words) - *Are there any past or current projects relevant to this proposal funded through the TSSAC, TSRA, FRDC or other organisation? Outline the Investigators' experience in the proposed research and Torres Strait region.*

The recent assessment of the Torres Strait Spanish mackerel stock by O'Neill (2019) is the direct pre-cursor to this project and has been adopted by the PZJA for decision making to set annual sustainable catch limits. Several previous assessments of Spanish mackerel in northern Australia provide context for the proposed project.
Scientific Members of TSFFRAG, Dr Buckworth, has been involved in many fisheries assessments, including those of the NT Spanish Mackerel Fishery, and Dr O'Neill leads stock assessment within QDAF. He is the author of the most recent comprehensive assessments of the Torres Strait and Queensland east coast Spanish mackerel fisheries.
An experienced Senior Management Officer, Mr Trappett is the manager of the Torres Strait Finfish fishery.

SECTION 4 - Schedule of Payments

As a general rule, up to 10% of the total project cost may be provided as an initial payment and a minimum of 30% of the total project cost must be left for the final report.

Milestones	Deliverable date (Please refer to instructions)	Schedule of AFMA payment(s) (excluding GST)
1. Initial payment on signing of contract	On signing of contract	$9,237.50
2. Characterisation of available environmental information	31/10/2019	$9,237.50
3. Preliminary 2019 assessment to RAG	30/11/2019	$9,237.50
4. Final 2019 assessment to RAG	31/12/2019	$9,237.50
5. Stage 1 report to RAG	31/3/2020	$9,237.50
6. Stage 2 begins: Review of 2020 monitoring and fishery data	31/10/2020	$9,237.50
7. 2020 assessment delivered to RAG meetings, Stage 2 report+ draft final report	31/12/2020	$9,237.50
8. Final payment on acceptance of final report	31/3/2021	$27,712.50
TOTAL		**$92,375**

NOTE: If the project does not proceed beyond Stage1, then project cost will be **$49,187.50**

SECTION 5 - Description of Milestones

Details on each milestone must provide sufficient information to justify the milestone cost and should match the performance indicators. The description field will describe the work to be completed for that milestone with the justification field elaborating further on the categories of cost - for example salary.

Milestone:1 Initial payment on signing of contract **Date: 01/08/2019**

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

10% Payment on signing of contract

Justification:

10% payment of total. Project total budget comprises salary, $58685, travel, $9826 and operational components $22864. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.
Salary requirements are for project staff R Buckworth and M O'Neill to undertake information gathering, undertaking the assessments, and reporting to RAG/ Working group meetings and for formal written reports. Co-investment of 20% of gross salary cost p.a., for Buckworth ($3000 p.a. for 2019-20 and 2020-21), and 40% of gross salary cost, for O'Neill (2019-20: $10,800 and 2020-21:$11,300, total of $29,100) are met as in-kind contributions. Travel is to enable meetings between the staff members to address the project, plus travel expenses for Buckworth and O'Neill reporting to RAG/ WG meetings. NOTE: If attendance at RAG / WG meetings is met from alternative sources (e.g. as RAG members), then the requested payments can be adjusted. Estimated operating costs include data acquisition, communications, IT support, computer hardware and software, biometry support, and library support costs.

Milestone:2. Characterise available environmental information and acquire available data **Date: 31/10/2019**

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

Characterise available environmental information, as well as begin acquisition of data (including all data to 2019) and updating for stock assessment. We will include as much TIB data as we are able to acquire and feasibly include in the assessment.

Justification:

10% payment of total project budget. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone 3. Preliminary 2019 assessment provided to RAG **Date: 30/11/2019**

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

Provide and present to the RAG the preliminary updated stock assessment to RAG via power point presentation with a draft to AFMA by 13 November 2019. This assessment is to include data up to 30 June 2019 that has not been included in previous assessments. The project team will also report on the investigation into environmental drivers and how they could be factored into the assessment.

Justification:

10% payment of total project budget. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone:4. Final 2019 assessment to RAG **Date: 31/12/2020**

Financial Year	Salaries	Travel	Operating	Capital	Total
2020-21	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

The 2019-20 assessment, and investigation of environmental drivers, incorporating any RAG comments and any other feedback from the November RAG meeting, will be delivered to the RAG for out-of-session consideration.

Justification:

10% payment of total project budget. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone:5. Stage1 report to RAG **Date: 31/3/2020**

Financial Year	Salaries	Travel	Operating	Capital	Total
2019-20	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

The 2019 assessment, and investigation of environmental drivers, incorporating RAG comment and any other feedback, will be delivered to the RAG as a report for the first stage of the project. If the planned monitoring project is not able to provide data, then the project will be terminated with the acceptance of the stage report as the Final Report.

Justification:

10% payment of total project budget. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone:6. Stage 2 begins: Review of 2020 monitoring and fishery data **Date: 31/10/2020**

Financial Year	Salaries	Travel	Operating	Capital	Total
2020-21	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

The project will acquire and review updated fishery and the new monitoring data, as well as available environmental information, and prepare data for updating the stock assessment. Data will be up to and including 2020 data

Justification:

10% payment of total project budget. Project total budget comprises salary, $61685, travel, $9826 and operational components $23313. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone:7. 2020 Assessment delivered to RAG meetings, Stage 2 report+ draft final report **Date: 31/12/2020**

Financial Year	Salaries	Travel	Operating	Capital	Total
2020-21	$5,868.50	$982.60	$2,286.40	$0.00	$9,237.50

Description:

The 2020 assessment will be an update to include all new fishery data, as well as the age and length data acquired from the new monitoring program. The Stage 2 and draft Final Reports will reflect all feedback from throughout the project, from the RAG, working groups, and other sources such as the Scientific Advisory Committee.

Justification:

10% payment of total project budget. Project total budget comprises salary, $61685, travel, $9826 and operational components $23313. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Milestone:8. Acceptance of Final Report **Date: 31/03/2021**

Financial Year	Salaries	Travel	Operating	Capital	Total
2020-21	$17,605.50	$2,947.80	$6,859.20	$0.00	$27,712.50

Description:

The Final Report will be revised to include all comment from the RAG, working groups and other sources such as the Scientific Advisory Committee.

Justification:

30% payment of total project budget. Activity is spread throughout the project, and milestone payments are simply pro-rated as indicated.

Section 6 – Special Conditions

If relevant, this field will be used to assist in contract preparation for any special conditions. Examples of special conditions
may relate to marine spatial closures (including access) or any other clauses not specifically contained in the contract.

Section 7 - Data management

Identify the appropriate Intellectual Property category applicable to this application. Choose ONE from below:

Code	Description
1	Published, widely disseminated and promoted, and/or training and extension provided. Relates mainly to outputs that will be available in the public domain.
2	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that will largely be available in the public domain, but components may be commercialised or intellectual property protected.
3	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that may have significant components that are commercialised or intellectual property protected.

The following IP category applies to this application:

1. Published, widely disseminated and promoted, and/or training and extension provided. Relates mainly to outputs that will be available in the public domain.

I have searched for existing data (refer to guidelines on how to search the Australian Spatial Data Directory and Oceans Portal):

Yes

Provide a brief description of the data to be generated from the project and how this data will be stored for future protection and access, including:

- information on data security or privacy issues and applying to the data
- Nominated data custodian

All data supplied by AFMA or other organisations will be in a single secure MS Access database that will be stored in the 'Stock Assessment Security Group' directory on the DAF server behind a firewall. The AFMA form 'deed of confidentiality' will be signed to cover the authority/access for the PI and co-investigators to analyse the data. When the project is complete, a copy of the database will be made available to AFMA under the 'deed' agreement, to allow future updates and enable the HS assessment tools to be utilised. Description of project data will be stored on the Repository with clearly stated access and use conditions. Clear and accurate records will be kept to allow verification, replication and review of the research work.

This project will produce consolidated information from the Torres Strait Islander communities. This will be maintained in a secure location in DAF. Public record information will be reported to the FFRAG and FFWG for recording in meeting proceedings.

- Document how research data, traditional knowledge and intellectual property will be handled during your project, including but not limited to:
- Acknowledging where the data or information used in research comes from, so that any income made from selling a concept in the future will be adequately linked to a community's contribution/ knowledge so they also receive financial or other benefit from "selling" a concept onward.
- How you will negotiate use and publish of traditional knowledge with communities. For example do traditional inhabitants allow public publication of information or only for project activities and reported on in internal reports? This will depend on data sensitivity and privacy (such as fishing grounds etc).
- Are there any other ethical considerations you have identified for this project which need to be managed?
- Are you committed to gaining ethics approval for this project from a suitable body such as a university or AIATSIS?

Raw Spanish mackerel harvest data are to be supplied by AFMA under a signed deed of confidentiality to authorize analysis for stock assessment purposes. Data are to be stored in secure databases and are only to be accessed by approved personnel.

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
RESEARCH **Research updates: Developing an approach for measuring non-commercial fishing in Torres Strait in order to improve fisheries management and promote sustainable livelihoods.**	Agenda Item 5.2.3 FOR INFORMATION

RECOMMENDATIONS

1. That the Finfish RAG **NOTES** an update from Principle Investigator Kenny Bedford, on the TSRA funded project Torres Strait Spanish mackerel stock assessment with appraisal of environmental drivers (full proposal at **Attachment 5.2.3a**).

BACKGROUND

1. In order to assess a sustainable take of all fish stocks from Torres Strait waters, estimates of catches from all sectors of the fisheries are needed. While catch reporting strategies are in place for the commercial (TIB and TVH/Sunset) sectors through logbooks and catch disposal records (AFMA Fish Receiver System), the non-commercial sectors (e.g. subsistence and recreational fishing) have inadequate or no ongoing catch monitoring in Torres Strait.
2. A need to obtain catch estimates for the non-commercial sector has been identified by the PZJA. Obtaining these estimates should allow more accurate estimates of the total harvest from all sectors, better informed management decisions, providing for reduced risk of over-exploitation and improved protection of Torres Strait Islander livelihoods.
3. Estimates of non-commercial catches will also be useful for tracking the size and composition of the non-commercial catch over time, and the potential impacts of related fisheries and climate change.
4. Recent Spanish mackerel stock assessment updates (using fishery dependent catch and effort data from daily fishing logbooks and catch disposal records up to the end of the 2017-18 season) have had associated uncertainty about stock status (O'Neill et al. 2019). This means there is further reason to consider the size of harvests by multiple users (traditional and commercial) when a stock has a limited recommended biological catch.

Torres Strait Scientific Advisory Committee research application

Please indicate the type of application you are submitting – an EOI in response to a call for research; or a full proposal in response to TSSAC advice that your initial application has been approved for further development:

	~~**Pre-proposal** (Please complete Sections 1-4 inclusive)~~
X	**Full Research Proposal** (Please complete sections 1-8)

SECTION 1 - ADMINISTRATIVE SUMMARY

Project title:	Developing an approach for measuring the non-commercial fishing in Torres Strait in order to improve fisheries management and promote sustainable livelihoods.
Applicant (organisation or person):	DML Consulting, Kenny Bedford

Contacts

Administrative

Title/Name:	Kenny Bedford	Phone:	0437 868 817
Position:	Director	Email:	kennybedford@hotmail.com
Organisation:	Debe Mekik Le Consultancy	Postal address:	PO Box 7507, Cairns Qld 4870

Principal Investigator (person)

Title/Name:	Kenny Bedford	Phone:	0437 868 817
Position:	Director	Email:	kennybedford@hotmail.com
Organisation:	Debe Mekik Le Consultancy	Postal address:	PO Box 7507, Cairns Qld 4870

Co-investigator (s)

Title/Name:	Tim Skewes	Phone:	0419 382 697
Position:	Collaborator	Email:	timskewes@outlook.com
Organisation:	Tim Skewes Consulting	Postal address:	12 Watsonia St Redland Bay, QLD 4165

Co-investigator (s):

Title/Name:	David Brewer	Phone:	0427722782
Position:	Collaborator	Email:	david.brewer52@outlook.com
Organisation:	David Brewer Consulting	Postal address:	91 Raeburn St Manly West

Planned Start and End Date

Start Date:	01/07/2019	End Date:	21/12/2019

SECTION 2 – PROJECT DESCRIPTION

PROJECT BUDGET: (Excluding GST)

Financial Year	AFMA	Applicant (in kind)	Applicant	Other
2019/2020	$40,000	unspecified		
Totals	$40,000			

SECTION 3 – PROJECT DESCRIPTION

Background and need (max 250 words) - *detail any important background relating to the project. Why it is important and being proposed (need). Any related projects or other information the TSSAC should know when considering it for funding.*

In order to assess a sustainable take of fish from Torres Strait waters, estimates of catches from all sectors of the fishery are needed. While catch reporting strategies is in place for the commercial (TIB and TVH) sectors, the non-commercial sectors (e.g. subsistence and recreational fishing) have inadequate or no ongoing catch monitoring. Catch estimates for the non-commercial sectors will allow more accurate estimates of the total harvest from all sectors, better informed management decisions, providing for reduced risk of over-exploitation and improved protection of Torres Strait Islander livelihoods. It will also be useful for tracking the size and composition of the non-commercial catch over time, and the potential impacts of related fisheries and climate change.

Various catch census and survey approaches for recreational and subsistence catch have been applied in Torres Strait and more broadly. The learnings from these approaches (successful and otherwise) are critical to the design of an effective, ongoing data collection program. Key aspects of a successful non-commercial catch data collection program include appropriate and effective oversight and management structure; strong communication strategies and community ownership, and an experienced implementation team with insight into data needs and local issues.

In the Torres Strait, the involvement of community organisations and leadership, along with government support are critical to ensuring the successful implementation of a long-term, community-based monitoring program. This proposal addresses the first stage of implementing a long-term community fish monitoring strategy by: reviewing information needs; reviewing past and potential new approaches; and assessing a way forward for the Torres Strait. We use an assumption that the program should focus on non-commercial fishing of important commercial species, including Spanish mackerel, Coral trout, Tropical rock lobster (TRL), and other commercially important species, but will also investigate the value and potential for monitoring other species of importance to communities. It brings together experts with (i) a strong track record in Torres Strait fishing and fisheries, (ii) scientific experience in fisheries research in Torres Strait, and (iii) strong links to organisations that will be important for developing and supporting a successful community-based fisheries data collection program.

Objectives / performance indicators (max 250 words) **-** *list the major objectives or planned outcomes of the project. These will form your project milestones:*

1. Review of past and current non-commercial catch survey approaches in Torres Strait and more broadly.
   - Establish linkages (where possible) with other agencies.
   - Complete reviews and face-to-face discussions with key people.
   - Complete draft written review and evaluation, and presentation to steering committee.

2. Review research and management stakeholder needs for the collection and delivery of non-commercial catch information over the longer-term.
   - Complete initial discussions with key stakeholders.
   - Review data needs for integration into future and ongoing assessments.
   - Obtain input from oversight committee.

3. Program Steering Committee.
   - Facilitate the establishment of a cost-effective oversight committee.
   - Complete Steering Committee meeting to evaluate (i) review of approaches, (ii) stakeholder needs, (iii) key partnerships, (iv) data collection protocols, (v) communication and engagement strategy and (vi) proposed approach.

4. Deliver an approach, or options, for collecting and delivering non-commercial catch data that is appropriate for management and stakeholder needs.
   - Delivery of a Final report and presentation that includes (i) review of approaches, (ii) stakeholder needs, (iii) key partnerships, (iv) data collection protocols, (v) communication and engagement strategy, and (vi) proposed approach (vii) cost-benefit assessment of different approaches (by end May 2020).
   - Include in the Final Report recommendations on data needs for monitoring and assessing non-commercial catches into the future. This won't necessarily be limited to just catch monitoring programs, but may include other options for allowing the PZJA to account for as many sources of mortality as possible through its management regimes.

Consultation and Engagement - *Note consultation is required for both the pre- and full-proposal phases for TSSAC projects. This differs from AFMA Research Committee Proposal requirements.*

Pre-proposal phase consultation

Briefly detail (this will form the skeleton of your community engagement strategy which must be developed as part of full proposal phase):

- *the areas in the Torres Strait region where the proposed research activities may occur*
- *the Torres Strait community groups or individuals that you will engage/involve from these areas in the development of and or during the project if it reaches full proposal phase (refer to Step 2 of Attachment A - Procedural Framework for Researchers in the Torres Strait).*
- *how you plan to engage/involve key stakeholders (e.g. community notices, telephone, email, employment, interviews, meetings, workshops) in the project development. Note, any potential fee for service rates need to be factored into your research project budget.*

*If there has been any initial consultation and engagement outline with whom and key outcomes (note consultation is **not** necessary at the EOI stage but has sometimes occurred through existing relationships).*

Full proposal consultation and engagement

In accordance with the Procedural Framework for Researchers in the Torres Strait (Nakata 2018; Procedural Framework), the TSSAC full proposal requires two different aspects be completed.

1. Develop a stakeholder engagement strategy, including a plain-English community consultation package which should be used to undertake preliminary consultation with relevant stakeholders as part of your full proposal application. Follow instructions in Appendix 4 of the procedural framework (Attachment A).

2. Provide documentation and outcomes from the preliminary consultation and engagement conducted, including:

- *The level of stakeholder support – particularly from Traditional Inhabitants for the proposed work (include a list of who was contacted and whether they support the project, or if not, why).*
- *Any perceived risks or stakeholder considerations with the project.*
- *How traditional knowledge might be considered or incorporated to enhance the project, its outcomes and benefits.*
- *Any activities suggested by Traditional inhabitants to improve the project, or bring it into alignment with community needs.*
- *How the research outcomes will benefit Traditional Inhabitants directly or indirectly, or why it is not relevant/ applicable (i.e. projects in the prawn fishery).*

Attach the stakeholder engagement strategy (which should have been updated as required following initial consultation) with your full proposal application.

We have provided a consultation plan and project summary which has been approved by the TSSAC EO. The original expanded project summary was e-mailed, with a covering letter, to all current PBC Chairs and TSIRC Councillors. We also sent the project summary and cover letter to the TSRA for dissemination to the Fishery portfolio member (TSRA), and subsequently to other TSRA officers deemed appropriate by the Fishery portfolio member. This recent cut-down version has not yet been communicated.

We have instigated, and will continue, targeted consultation with stakeholders in Torres Strait to ensure that the project plan receives adequate input and feedback.

The results of the consultation, including any comments received, were submitted as a supplementary document to the original full proposal to the TSSAC EO in May.

Note this is about the consultation for the proposal, not the consultation as part of the project.

Methods (max 250 words) – *Please detail the basic methods that will be used to undertake this project.*

We will:

- Review past approaches, data and learnings from previous non-commercial fishery catch monitoring programs (in Torres Strait and more broadly) including review of reports and face-to-face discussions (i.e. CSIRO, Dr Sara Busilacchi, etc). The draft review will be assessed by a project Steering Committee and out-of-session, as needed. These outputs will contribute to future potential planning discussions and ultimately impact and refine community data collection approaches for any future non-commercial fishery catch (pilot) monitoring program.
- Investigate the data needs of key potential proponents/partners (e.g. TSRA, AFMA, GBK, Ranger program, communities) to help guide the development of the data collection and delivery program, and delivery/reporting of subsistence and recreational fishing catch data.
- Consider risk/catch/cost trade-offs of different monitoring and data collection approaches.
- Facilitate the formation of a project Steering Committee to make recommendations on a way forward following the review (e.g. the implementation of a specifically-designed pilot program). We propose to coincide engagement of the proposed Steering Committee with an existing PZJA consultative committee (other than a FFRAG or FFWG, to minimise perceived conflicts of interest with project staff). This will enable the cost savings required to provide a Steering Committee oversight process for this project by engaging PZJA committee members as the majority of the Steering Committee (assuming the travel costs for Steering Committee members can be largely picked up by AFMA/TSRA). We will endeavour to a spread the membership of the Steering Committee between regional Torres Strait Islander representatives, Malu Lamar, AFMA, TSRA and State and Commonwealth Government representatives, as well as one or two subject matter experts in traditional fishing assessment (e.g. Dr Natasha Stacey, Dr Sara Busilacchi), depending on budget flexibility.
- In consultation with key stakeholders, and based on objectives and learnings, develop and document a data collection approach for assessing subsistence and recreational fishing catches in Torres Strait communities. Special consideration will be given to the role of women and children in subsistence fishing, and methods to capture their fishing catch data. The approach will also include the collection of non-islander recreational fishing catch (by employees/contractors etc). Species in scope include commercially fished groups and any other species deemed important to their subsistence catches.

Planned outcomes and benefits (max 150 words) – *this should include how the research will be used by management to benefit the fishery and other stakeholders:*

This project will recommend a design for a non-commercial catch monitoring program that can deliver acceptable estimates of the non-commercial take of finfish, TRL and BDM within Torres Strait communities and in-community recreational fishing. These data will:

- provide relatively accurate and up-to-date estimates of the impacts from these sectors on the resource as a whole
- be incorporated into annual fishery assessments to account for the non-commercial fishing on selected priority fishery populations (e.g. Spanish mackerel, coral trout, lobsters)
- allow more accurate allocations of take for each of the commercial sectors
- enable the assessment of change in a range of non-commercially important species that are important to subsistence fishers and their communities.

This project will provide options for future data collection approaches that will provide greater certainty about non-commercial catches and their impacts on population status from the combined commercial and non-commercial fishing sectors. This additional certainty will reduce risk that unsustainable fishing will occur in the Torres Strait into the long term.

Communities will also have more accurate knowledge about their fish harvest at the community level and greater awareness about the how these populations are managed. This can be applied to local fisheries management as well as Torres Strait wide assessments. Some community members may also gain training and (potentially) income from their roles as fishing monitors should a monitoring program be rolled out in future.

Project extension (max 100 words) - *are there possible future research options that could result from this project?*

This monitoring program will be designed to be implemented to be able to estimate non-commercial catches over the long term and from a broader base of communities. This may initially be via a research project trial and assessment.

This program could also be used to collect other information from communities as needed, such as changes in habitat, invasion by pest species, changes in fishing behaviours and effort.

Future research options may include the extension of this program into the charter boat sector.

Risk Analysis - *be sure to consider risks specific to conducting research in the Torres Strait including community support or lack there-of.*

1. Project non-delivery
Risks of unsuccessful implementation will be mitigated through the project staff having deep experience living and/or working in the Torres Strait, including with Torres Strait communities; as well as their experience and strong track record of delivering project outputs.

Related Projects and Research Capacity (max 100 words) - *Are there any past or current projects relevant to this proposal funded through the TSSAC, TSRA, FRDC or other organisation? Outline the Investigators' experience in the proposed research and Torres Strait region.*

Related projects

There are several previous projects that carried out surveys of non-commercial (traditional) finfish catches and/or for other species (e.g. turtle, dugong); including Poiner and Harris (1984), Dews *et al.* (1993), Harris *et al.* (1994), Skewes *et al.* (2004), and Busilacchi *et al.* (2008). There are also programs that assessed approaches for monitoring TIB commercial catches (French *et al.* 2014). Most recently, a CSIRO-led project to monitor community-based subsistence fishing was not completed. Learnings and historical data estimates from these and similar projects based outside the Torres Strait will be pivotal for designed this program.

A FRDC-funded project that summarised national recreational fishing and survey approaches was completed in 2014 (Griffiths *et al*), and other studies that have assessed approaches to recreational fishing surveys will also be reviewed, including the following FRDC funded studies:

- 'National social and economic survey of recreational fishers (2018)'
- 'Recreational fishing and human wellbeing: insights from existing data and development of best practice approaches to future measurement (2018)'
- 'Assess new technologies and techniques that could improve the cost-effectiveness and robustness of recreational fishing surveys (2017)'
- 'Determining the design, output specifications and sample size for a national social and economic survey of recreational fishers in Australia (2016)'
- 'RFIDS: a coordinated national data collection for recreational fishing in Australia (2011)'
- 'National strategy for recreational fisheries research, development and extension (2007)'.

The Qld Government also planning for a 2019/20 State-wide recreational fishing survey. It is being conducted by the Social Research Centre, a subsidiary of the Australian National University. We will contact the proponents of the survey to assess any possible links and data colle3ction synergies.

Research Capacity

Kenny Bedford has a depth of experience living and fishing in Torres Strait communities, leading Torres Strait-based community projects and taking on Torres Strait-based management leadership roles.

Tim Skewes led research projects on Torres Strait fishery issues during his career at CSIRO and currently provides research advice and services for Torres Strait fisheries through the hand collectables working group and within research projects (e.g. recent TRL surveys, meetings), including leadership of the 'Traditional inhabitant PZJA Forum Representative Survey, 2018'.

David Brewer has a strong knowledge of fishery issues through delivery high impact research for fisheries in tropical Australia during a 30-year career. He is aware of current issues for the Torres Strait finfish sector through his involvement in the Finfish RAG and Working Group.

SECTION 4 - Schedule of Payments

As a general rule, up to 10% of the total project cost may be provided as an initial payment and a minimum of 30% of the total project cost must be left for the final report.

Milestones	**Deliverable date (Please refer to instructions)**	**Schedule of AFMA payment(s) (excluding GST)**
1. Initial payment on signing of contract (10%) including finance to cover arranging travel for steering committee.	On signing	$8,000
2. Delivery of reviews (20%)	31/03/2019	$4,000
3. Completion of Consultation (20%)	31/03/2019	$8,000
4. Development of draft survey approach, steering committee meeting (20%)	31/03/2019	$8,000
5. Delivery of Final report (30%)	31/05/2019	$12,000
TOTAL		$40,000

SECTION 5 - Description of Milestones

Details on each milestone must provide sufficient information to justify the milestone cost and should match the performance indicators. The description field will describe the work to be completed for that milestone with the justification field elaborating further on the categories of cost - for example salary.

Milestone: 1. Initial payment **Date:** On signing

Financial Year	Salaries	Travel	Operating	Capital	Total
2019/20	$4,000	$4,000	$0	$0	**$8,000**

Description:

10% of the salary and travel costs to allow preparations for upcoming steering committee meeting.

Justification:

Required as an initial payment on signing of contract and outlay for travel associated with next milestones.

Milestone: 2. Delivery of reviews **Date:** 31/03/2020

Financial Year	Salaries	Travel	Operating	Capital	Total
2019/20	$3,800	$200	$0	$0	**$4,000**

Description:

Time and costs for research into and writing up a learnings report

Justification:

Time required to conduct research and interviews with Stakeholders, past experts and researchers. Minor travel to cover costs of ad hoc meetings / interviews etc.

Milestone: 3. Consultation **Date:** 31/03/2020

Financial Year	Salaries	Travel	Operating	Capital	Total
2019/20	$7,600	$400	$0	$0	**$8,000**

Description:

Salary and minor travel

Justification:

Time required to liaise with key stakeholders and minor travel to cover costs of meetings etc.

Milestone: 4. Development approach **Date:** 31/03/2020

Financial Year	Salaries	Travel	Operating	Capital	Total

2020/21	$7,600	$400	$0	$0	**$8,000**

Description:

Salary and minor travel development of the draft survey approach and Steering Committee attendance

Justification:

Time required for project work and a days travel costs for a Steering Committee meeting.

Milestone: 5. Final report **Date:** 31/05/2020

Financial Year	Salaries	Travel	Operating	Capital	Total
2020/21	$11,400	$600	$0	$0	**$12,000**

Description:

Salary and minor travel for completion of final report.

Justification:

Salary is that necessary for finalisation of data analysis, completion of final report, including recommendations for future implementation of monitoring program, and for communication of project outcomes to stakeholders during a Steering Committee meeting (adjacent to another PZJA forum meeting).

Milestone: **Date:**

Financial Year	Salaries	Travel	Operating	Capital	Total
	$0.00	$0.00	$0.00	$0.00	**$0.00**

Description:

Justification:

Section 6 – Special Conditions

If relevant, this field will be used to assist in contract preparation for any special conditions. Examples of special conditions
may relate to marine spatial closures (including access) or any other clauses not specifically contained in the contract.

Section 7 - Data management

Identify the appropriate Intellectual Property category applicable to this application. Choose ONE from below:

Code	Description
1	Published, widely disseminated and promoted, and/or training and extension provided. Relates mainly to outputs that will be available in the public domain.
2	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that will largely be available in the public domain, but components may be commercialised, or intellectual property protected.
3	Published, widely disseminated and promoted, and/or training and extension provided. Related products and/or services developed. Relates mainly to outputs that may have significant components that are commercialised, or intellectual property protected.

The following IP category applies to this application:

1. The outputs of this project will be published in interim and final reports, and the primary outcomes will be widely disseminated to stakeholders and participating communities. Any components that are deemed to be traditional knowledge or in confidence will be protected.

I have searched for existing data (refer to guidelines on how to search the Australian Spatial Data Directory and Oceans Portal):

Yes. We are aware of previous subsistence catch data collected in Torres Strait, including: CSIRO monitoring of the Traditional catch on Yorke Island in 1984-86 (Poiner and Harris, 1994), and for all Torres Strait communities in 1991-2001 (Harris et al. 1997, Skewes et al. 2004), and a study of the traditional catch from three eastern Torres Strait communities in 2005/06 (Busilacchi 2013).

Provide a brief description of the data to be generated from the project and how this data will be stored for future protection and access, including:

- information on data security or privacy issues and applying to the data
- Nominated data custodian

This project will produce a review, but no new fishery data.

- Document how research data, traditional knowledge and intellectual property will be handled during your project, including but not limited to:
- Acknowledging where the data or information used in research comes from, so that any income made from selling a concept in the future will be adequately linked to a community's contribution/ knowledge, so they also receive financial or other benefit from "selling" a concept onward.
- How you will negotiate use and publish of traditional knowledge with communities. For example, do traditional inhabitants allow public publication of information or only for project activities and reported on in internal reports? This will depend on data sensitivity and privacy (such as fishing grounds etc).
- Are there any other ethical considerations you have identified for this project which need to be managed?
- Are you committed to gaining ethics approval for this project from a suitable body such as a university or AIATSIS?

This project may record knowledge relating to fishing practices. This information will require detailed and thorough information protocols that will outline information storage, usage and reporting.

A data agreement will be developed, if needed, between the research team, islander community members and associated agencies/stakeholders (e.g. TSRA, AFMA) about data and extension information storage and reporting.

This agreement will be developed as part of a broader ethics approval process that will include seeking prior and informed consent for various levels of information handling and dissemination. We will produce full ethics documentation, as per the AIATSIS or other relevant approach, and get this approved by the TSRA and oversite committee. Traditional Knowledge (TK), in particular, will only be used with the express permission of the traditional owners.

TORRES STRAIT FINFISH FISHERY RESOURCE ASSESSMENT GROUP	Meeting 5 31 Oct – 1 Nov 2019
RESEARCH Five Year Fishery Research Plan 2020/21 to 2023/24	Agenda Item 5.3 For DISCUSSION & ADVICE

RECOMMENDATIONS

1. That the RAG:
    a) **NOTE** that a rolling five-year research plan for the Finfish Fishery is used to inform the Torres Strait Scientific Advisory Committee's (TSSAC) annual call for research funding proposals;
    b) **DISCUSS** and **PROVIDE ADVICE** on research priorities for a rolling five-year research plan for 2020/21 - 2023/24 drafted by AFMA based on previous RAG advice to facilitate RAG discussion (**Attachment 5.4a**).
    c) **NOTE** that while there is likely limited research funding available in the 2020/21 financial year (approx. $45k) the FFRAG should **DISCUSS** and **PROVIDE ADVICE** on any priority tactical research priorities to support TSSAC consideration of how to use this available funding;

KEY ISSUES

2. Under the new TSSAC Strategic Research Plan (SRP) (**Attachment 5.4b**), each PZJA Working Group and Resource Assessment Group (RAG) is tasked with identifying research priorities for their respective fisheries and updating their five year rolling fishery research plans by August in each year.
3. Based on 2018 FFRAG advice and the 2018/19 to 2022/32 research plan (**Table 1** below) seven key research priorities for the Finfish Fishery were put to TSSAC for their consideration. Following a December 2018 call for research, seven projects were considered by the TSSAC and were supported for funding in 2019/20. Some projects have funding committed over multiple years.
4. All bar two of the research priorities identified by FFRAG are currently being addressed through a funded project. These unaddressed priorities are 'stock structure' examination and 'Management Strategy Evaluation testing of the Finfish Fishery Harvest Strategy'.
5. No response to the call for research was received for stock structure and TSSAC did not support the MSE proposal noting that it wasn't considered cost effective. The TSSAC recommended the FFRAG consider other more cost effective methods for achieving the same result for future funding.
6. The FFRAG is asked to review the draft five year research plan proposed by AFMA (**Attachment 5.4a**) and amend where necessary according to any new objectives projected for the next five years. Another opportunity to amend the research plan will be provided in 2020 before the 2021-22 call for research (to be released in late 2020). For reference, a summary of previously identified research priorities and data needs is provided at **Table 2** and **Table 3**.

BACKGROUND

7. The Torres Strait Scientific Advisory Committee operates under a Five Year Strategic Research Plan. The SRP is the overarching document providing the TSSAC's strategic themes which guide priority setting for research in the Torres Strait fisheries over a five year period. The document identifies three research themes, and under these, strategies and possible research activities against these themes. The document also provides guidance to researchers on research application development and the TSSAC and PZJA forums in assessing applications through the assessment criteria in the SRPs appendices. The SRP was finalised by the TSSAC in mid-July 2018.

8. The TSSAC requires each fishery to develop a five year fisheries research plan, which fits into the themes identified in this SRP (**Table 4**).

Torres Strait Fisheries Strategic Research Plan 2018-2023

9. The SRP specifies the research priorities and strategies that the PZJA intend to pursue in Torres Strait fisheries, and provides background to the processes used to call for, and assess, research proposals. The research priorities can be broad, covering all topics within the SRP, some of which may be funded by AFMA, and some of which may require funding from other funding bodies.

10. There are three research themes within the SRP, under which the FRAG could identify research priorities for the Finfish Fishery (**Table 4**). There are several strategies under each theme and suggested ideas to help the FRAG to form ideas about the sorts of projects which may go under these themes and strategies.

Rolling Five Year Fishery Research Plans

11. In the past, fishery specific research planning was undertaken through fishery specific research priorities being included in the SRP and each Torres Strait fishery completing a list of annual research priorities, which fed into the TSSAC annual research statement. This process has now been simplified by combining individual fishery planning into one rolling five year research plan per fishery. The plans are written by the relevant Torres Strait forum (Working group, MAC or RAG) based on the themes and strategies identified in the 5 year SRP. These plans are then used by AFMA and the TSSAC to create an annual research statement (ARS), listing annual priorities for Torres Strait research across all fisheries. The new plan should simplify this process.

12. The rolling five year research plans will be updated annually, thus always having a five year projection for research. It is possible that these plans will not be finalised in time for the development of the TSSAC 2020-21 ARS. In this case, fisheries will be asked to submit a one year list of research priorities for 2019-20, and the rolling five year research plan will be applied to the following year (2020-2021 and beyond). Annual schedule for the TSSAC is at **Table 5** below.

ATTACHMENTS

5.4a Draft Five year research plan, Torres Strait Finfish Fishery, 2020/21 to 2023/24
5.4b TSSAC Strategic Research Plan 2018-2023

Table 1. Previous Torres Strait Finfish Fishery five year research plan (2018/19 to 2022/23) put to TSSAC ahead of 2019-20 funding round.

Proposed Project	Objectives and component tasks	Year project to be carried out and indicative cost*						Other funding bodies[1]	Evaluation		
		2018/19	2019/20	2020/21	2021/22	2022/23	Notes on project timings		Priority essential /desirable	Priority ranking (1-5)	Theme
Finalisation of Harvest Strategy	Finfish Harvest Strategy (Project No. 2016/0824) currently funded. Final HS draft expected by EOFY 2018/19.	$44,719 (for final Harvest Strategy)					HS Project established in 2016/17.		Essential	1	1a
Management Strategy Evaluation (MSE) of draft harvest strategy	Requirements of Cwth HS Policy and Guidelines to undertake MSE prior to implementation.	MSE – requires funding.	MSE work - requires funding. Advice pending.						Essential	1	1a
Stock assessments	Need for ongoing assessment of key commercial species.	Advice pending and HS will inform frequency. Maximum is yearly. Funding is required.							Desirable	2	
Age and length data sampling program	Develop costed options for the collection of age and length data for Spanish mackerel to support present and future stock assessments.	Not costed – advice pending.							Desirable	2	1a
Stock structure of Spanish mackerel.	Define the spatial scale of management and connectivity of Torres Strait populations of SM with adjacent areas (Gulf, Qld, Coral Sea, PNG) potentially through collection of samples for genetic relatedness.	Not costed – advice pending.							Desirable	2	1a, 1b
Ecological Risk Assessment (ERA)	All Torres Strait fisheries to be put through Ecological Risk Management framework over the next three financial years.		ERA due 2019/20. $20,400 allocated.					AFMA	Desirable	3	1a
Estimating catches outside the commercial fishery.	Current project: Monitoring the traditional take of finfish in the TSPZ (RR2015/0823) Project is under review. May require a revised project plan and or/tender.	~$140k budget remaining.	Future work on this project is pending advice.				Project established 2015.	TSRA total funding $199,802 (not from Torres Strait research budget)	Desirable.	3	1a

Table 2. Research and data needs for the Finfish Fishery together with possible actions to be progressed by the RAG. Agreed by Finfish RAG at its first meeting: FFRAG 1, 9-10 November 2017.

Research and data needs	Action to address and comment	Status (updated by FFRAG EO Oct 2019)
Catch and effort data needs to improve utility for assessments (SM and CT).	Review TSF01 daily fishing logbook to make sure it is best capturing data for assessment and management. Carry out industry workshop to review logbook/ discuss filling out logbook and raise awareness with fishers about the need for accurate CPUE data and accurate spatial data – including the importance of recording zero-catches. Verify catch disposal record data against logbooks to understand variance between fishers. Consider how VMS data might be analysed for stock assessment purposes.	In progress. Focus with TIB sector has been on Fish Receiver System (CDRs) with some key commercial operators moving across to Daily Fishing Logbooks to contribute catch and voluntary effort data to support understanding. Sunset sector fishers (2019-20 season) have been briefed on need for accurate spatial and effort data in TSF01 logs. FFRAG are to provide advice on VMS to support assessments at FFRAG 5 meeting.
Need to capture important data of zero-catches		
Spatial data issues with sunset logbooks – limited utility in past Spanish mackerel assessments.		
Need to capture TIB sector effort data – CDRs capture catch data but limited effort data.	Raise awareness among TIB finfish fishers about the need for accurate fishery data.	Round of community visits 2019 with awareness, feedback and training on catch disposal records and how science supports management. Erub freezer included. Ongoing focus of management, with continued feedback during visits.
Need to reliably capture island freezer data.	Ensure operational island freezers are filling out CDRs and awareness raising on value of accurate data for assessments and Harvest Strategy development.	
Need monitoring for take from non-commercial sectors.	Subsistence take project in progress. RAG advice is that recreational and charter catches are likely to be minimal.	Previous project progress limited. New project funded for 2019/20
Biological data issues		
Need to improve biological data inputs to stock assessment models due to age of most recent samples. Need to validate assumptions such as: age at maturity, age at length, length frequency.	Develop design of a sampling program alongside the Harvest Strategy project. Once designed evaluate how it might be delivered; e.g. through industry based sample collection, or an at-sea program funded through research channels. Investigate collection of samples to validate assumptions in the short term.	Funded project for Spanish mackerel biological sampling in progress led by QDAF Long Term Monitoring Program. Aiming to collect 1500 length frequencies and up to 500 age/sex measurements to support stock assessment.
Stock structure		
Need to understand the relatedness within the Torres Strait SM and CT stocks to test the single-stock theory. Also important to understand connectedness to other adjacent stocks.	Previous acoustic monitoring carried out to examine SM exchange with Bramble Cay with limited findings. Genetic sampling could be carried out though this would likely be an involved project which would need to attract appropriate funding.	No progress. SM otolith samples taken during length/sex/age sampling will be stored in a way to enable future genetic sampling to be taken when a project is formed.

Assessment issues (SM)		
Need to understand how the SM assessment deals with most of the data coming from the Bramble Cay breeding aggregation of fish.	Next assessment update is to investigate.	Spanish mackerel assessment updates funded for 2019-20 and 2020-21 with scope to investigate issues identified by FFRAG. Initial progress on paper-fish issue through project-team data meetings under Harvest Strategy project with assistance from Tony Vass, Rik Buckworth and Ash Williams. Some candidate boats identified for further investigation. No treatment applied to 2018-19 stock assessment.
Need to investigate the sudden peak of catches in the mid 2000's prior to the buyout and whether any of these catch data were 'paper' fish and the reported harvest level accurate.	Industry workshop and work on characterising the data, examining which boats entered the fishery and assess the accuracy of the available catch data from this time.	
Ensure TIB sector changes such as experienced fishers leaving the fishery, freezers closing down, have been reflected in the assessment.	Data characterisation and industry workshop.	
Ensure the impacts and benefits of the 2008 implementation of the 10 nm closures are understood and captured in the model (SM)	Next SM assessment update is to investigate. Industry workshop can record the impacts of the closures on reef-line sector marks (initial feedback is that this mainly impacted the SM sector)	
Fish vulnerability (mainly SM issue)		
Improve understanding of fisher behaviour and how this varies across the fleet – including variation in gear setup, targeting practices, daily fishing effort.	Industry workshop to help stock assessment scientists and management characterise fishing practices.	Some progress through harvest strategy industry workshops but still requires work on recording in a FRAG document or report.
Investigate SM 'domed' vulnerability where large fish are assumed to be less available to capture.	Next SM assessment update is to investigate.	Spanish mackerel assessment updates funded for 2019-20 and 2020-21 with scope to investigate issues identified by FFRAG.

	Next Spanish mackerel stock assessment		Ongoing education
	Industry workshop		Funded research
	Subject to future funding and advice on project design.		

Table 3. Finfish RAG input on monitoring data to support management and harvest strategy development including prioritisation and potential costs (FFRAG 2, 20-21 March 2018) *(Areas considered higher priority by the RAG are highlighted in yellow).*

Priority (P)	Potential Cost (C)
High priority = 3	<$50 k = 3
Medium priority = 2	$50 - $150 k = 2
Low priority = 1	$>$150 k = 1

Spanish Mackerel				Coral Trout			
	P	**C**			**P**	**C**	
1. Age structure (domed – non-domed selectivity - sunset)	2			1. Species specific data (via fishery data)	3	3	
2. Unexplained CPUE declines, sensitivity analyses (covered?)	3	3		2. Habitat mapping	2	3	
3. Data validation (via existing workshops) after logbook validation and analyses	3	3		3. Virgin biomass estimate	3	1	
4. Ageing data TIB (student)	2	3		4. Ageing (student)			
5. Ageing data TIB (researcher)	2	2		5. Ageing (researcher)			
6. Connectedness between stocks	1	1		6. UVC (Dive survey)		1	
7. Investigation of tagging for fishing mortality data and confirming stock structure.	2	1		7. Unexplained CPUE declines, sensitivity analyses	3		
8. Estimating F (Fishing mortality)	2	2		8. Data validation (via scheduled workshops)	3	3	

Table 4. Torres Strait fisheries strategic research themes, strategies and research activities

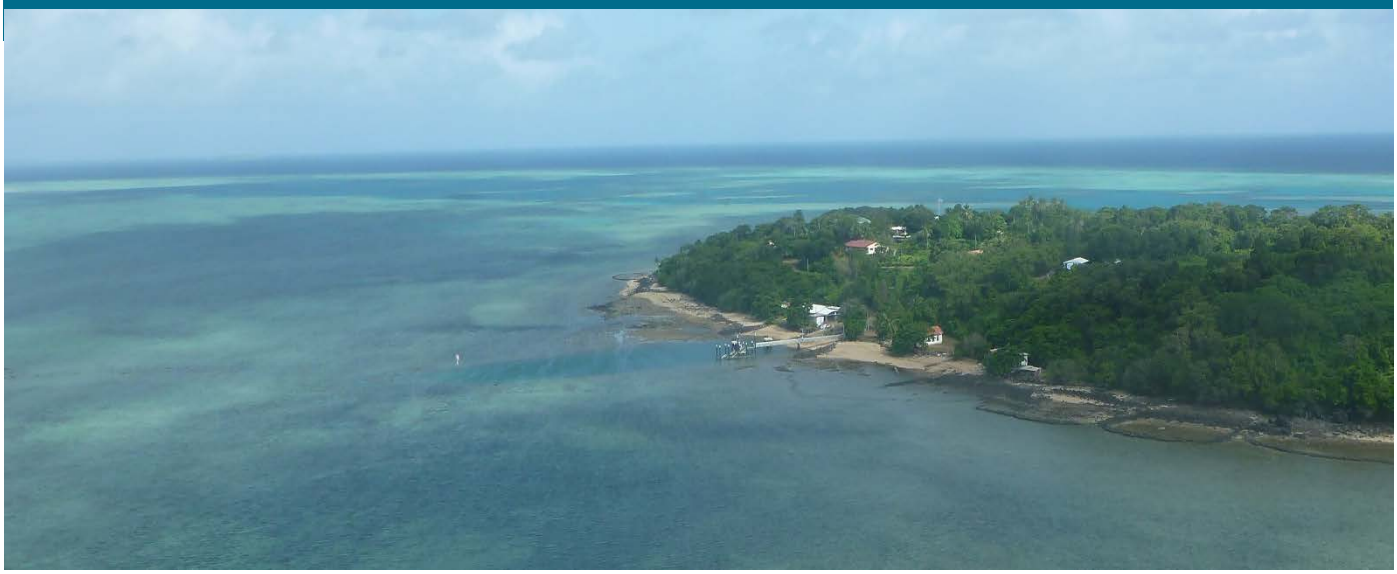
Theme 1: Protecting the Torres Strait marine environment for the benefit of Traditional Inhabitants	
Aim: Effective management of fishery stocks based on understanding species and their biology and ecological dependencies so it can support Traditional Inhabitant social and economic needs.	
Strategy 1a - Fishery stocks, biology and marine environment	Possible research activities under this theme may include: a. Stock assessment and fishery harvest strategies for key commercial species. b. Ecological risk assessments and management strategies for fisheries. c. Minimising marine debris in the Torres Strait. d. Addressing the effects of climate change on Torres Strait fisheries through adaptation pathways for management, the fishing industry and communities. e. Incorporating Traditional Ecological Knowledge into fisheries management. f. Methods for estimating traditional and recreational catch to improve fisheries sustainability.
Strategy 1b – Catch sharing with Papua New Guinea	Possible research activities under this theme may include: a. Status of commercial stocks and catches by all sectors within PNG jurisdiction of the TSPZ. b. Good cross-jurisdictional fisheries management through better monitoring and use of technology.
Theme 2: Social and Economic Benefits	
Aim: Increase social and economic benefits to Traditional Inhabitants from Torres Strait Fisheries.	
Strategy 2a - Promoting social benefits and economic development in the Torres Strait, including employment opportunities for Traditional Inhabitants	Possible research activities under this theme may include: a. Models for managing/administering Traditional Inhabitant quota b. Understanding what influences participation in commercial fishing by Traditional Inhabitants. c. Understanding the role and contribution of women in fisheries. d. Capacity building for the governance of industry representative bodies e. Methods for valuing social outcomes for participation in Torres Strait fisheries. f. Identifying opportunities and take-up strategies to increase economic benefits from Torres Strait fisheries.
Theme 3: Technology and Innovation	
Aim: To have policies and technology that promote economic, environmental and social benefits from the fishing sector.	
Strategy 3a – Develop technology to support the management of Torres Strait fisheries.	Possible research activities under this theme may include: a. Electronic reporting and monitoring in the Torres Strait, including for small craft. b. Technologies or systems that support more efficient and effective fisheries management and fishing industry operations.

Table 5. TSSAC annual research cycle

	TSSAC Process
February	Research providers submit pre-proposals for assessment, which meet the scopes provided by TSSAC in November. EOIs submitted are circulated to fisheries managers/ RAGs & MACs for comment; Fisheries Managers, RAGs/MACs identify any additional research priorities for potential FRDC funding.
March	TSSAC meets via teleconference to assess pre-proposals and Management/RAG/MAC comments. Applicants notified of TSSAC comments on their pre-proposals and asked to develop the consultation package (for review by AFMA by end of March) for use during full proposal development.
April	Researchers to complete full proposal (6 weeks total with consultation period)
May	Late May/ early June. TSSAC meet face to face to review full proposals and endorse final applications, or suggest necessary changes before endorsement. Applicants advised of the TSSAC's final evaluation.
June	
July **(START)**	TSSAC confirm the research budget for the new financial year (it doesn't generally change from year to year - $410 000). New contracts and variations for essential research projects prepared and put in place, confirming forward budgets. RAGs, WGs and MACs to identify THEIR PRIORITY RESEARCH NEEDS for funding in the next financial year by updating their *five year rolling fisheries research plan*. This should be framed around strategies in the 5 year strategic research plan. Provide to TSSAC EO by end August.
August	RAGs/MACs submit their five year rolling fishery research plan to the TSSAC Executive Officer, currently lisa.cocking@afma.gov.au, by end August.
September	TSSAC EO drafts the TSSAC Annual Research Statement (ARS) with each fisheries priorities for the current year.
October	TSSAC meets (face to face or via teleconference) to finalise the PZJA ARS and agree on priorities for the TSSACs call for applications in November. AFMA develop scopes for the priority research projects and send to TSSAC out of session for consideration.
November	The annual research call opens in November. Scopes sent to researchers seeking pre-proposals.

Five-year Research Plan 2019/20 - 2023/24

Torres Strait Finfish Fishery



Draft compiled by the PZJA Torres Strait Finfish Resource Assessment Group, October 2019

ABOUT THIS PLAN

The Torres Strait Scientific Advisory Committee (TSSAC) seeks input from each fishery advisory body (Resource Assessment Group (RAG), Management Advisory Committee (MAC) or Working Group (WG)) to identify research priorities over five year periods from 2019/2020 (present year) to 2023/24. This template is to be used by the relevant advisory body to complete their five-year plan. The plans are to be developed in conjunction with the TSSAC Five-year Strategic Research Plan (SRP) with a focus on the three research themes and associated strategies within the SRP.

All fishery five-year plans will be assessed by the TSSAC using a set of criteria, and used to produce an Annual Research Statement for all Torres Strait fisheries.

The TSSAC then develop scopes for the highest ranking projects in order to publish its annual call for research proposals. There are likely to be more scopes that funding will provide for so TSSAC can consider a number of proposals before deciding where to commit funding.

The fishery five-year plans are to be reviewed and updated annually by the Torres Strait forums to add an additional year onto the end to ensure the plans maintain a five year projection for priority research. Priorities may also change during the review if needed.

Table 1. Draft Research priorities for Torres Strait Finfish Fishery for 2019/20 – 2023/24 (noting this is a live document and will change subject to RAG input.

Proposed Project	Objectives and component tasks	Year Project to be carried out and indicative cost							Evaluation		
		2019/20	2020/21	2021/22	2022/23	2023/24	Notes on project timings	Other funding bodies[1]	Priority essential /desirable	Priority ranking (1-5)	Theme
Stock assessments	Need for ongoing assessment of key commercial species.	Funded. $49,187.	Funded. $43,188.	No budget commitments but likely a requirement for mackerel and/or coral trout stock assessments or CPUE standardisation work at minimum.			HS project outcomes should inform freq.		Desirable	2	
Age and length data sampling program	Project funded for age, sex and length data for Spanish mackerel to support present and future stock assessments.	Funded. $144,809						TSRA co-contrib $30k, QDAF contrib $35k	Desirable	2	1a
Ecological Risk Assessment (ERA)	All Torres Strait fisheries to be put through Ecological Risk Management framework over the next two financial years.	ERA scheduled 2019/20. May be actioned 2020/21. $20,400 allocated.						AFMA budget	Desirable	3	1a
Estimating catches outside the commercial fishery.		Scoping project funded.					Outcomes of scoping project will inform likely future work.		Desirable.	3	1a
Management Strategy Evaluation (MSE) of draft harvest strategy	Requirements of Cwth HS Policy and Guidelines to undertake MSE prior to implementation.	MSE work - requires funding. Outcome of HS project pending.							Essential	1	1a

Stock structure of Spanish mackerel.	Define the spatial scale of management and connectivity of Torres Strait populations of SM with adjacent areas (Gulf, Qld, Coral Sea, PNG) potentially through collection of samples for genetic relatedness.	(nil)					Not designed or costed. Torres Strait otoliths collected under sampling project will be stored to faciliatate future genetic sampling.		Desirable	2	1a, 1b

Torres Strait Fisheries Strategic Research Plan 2018-2023

TORRES STRAIT
PZJA
PROTECTED ZONE
JOINT AUTHORITY

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

CONTENTS

Torres Strait Scientific Advisory Committee

The Torres Strait Scientific Advisory Committee (TSSAC) includes members from each of the three main Protected Zone Joint Authority (PZJA) agencies (the Australian Fisheries Management Authority, the Torres Strait Regional Authority and Fisheries Queensland), industry members and scientific research members. TSSAC is responsible for providing advice to the Australian Fisheries Management Authority (AFMA) Executive on the use of AFMA research funds for Torres Strait fisheries research. This Torres Strait research provides critical information to the Minister and the Protected Zone Joint Authority (PZJA) for the management of Torres Strait commercial fisheries.

As part of its role the TSSAC:

- develops research priorities for PZJA fisheries in conjunction with the Resource Assessment Groups (RAGs) (or Management Advisory Committees (MACs) and Working Groups (WG)) and addresses PZJA's management needs and objectives as specified in the *Torres Strait Fisheries Act 1984* (the Act) and this plan;
- reviews and advises (where required) on individual fishery research plans for PZJA managed fisheries;
- advises the AFMA Executive on the allocation of research funds, and provides milestone reports and accounts against the use of funds.
- informs Torres Strait communities of project outcomes.

AFMA provides the TSSAC secretariat duties, including organising meetings and managing research contracts and projects milestones.

The TSSAC relies on the assistance of the various PZJA advisory groups (MACs, RAGs and Working Groups) to develop fishery-specific research plans and priorities based on this Strategic Research Plan (SRP). These groups provide current and up to date scientific and operational advice to the TSSAC as it relates to research proposals and fishery. More information about the advisory groups is provided at section 2.4 below.

The Terms of Reference for the TSSAC is at (Appendix A)

About this plan

This plan specifies the research priorities and strategies that the PZJA intend to pursue in Torres Strait fisheries, and provides background to the processes used to call for, and assess, research proposals.

This SRP has been developed by AFMA in consultation with TSSAC to assist the PZJA to pursue the objectives of the *Torres Strait Fisheries Act 1984* (the Act) through research.

This document sets out the five year strategic plan (2018-2023) for research in Torres Strait fisheries to support a framework for fishery-specific, five-year research plans, and a TSSAC annual research statement.

1. Part one sets out the research planning and priorities, including the current research themes, strategies and possible research activities (Part 1 and Appendix B). It also provides guidance to researchers developing applications for research funding.
2. Part two provides guidance for the TSSAC and PZJA advisory groups when assessing research applications (see Appendix C).

Supporting information for the TSSAC and researchers can be found in appendices and referenced documents, which are useful when developing research applications.

It is intended that the SRP be a living document that responds to a changing environment. In line with this intent, this plan will be reviewed by the TSSAC as needed, but not later than 2022.

Part 1 Research planning and priorities

1.1 Role of five year fishery research plans and link to the TSSAC Strategic Research Plan

The three research themes described in this section are strategic priorities for Torres Strait and provide a basis for advisory forums (RAGs, MACs and working groups) when developing their five-year fishery research plans (see section 2.3.2).

The five year fishery research plans will vary between fisheries depending on the status of the fishery, its information requirements and particular knowledge gaps. Although it is a five year plan, the advisory forums are required to review and update the fishery plan annually so the plan will always have a five year projection.

The TSSAC uses both the strategic priorities in the SRP and the specific priorities within individual fisheries research plans to compile the TSSAC Annual Research Statement (ARS). The ARS is the list of priority research for a given year that researchers will focus on when developing research proposals. The ARS is also the key document for RAGs, MACs and WGs in their prioritisation of research applications for TSSAC funding consideration. All groups including TSSAC and researchers should refer to the 'criteria for assessing research investment' (Appendix C) when developing, assessing and ranking research proposals.

1.2 Torres Strait Fisheries Research Themes, Strategies and Research Activities

The TSSAC has identified three research themes, related strategies and possible research activities (basis for proposals) for the next five years that will help the PZJA to pursue the objectives of the *Torres Strait Fisheries Act 1984* (Appendix A) and improve fisheries management in the Torres Strait.

Researchers are encouraged to use this SRP and the five year fishery plans when considering and planning their proposed research in the Torres Strait, regardless of where they may seek funding. The TSSAC process ensures

robust consultation with a broad range of stakeholders regarding funding priorities through the PZJA advisory forums.

Theme 1: Protecting the Torres Strait marine environment for the benefit of Traditional Inhabitants

Aim

Effective management of fishery stocks based on understanding species and their biology and ecological dependencies so it can support Traditional Inhabitant social and economic needs.

Strategy 1a - Fishery stocks, biology and marine environment

Possible research activities under this theme may include:

- Stock assessment and fishery harvest strategies for key commercial species.
- Ecological risk assessments and management strategies for fisheries.
- Minimising marine debris in the Torres Strait.
- Addressing the effects of climate change on Torres Strait fisheries through adaptation pathways for management, the fishing industry and communities.
- Incorporating Traditional Ecological Knowledge into fisheries management.
- Methods for estimating traditional and recreational catch to improve fisheries sustainability.

Strategy 1b – Catch sharing with Papua New Guinea

Possible research activities under this theme may include:

- Status of commercial stocks and catches by all sectors within PNG jurisdiction of the TSPZ.
- Good cross-jurisdictional fisheries management through better monitoring and use of technology.

Theme 2: Social and Economic Benefits

Aim

Increase social and economic benefits to Traditional Inhabitants from Torres Strait Fisheries.

Strategy 2a - Promoting social benefits and economic development in the Torres Strait, including employment opportunities for Traditional Inhabitants

Possible research activities under this theme may include:

- Models for managing/administering Traditional Inhabitant quota
- Understanding what influences participation in commercial fishing by Traditional Inhabitants.
- Understanding the role and contribution of women in fisheries.
- Capacity building for the governance of industry representative bodies
- Methods for valuing social outcomes for participation in Torres Strait fisheries.
- Identifying opportunities and take-up strategies to increase economic benefits from Torres Strait fisheries.

Theme 3: Technology and Innovation

Aim

To have policies and technology that promote economic, environmental and social benefits from the fishing sector.

Strategy 3a – Develop technology to support the management of Torres Strait fisheries.

Possible research activities under this theme may include:

- Electronic reporting and monitoring in the Torres Strait, including for small craft.
- Technologies or systems that support more efficient and effective fisheries management and fishing industry operations.

Part 2 Research management and administration

The PZJA, established under the Act, is responsible for the management of fisheries in the Australian Jurisdiction of the Torres Strait Protected Zone (Figure 1). The PZJA members comprise the Commonwealth and Queensland Ministers responsible for fisheries, and the Chair of the Torres Strait Regional Authority.

Fisheries research findings are critical to the PZJA exercising its functions, and in particular, for monitoring the condition of the Torres Strait fisheries, Good research more broadly assists the PZJA to pursue the legislated objectives. For more information about the PZJA or the PZJA agencies responsible for the day to day management of Torres Strait fisheries see annual reports on the PZJA website (www.pzja.gov.au).

The TSSAC is the only committee that is solely focused on Torres Strait fisheries research, although other committees or agencies (see below) may sometimes fund and manage research projects relevant to Torres Strait fisheries. The different funding sources and management are discussed below.

Research in the Torres Strait comes with a unique set of challenges. The traditional way of life and Torres Strait Island culture are critically important to the communities residing across the many remote islands in the Protected Zone. Consequently, research needs to pay special attention to the social and economic contexts which are unique to the region. This includes consideration of the potential impacts that research may have on Torres Strait communities, both overt through direct interaction with communities and the more subtle emotional or psychological impacts of research activities taking place in and around culturally significant places.

2.1 Research Funding Environment

Torres Strait fisheries operate in a complex management environment with social, economic and cultural objectives being pursued alongside contemporary environmental and fisheries management objectives.

Therefore, the scope of potential fisheries research is necessarily broad. Research ranges from assisting Traditional Inhabitants to pursue their aspirations within local fisheries, undertaking routine science stock assessments and surveys, adaptation to the effects of climate change and ways to improve sustainability of, and economic and social benefits from the Torres Strait fisheries.

2.2 AFMA research funds

The TSSAC primarily funds research through AFMA's annual research contribution (currently at $410 000 annually).

These funds are allocated at the discretion of the AFMA executive, based on recommendations of the TSSAC. The TSSAC considers research proposals based on the priorities set in this SRP and the ARS. When the TSSAC is unable to recommend funding for a project due to funding constraint, it may recommend that researchers go to other funding bodies. Depending on the priority and degree of funding constraint the TSSAC may support the project but ask the researcher to seek co-funding from another body.

Research priorities identified by the TSSAC in its SRP are also intended to implicitly influence other funding agencies in the research they may fund as it relates to Torres Strait fisheries. Equally, the TSSAC should be mindful of research being funded by other bodies, particularly where it may overlap with TSSAC priorities.

It is not possible to meet all Torres Strait research needs through the AFMA funds. Funding constraints are not likely to change and it would be beneficial for the TSSAC to play a greater role in supporting researchers to find other funding opportunities in order to broaden research delivery in the Torres Strait. This could be achieved through improved collaboration among research providers with an interest in the Torres Strait region. AFMA will actively engage in seeking greater collaboration between the TSSAC and other bodies.

2.3 Other funding bodies

Funding for Torres Strait fisheries related projects is sometimes provided by other government agencies or external funding bodies for Torres Strait research. This can take the form of contributions towards AFMA funded TSSAC projects, or be completely funded external to TSSAC and AFMA. In these cases, the funding body will manage the project themselves with little or no TSSAC comment. Information on some of these funding bodies and agencies is provided below. Further information about their role and research programs can be found on the agency websites.

2.3.1 Government Agencies

The Department of Agriculture and Water Resources, along with the Torres Strait Regional Authority and the Queensland Government may provide funding support for certain Torres Strait fisheries projects based on the relevance to their jurisdiction and their current priorities. Sometimes these projects and funds are managed by the TSSAC. TSRA in particular inject significant funds for Torres Strait fisheries research on a regular basis. TSRA funded projects generally have a focus on capacity building and traditional fisheries, or commercial fisheries with an indigenous interest, and generally compliment the TSRA core program work.

2.3.2 The Fisheries Research and Development Corporation (FRDC)

The FRDC is a statutory authority within the portfolio of the Federal Minister for Agriculture and Water Resources, jointly funded by the Australian Government and the commercial fishing The FRDC may fund projects in the Torres Strait if such projects fit within the FRDC's Research, Development and Extension (RD&E) plan. The FRDC uses Commonwealth, State and Territory research advisory committees at to assess and recommend projects for funding in line with the RD&E Plan.

The Indigenous Reference Group (IRG), FRDC

The IRG is the FRDC's Indigenous Fishing sub-program advisory partner. The IRG was established by the FRDC in 2012 to assist in working towards a

RD&E plan for indigenous Australians to improve economic, environmental and social benefits to Australia's indigenous people. The current priorities for the IRG, can be found at the FRDC website (www.frdc.com.au) Some of these priorities are highly relevant to Torres Strait fisheries, including;

- Primacy for Indigenous People
- Acknowledgement of Indigenous Cultural Practices
- Self-determination of indigenous rights to use and manage cultural assets and resources
- Economic development opportunities arising from Indigenous peoples cultural assets and associated rights
- Capacity building opportunities for Indigenous people are enhanced.

Human Dimensions Program, FRDC

The FRDC also has a new Human Dimensions Program, focusing on social-science and economic research related to fisheries. Information on this program can also be found on the FRDC website (www.frdc.com.au).

2.3.4 The Commonwealth Scientific and Industrial Research Organisation (CSIRO)

The CSIRO has a long history of contributing funding support for CSIRO-led Torres Strait research. This generally occurs as a co-funding of project managed through the TSSAC.

2.3.6 Collaboration among research providers

There are both formal and informal links between staff from many of these external funding bodies and agencies that contributes to successful funding of research in the Torres Strait. Improved collaboration among research providers may lead to more efficient use of research funds.

AFMA, as a key funding agency for Torres Strait fisheries research, will consult with external research providers and key research stakeholders in an

effort to improve collaboration among these groups and transparency about proposed Torres Strait fisheries research.

2.4 MACs, RAGs and Working Groups

MACs, RAGs and WGs are actively involved in the PZJA's research planning process for the Torres Strait.

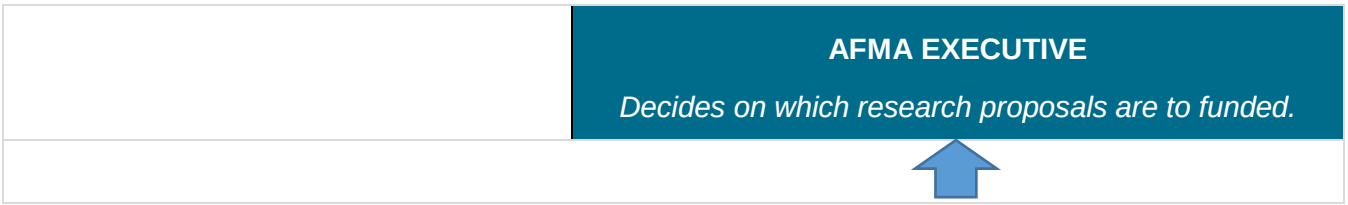
The roles of these different groups are less distinct than in the AFMA Commonwealth fisheries forums, as the working groups and MAC (there is currently only one MAC operating in Torres Strait) have a very similar function. There are now two RAGs within Torres Strait fisheries. Both Torres Prawn MAC and the hand collectible working group also perform RAG functions (primarily scientific advice).

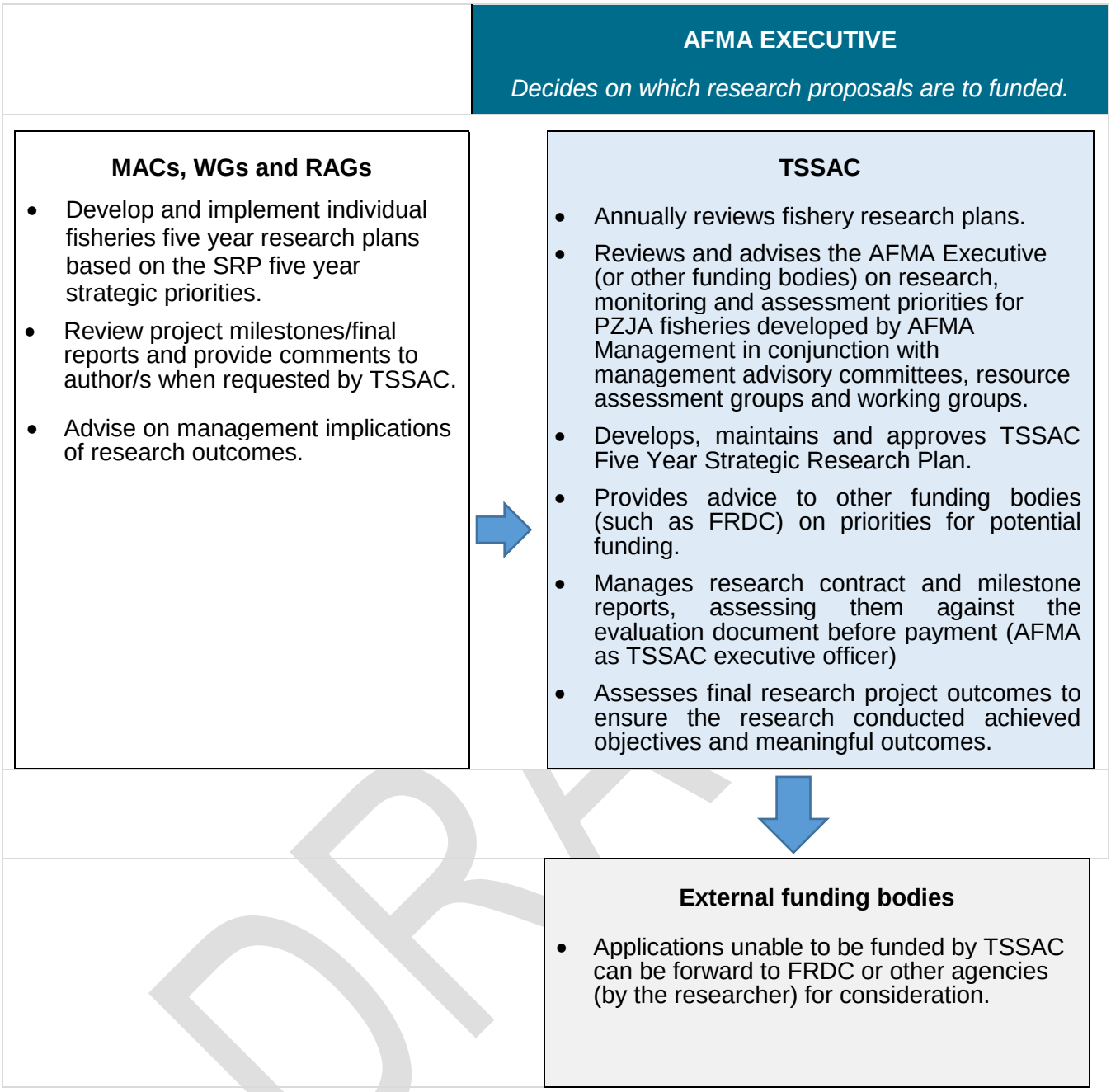
The collective scientific functions of these groups are to review scientific data and information and provide advice to the PZJA on the status of fish stocks, sub-stocks, species (target and non-target species) and the impact of fishing on the marine environment. This advice assists the Minister and PZJA in the role of managing commercial fishing within PZJA fisheries, particularly in relation to monitoring the condition of the Torres Strait fisheries.

The collective management advisory function is to provide advice on fishery-specific management policies and plans to assists the Minister and PZJA in the role of managing commercial fishing across the PZJA fisheries.

In relation to the TSSAC function, each of these groups will lead the preparation of the rolling five year, fishery-specific research plans which are underpinned by the SRP. See Figure 2 below for a map of roles and responsibilities during the TSSAC funding application process.

Figure 2. Roles and responsibilities of key participants in the PZJA's annual research cycle for Torres Strait fisheries





2.4 Confidentiality of community fishing data and intellectual property

Data collected during research projects can be regarded as confidential to local communities, or non-indigenous fishers. Confidentiality requirements should be considered for all research projects that may generate intellectual property related to traditional knowledge, or contain data, such as fishing grounds or catch data, of individual communities or fisheries. This data should be treated in the same way as commercial in confidence commercial fishing data. Researchers should consider the types of data they will be

collecting, and gain prior agreement from each community or relevant stakeholder/s as to how the data will be used for example. only for decision making or to be published in the public domain.

TSSAC's annual research cycle

Table 1. TSSAC funding Cycle

	TSSAC PROCESS
February	Research providers submit pre-proposals for assessment, which meet the scopes provided by TSSAC in November. EOIs submitted are circulated to fisheries managers/ RAGs & MACs for comment; Fisheries Managers, RAGs/MACs identify any additional research priorities for potential FRDC funding.
March	TSSAC meets via teleconference to assess pre-proposals and Management/RAG/MAC comments. Applicants notified of TSSAC comments on their pre-proposals and asked to develop the consultation package (for review by AFMA by end of March) for use during full proposal development.
April	Researchers to complete full proposal (6 weeks total with consultation period)
May	Late May/ early June. TSSAC meet face to face to review full proposals and endorse final applications, or suggest necessary changes before endorsement. Applicants advised of the TSSAC's final evaluation.
June	
July **(START)**	TSSAC confirm the research budget for the new financial year (it doesn't generally change from year to year - $410 000). New contracts and variations for essential research projects prepared and put in place, confirming forward budgets. RAGs, WGs and MACs to identify THEIR PRIORITY RESEARCH NEEDS for funding in the next financial year by updating their *five year rolling fisheries research plan*. This should be framed around strategies in the 5 year strategic research plan. Provide to TSSAC EO by end August.
August	RAGs/MACs submit their five year rolling fishery research plan to the TSSAC

	Executive Officer, currently lisa.cocking@afma.gov.au, by end August.
September	TSSAC EO drafts the TSSAC Annual Research Statement (ARS) with each fisheries priorities for the current year.
October	TSSAC meets (face to face or via teleconference) to finalise the PZJA ARS and agree on priorities for the TSSACs call for applications in November. AFMA develop scopes for the priority research projects and send to TSSAC out of session for consideration.
November	The annual research call opens in November. Scopes sent to researchers seeking pre-proposals.

Appendix A: TSSAC Terms of Reference

Terms Of Reference

i. Identify and document research gaps, needs and priorities for fisheries in the Torres Strait in conjunction with the PZJA advisory groups.

ii. develop, maintain and approve the Torres Strait Five Year Strategic Research Plan. This includes balancing tactical short term needs and strategic needs to identify research gaps and priorities.

iii. review rolling five (5) year research plans for Torres Strait fisheries

iv. provide advice to the AFMA executive on priorities for the allocation of AFMA research funds and potential risks to achieving intended outcomes.

v. Provide advice on effective consultation strategies with communities regarding research projects to ensure engagement throughout the project.

vi. Consider the level of community support for research proposals and advise researchers on any actions needed to improve community consultation before a project is supported.

vii. ensure research outcomes are communicated to community stakeholders.

viii. provide advice to FRDC or other research providers on Torres Strait research priorities for potential funding consideration.

ix. assess research investment and outcomes for the Torres Strait fisheries to measure the extent to which intended sustainability, social and economic needs are being met.

x. provide a forum for expert consideration of scientific issues referred to the TSSSAC by the Torres Strait advisory groups.

xi. provide other advice to the Torres Strait advisory groups on matters consistent with TSSAC functions.

xii. review research / consultancies, stock assessments, and other reports and outputs relevant to Torres Strait fisheries and advise the Torres Strait advisory groups on their technical merit.

xiii. convene Fisheries Assessment workshops as appropriate to review and address assessment needs for Torres Strait fisheries.

Appendix B: Key factors influencing Torres Strait fisheries research needs

In developing this plan and the drivers for research in the Torres Strait, there are a number of factors which have been taken into account. This includes whole of Government policies and objectives relevant to the Torres Strait. These are explained in some detail below.

The Torres Strait Fisheries Act 1984 (the Act)

The PZJA is created under the Act; the legislation used by the Australian and Queensland Governments when managing Torres Strait fisheries.

The Act makes the PZJA responsible for monitoring the condition of the fisheries under its control and formulating policies and plans for their good management. In performing these functions, the Act requires the PZJA to have regard to the rights and obligations conferred on Australia by the Torres Strait Treaty' (https://www.legislation.gov.au/Details/C2016C00677), and in particular, the following management priorities:

(a) to acknowledge and protect the traditional way of life and livelihood of traditional inhabitants, including their rights in relation to traditional fishing;

(b) to protect and preserve the marine environment and indigenous fauna and flora in and in the vicinity of the Protected Zone;

(c) to adopt conservation measures necessary for the conservation of a species in such a way as to minimise any restrictive effects of the measures on traditional fishing;

(d) to administer the provisions of Part 5 of the Torres Strait Treaty (relating to commercial fisheries) so as not to prejudice the achievement of the purposes of Part 4 of the Torres Strait Treaty in regard to traditional fishing;

(e) to manage commercial fisheries for optimum utilisation;

(f) to share the allowable catch of relevant Protected Zone commercial fisheries with Papua New Guinea in accordance with the Torres Strait Treaty;

(g) 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.

Australian Government priorities

The Australian Government has identified priorities for research that are significant in shaping fisheries research effort and its reporting, namely:

- Global trends
- National Research Priorities
- Rural Research and Development Priorities

Global Trends

The five major trends that are expected to influence primary industries globally during the next 20 years, as identified by the Rural Industries Research and Development Corporation in its report *Rural Industry Futures – Megatrends impacting Australian agriculture over the coming twenty years*, include:

A hungrier world: Population growth will drive demand for food and fibre

A bumpier ride: Globalisation, climate change and environmental change will reshape the risk profile for agriculture

A wealthier world: A new middle class will increase food consumption, diversify diets and eat more protein

Transformative technologies: Advances in digital technology, genetic science and synthetics will change the way food and fibre products are made and transported

Choosy customers: Information-empowered customers of the future will have expectations for health, provenance, sustainability and ethics

National RD&E Strategy for Fishing and Aquaculture

The National Fishing and Aquaculture RD&E Strategy 2015-20 provides direction to improve the focus, efficiency and effectiveness of RD&E to support Australia's fishing and aquaculture industry.

The identified goals and key strategies are:

- Australia's fisheries and aquaculture sectors are managed, and acknowledged, to be ecologically sustainable.
- Security of access and resource allocation.
- Maximising benefits and value from fisheries and aquaculture resources.
- Streamlining governance and regulatory systems.
- Maintain the health of habitats and environments upon which fisheries and aquaculture rely.
- Aquatic animal health, and biosecurity (inclusive of pests) Aquaplan 2015-2019.

FRDC Research Development and Extension Plan 2015-20

The FRDC's RD&E Plan 2015-20[1] is focused on maximising impacts by concentrating on knowledge development around three national priorities:

1. Ensuring that Australian fishing and aquaculture products are sustainable and acknowledged to be so.
2. Improving productivity and profitability of fishing and aquaculture.
3. Developing new and emerging aquaculture growth opportunities.

[1] http://frdc.com.au/research/Documents/FRDC_RDE-Plan_2015-20.pdf

Appendix C: Criteria for assessing research investment in Torres Strait fisheries

The TSSAC will apply these criteria in assessing and ranking research proposals. Researchers should use the criteria as a guide when developing research applications and RAGs, MACs and WGs should also use these criteria when assessing proposals.

	Strongly disagree ----------→ strongly agree											Notes
Attractiveness	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**	
1. Is there a priority need for the research (does it align with the Torres Strait Strategic Research Plan and Annual Research statement)?												
2. Is/are the end-user/s identified?												
3. Do the outcomes have relevance and are they appropriate to the end-users?												
4. Do the outputs contribute towards outcomes and are they measureable?												
5. Does the proposal actively engage Traditional Inhabitants and Torres Strait Islanders in the research?												
6. Are there employment opportunities for Traditional Inhabitants and Torres Strait Islanders?												
7. Does the research contribute to the knowledge that underpins ecosystem based fisheries management (EBFM) to improve the quality of decisions made?												

8. Does the project involve capacity development for Communities? If so, TSSAC to discuss if there is funding from other agencies such as the IRG or TSRA that could support this project.												
Feasibility												
9. Does the applicant and their team / resources have the capacity to produce the outputs?												
10. Is the budget appropriate to meet the outputs and outcomes?												
11. Does the proposal outline a coherent strategy surrounding data collection, analysis, and storage?												
12. Does the proposal include appropriate plans (for example, adoption, communication and/or commercialisation plans) to ensure that the full potential of the research is realised through adoption of research outputs by end-users?												
13. Are the methods scientifically sound, well described and consistent with the projects objectives?												

14.	Research will be most effective when there is effective engagement with fishery stakeholders, particularly Traditional Inhabitants of the Torres Strait, and where the research has widespread stakeholder support (refer to procedural framework for undertaking research in the Torres Strait and the TSSAC research proposal application). Does the project identify the key stakeholders and how they will be engaged regarding the project in a culturally appropriate way?												

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
OTHER BUSINESS	Agenda Item No. 6.1 FOR NOTING

RECOMMENDATION

1. That the RAG **NOMINATE** any additional items of business for the meeting.

PZJA Torres Strait Finfish Resource Assessment Group	Meeting 5 31 Oct – 1 Nov 2019
NEXT MEETING and MEETING CLOSE	Agenda Item 6.2 For DISCUSSION and ADVICE

RECOMMENDATIONS

1. That the RAG **NOTE:**

    a. that **FFRAG 6** is to be held on Thursday Island on **27-28 November 2019** with the key business being Recommended Biological Catch advice for Spanish mackerel and coral trout to support setting sustainable catch limits for the 2020-21 season;

    b. a schedule for upcoming FFRAG, FFWG and PZJA meetings; and

    c. closing remarks from the Chairperson.

Date	Group	Key agenda items
27-28 November 2019	FFRAG 6	Spanish mackerel assessment update. RBC advice for 2020-21 season.
29 November 2019	FFWG	TAC setting advice for 2020-21 season. Advice on final draft Harvest Strategy. Advice on public comments on proposal to remove Western Line closure.
20 January 2020 (TBC)	PZJA	Decision on 2020-21 season TACs. Decision on Western Line Closure. Decision on releasing Harvest Strategy for public comment.
(27-28 February 2020)	(FFRAG)	(Additional FFRAG meeting only if required to progress advice on Spanish mackerel assessment update. TBC first week December 2019).
6-7 May 2020	Joint FFRAG & FFWG	Consideration of public comment on Finfish Fishery Harvest Strategies. Advice to PZJA on implementation.
June 2020 (date TBC)	PZJA	Decision on approving Harvest Strategies for implementation to support decision making in the 2021-22 season.

PZJA Torres Strait Finfish Resource Assessment Group	**Meeting 5** **31 Oct – 1 Nov 2019**
HARVEST STRATEGY **Draft Torres Strait Finfish Fishery Harvest Strategy**	**Agenda Item No. 3.1** **FOR DISCUSSION and ADVICE**

RECOMMENDATIONS

That the Finfish Fishery RAG:

1. **REVIEW** the previously recommended components of the draft harvest strategies for Spanish mackerel and coral trout (**Table 1** and **Table 2**);

2. **DISCUSS** and **PROVIDE ADVICE** on each outstanding component of the draft harvest strategies and where necessary advise on an appropriate work plan to resolve any outstanding matters identified in **Table 1** and **Table 2.**

KEY ISSUES

1. The AFMA funded project "*Harvest Strategies for the Torres Strait Finfish Fishery* project (the HS project) has now closed. A final project report was submitted to AFMA on 14 June 2019 and updated on 18 October 2019 following the June stakeholder HS meetings and will be provided to members pending final editing by the Principal investigator, Dr Trevor Hutton.

2. Key outcomes of the HS project include updating and further progressing the Spanish mackerel stock assessment, undertaking the first stock assessment for coral trout and recommending a range of components for the HS based on stakeholder input and project team expertise and analysis. The project outcomes are a useful basis to guide further work required to finalise the draft HS's for consideration by the PZJA.

3. **Tables 1** and **2** provide summaries of:

   a) each harvest strategy component recommended by the FFRAG and FFWG to date; and

   b) outstanding matters requiring further advice from the FFRAG and FFWG.

4. Having regard for any further advice from the HS project team, FFRAG advice is being sought on the outstanding matters listed in the tables and any others matters that may be identified by members. Where relevant, FFRAG advice is sought on a possible work plans to undertake any necessary further work.

Table 1. Status of Spanish mackerel draft harvest strategy components.

Guiding principles and key fishery attributes – factors that helped shape the development of the Harvest Strategy	
Recommended	Consistent with the Commonwealth Fisheries Harvest Strategy Policy and Guidelines (HSP, 2018). This is consistent with objectives of the *Torres Strait Fisheries Act 1984* (the Act).
	Have regard for traditional knowledge and the ability of communities to manage fishery resources locally, through acknowledging and incorporating customary and traditional laws, recognising; Malo Ra Gelar, Gudumalulgal Sabe, Maluailgal Sabe, Kulkalgal Sabe.
	Recognise commercial fishing by traditional inhabitants is important for local employment, economic development and for the passing down of traditional knowledge and cultural lore. Enough fish needs to be left in the water for fishers to make money and to protect the traditional way of life, livelihoods and cultural values.
	TACs should vary according to stock status (up and down): • If biomass decreases be cautious. Stock is not to go below the limit; • If biomass is increasing be conservative; 'bank' fish.
	Having regard for the current stock size (B_{31}) and that B_{60} is not quickly achieved (possibly greater than 12 years) without significant reductions in catch which may in turn cause significant economic and social impacts on the Fishery, a shorter-term target reference point is first required.
	Torres Strait Spanish mackerel stock are assumed separate from other regional stocks. They do not mix with the Queensland East Coast and the Gulf of Carpentaria stocks (see Buckworth et al. 2007 and Newman et al. 2009).
	There is potential for variations in availability and abundance of Spanish mackerel, due to their movement, schooling and aggregation patterns for feeding and spawning.
	Spanish mackerel are a shared resource important for subsistence, commercial, traditional, charter and recreational sectors.
Outstanding	None identified at this time. Subject to any further FFRAG and Working Group advice

Operational objectives What we want the harvest strategy to achieve.	
Recommended	Maintain the stock at (on average), or return to, a target biomass point (B_{TARG}) equal to a stock size that aims to protect the traditional way and life and livelihood of traditional inhabitants and is biologically and economically acceptable.
	Maintain stocks above the limit biomass level (B_{LIM}), or an appropriate proxy, at least 90 per cent of the time.
	Reduce fishing levels if a stock is below B_{TARG} but above B_{LIM}.
	Implement rebuilding strategies, if the stock moves below B_{LIM}.
Outstanding	None identified at this time. Subject to any further FFRAG and Working Group advice

Indicators Indicators provide information on the state of the stock and how the stock is doing against agreed reference points (reference points are addressed below and are a specified level of these indicators)	
Recommended	Biomass – Catch and effort data from daily fishing logbooks is used as a proxy for abundance in the stock assessment model which is used to calculate biomass of the stock as a proportion of unfished biomass (B_0).
Outstanding (1)	Fishing mortality (B) based indicators. The stock assessment model can estimate a level of F to move the stock towards the target. There was some consideration from the FFRAG of using an F-based indicator in the harvest strategy. Advice is sought from the FFRAG on whether there is value in further exploring this as an option.

Reference points A reference point is a specified level of an indicator used as a basis for managing a stock or fishery. Reference points will generally be based on indicators of either the total or spawning stock size (biomass) or the amount of harvest (fishing mortality). Reference points show where we want (target) and don't want (limit) the stock levels in the fishery to be.		
Recommended	Unfished biomass (B_0) = B_{1940} = 100%.	The year 1940 is considered the start of the commercial operations in the Fishery. The unfished biomass B0 therefore is the model-estimate of spawning stock biomass in 1940.
	Short-term target (B_{TARG}) reference point = B_{48}	B_{48}[1] is the default target (a proxy for B_{MEY} - biomass at maximum economic yield) in the Commonwealth HS Policy and the project team advise that B48 is less than BMEY.
	Limit reference point (B_{LIM}) = B_{20}	B_{LIM} is the spawning biomass level below which the ecological risk to the stock is unacceptable and the stock is defined as 'overfished'. This is an agreed level which we do not want the stock to fall below. B_{20} is the default limit proxy in the Commonwealth HS Policy[2].
Outstanding (2)	B_{48} is less than B_{MEY}	The HS project team advise the current target of B_{48} is less than B_{MEY}. FFRAG discussion and advice on this calculation is required to ensure a common and clear understanding.
Outstanding (3)	Long term B TARG = B_{60}	Advice from the HS project team and RAG scientific members is sought on the suitability of B60 in comparison to other target biomass levels above B_{MSY} having regard for the biology of the species and performance of the HS in meeting its objectives. Stakeholders have recommended that the HS ensures enough fish are left in the water to support commercial fishing but also protect the traditional way of life and livelihoods of traditional inhabitants. Advice to date is that a higher target biomass level (referring to 60%), would increase catch rates and improve profits in the fishery over other lower reference points, such as B_{48}. Having regard for any

[1] Comm HSP: The target reference point for key commercial fish stocks is the stock biomass required to produce maximum economic yield from the fishery (BMEY). For multispecies fisheries, the biomass target level for individual stocks may vary in order to achieve overall maximum economic yield from the fishery. In cases where stock-specific BMEY is unknown or not estimated, a proxy of 0.48 times the unfished biomass, or 1.2 times the biomass at maximum sustainable yield (BMSY), should be used. Where BMSY is unknown or poorly estimated, a proxy of 0.4 times unfished biomass should be used. Alternative target proxies may be applied provided they can be demonstrated to be compliant with the policy objective.

[2] Comm HSP: All stocks must be maintained above their biomass limit reference point (BLIM) at least 90 per cent of the time. Where information to support selection of a stock-specific limit reference point is not available, a proxy of 0.2 times unfished biomass should be used.

		advice from the HS project team advice is sought however, RAG advice on the suitability of of B_{60} against other possible higher target biomass levels. There are likely to be trade-offs between medium-term returns from the fishery (significantly reduced TAC) and longer-term returns (more fish in the water meaning less cost to catch and therefore higher returns. Also there would be more fish in the water for other users). Quantitative analysis and/or evidence from comparable fisheries is sought to enable more evidence based advice and decision making on the longer-term target.

Decision Rules (*also called Harvest Control Rules*) These rules are designed to maintain and/or return the stock to the target reference point.		
Recommended	If stock falls below the limit reference point (B_{LIM}).	The Fishery is closed (all commercial fishing for Spanish mackerel is to cease) and subject to a rebuilding strategy. The nature of the rebuilding strategy will be determined on the basis of the stock assessment (to be applied immediately) and the rate of recovery (i.e. number of years to achieve a biomass greater than B_{LIM}).
	Re-opening the Fishery[3]	Following closure of the Fishery, the Fishery can only be re-opened when a stock assessment determines the Fishery to be above the biomass limit reference point.
Outstanding (4)	If the stock is above the limit reference point but below the target reference point.	The RBC is to be set at level that allows for the stock to build towards the target. Importantly the decision rule can be designed to build the stock at different rates (e.g. the number of years for the stock to build to the target reference point or the rate of building near the target or limit). An outstanding action has been for the FFRAG to consider scenarios with multiple timeframes to build the stock to reach B_{48}. Specifically to examine a 12 year recovery time (equivalent to 3 times the average age of maturity) and explore 10 and 8 year recovery periods as alternatives. Having regard for any advice from the HS project team, advice is sought from the RAG on appropriate building rates to incorporate into the HS decision rules and/or a work plan for examining options noting scenarios will be examined and presented by the Spanish mackerel stock assessment team (*AFMA funded project 2019/0831*) as part of the next stock assessment update to be presented at the FFRAG planned for 27-28 November 2019.

[3] Comm HSP: Once a stock has been rebuilt to above the limit reference point with a reasonable level of certainty, it may be appropriate to recommence targeted fishing in line with its harvest strategy, which will continue to rebuild the stock towards its target reference point.

Outstanding (5)	If stock is overfished (below B_{LIM})	Consistent with the Commonwealth HS policy the FFRAG and FFWG have recommended that commercial fishing for Spanish mackerel should cease if the stock falls below B_{LIM}. Further FFRAG discussion and advice is now sought to consider additional decision rules and actions required to guide rebuilding and to trigger any necessary reviews of the HS, noting the HS should be designed to avoid the stock breaching the limit. FFRAG are to note and discuss the HS policy requirements to be included in the Spanish Mackerel HS if the stock falls below $B_{LIM:}$ a) that targeted commercial fishing for Spanish mackerel will cease, b) a rebuilding strategy will be developed to build the stock above B_{LIM} with a reasonable level of certainty. c) If B_{LIM} is breached while the fishery is operating in line with HS, the HS must be reviewed. FFRAG to provide advice on: a) A process to understand how the stock has rebuilt above B_{LIM} with certainty in the absence of commercial fishing e.g. model projections. b) whether a decision rule with a lower level of fishing pressure would be appropriate if the stock is above but close to B_{LIM}.
Outstanding (6)	Utilisation related Decision Rules (desired fishing intensity) noting a fishery may have indicators and reference points including spawning stock size (biomass) or the amount of harvest (F or fishing mortality i.e. utilisation of the resource).	Decision rules have yet not been established for harvest related performance metrics such as future 'target' catches or 'target' catch rates desired by industry per primary vessel or per TIB dory day. Given that limited catch and effort data has only recently become available from TIB sector, the HS focus has been on agreeing biomass based reference points and decision rules. Additionally at the last FFRAG/FFWG meeting with regard to considering various longer-term target biomass reference points, industry expressed a strong preference for management to focus on building the biomass back to BTARG in the coming years, before exploring any other scenarios. FFRAG are asked to confirm this approach and consider how future decision rules may incorporate increased growth of the TIB sector.
Outstanding (7)	Precautionary increases to total allowable catches.	Stakeholders recommended that if the stock assessment outcomes suggested increases in the TACs, these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low present level of utilisation. Stakeholder advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock.

		At the last FFRAG/WG meeting a number of challenges were identified with applying a change limiting rule for possible TAC increases. Instead the RAG/WG placed priority on examining different building rate scenarios which may achieve this desired precautionary outcome. FFRAG are asked to confirm this approach and provide advice on how to progress change-limiting rules if necessary.

Monitoring and assessment cycle	
Recommended	Based on the most recent estimate of the stock status (0.31 times unfished biomass) and declining biomass (and CPUE) trend, a stock assessment should be performed annually until the biomass is estimated to be above B_{40}.
Outstanding (8)	Subject to any further advice from the HS project team, FFRAG advice is sought on: a. An appropriate assessment cycle when the stock is above B_{40} and/or methods for evaluating future assessment cycles. b. Likely data needs to support monitoring stock performance under the Strategy over time, noting that some biological data is to be sampled in 2019 and 2020 as a snapshot to augment our understanding and assessment of the stock but no monitoring program advice has been developed or presented to date. c. Standard procedures for applying the decision rules to the stock assessment outcomes and any other minimum stock assessment scenarios and/or sensitivities that should be examined e.g. to support 2019-20 season TAC setting the FFRAG (meeting 4) used a methodology of selecting the median of a range of plausible stock assessment scenarios to recognise a range of uncertainty.

Table 1. Status of Coral trout draft harvest strategy components.

Guiding principles and key fishery attributes Factors that helped shape the development of the Harvest Strategy	
Recommended	Consistent with the Commonwealth Fisheries Harvest Strategy Policy and Guidelines (HSP, 2018). This is consistent with objectives of the *Torres Strait Fisheries Act 1984* (the Act).
	Have regard for traditional knowledge and the ability of communities to manage fishery resources locally, through acknowledging and incorporating customary and traditional laws, recognising; Malo Ra Gelar, Gudumalulgal Sabe, Maluailgal Sabe, Kulkalgal Sabe.
	Recognise commercial fishing by traditional inhabitants is important for local employment, economic development and for the passing down of traditional knowledge and cultural lore. Enough fish need to be left in the water for fishers to make money and to protect the traditional way of life, livelihoods and cultural values.
	Coral trout are a shared resource important for subsistence, commercial, traditional, charter and recreational sectors.
	TACs in the Torres Strait Finfish Fishery should vary according to stock status (up and down): • If biomass decreases be cautious. Stock is not to go below the limit; • If biomass is increasing be conservative; 'bank' fish.
	Since the 2007 Government funded licence buyback there has been limited effort in the fishery and the available total allowable catch has been under-caught.
	Four coral trout species commercially caught in Torres Strait. These four species (Common, Islander, Passionfruit and Blue-spot) are managed under a 'species group arrangement with a shared total allowable catch. There is a risk of local depletion of any of the four species in the Coral trout 'species group' as the existing assessment model assumes all four species are one stock.
Outstanding	None identified at this time. Subject to any further FFRAG and Working Group advice

Operational objectives What we want the harvest strategy to achieve.	
Recommended	Maintain the stock at current levels given: • the assessment is preliminary meaning it does not supply enough evidence to support changing the TACs without further development and catch data to support it; and • noting the present high estimate of biomass and recent low harvests, industry are supportive of a conservative B_{TARG} for the stock to manage the fishery at a level which leaves more fish in the water than a straight MSY target rate[4].
	Maintain stocks above the limit biomass level (B_{LIM}), or an appropriate proxy, at least 90 per cent of the time.
	Reduce fishing levels if a stock is below B_{TARG} but above B_{LIM}.
	Implement rebuilding strategies, if the stock moves below B_{LIM}.
Outstanding	None identified at this time. Subject to any further FFRAG and Working Group advice.

Indicators Indicators provide information on the state of the stock and how the stock is doing against agreed reference points (reference points are listed below and are a specified level of these indicators)	
Recommended	Biomass – Catch and effort data from daily fishing logbooks is used as a proxy for abundance in the stock assessment model which is used to calculate biomass of the stock as a proportion of unfished biomass (B_0).
Outstanding (9)	The current stock assessment is considered preliminary and as a result, the biomass calculation is not yet relied on as an accurate indicator of abundance or biomass. The FFRAG/FFWG did recommend a CPUE proxy for B80 to be used as a trigger for future stock assessment (see *Monitoring and Assessment* below). Further discussion and advice is sought from the FFRAG on development of these and other indicators.

Reference points A reference point is a specified level of an indicator used as a basis for managing a stock or fishery. Reference points will generally be based on indicators of either the total or spawning stock size (biomass) or the amount of harvest (fishing mortality). Reference points set out where we want (target) and don't want (limit) the desired stock levels in the fishery to be.		
Recommended	Unfished biomass (B_0) = B_{1950} = 100%.	The year 1950 is considered to be the start of the commercial operations in the Fishery. The unfished biomass B0 therefore is the model-estimate of spawning stock biomass in 1940.
	Target (B_{TARG}) reference point = B_{60}	The target biomass B_{TARG} is the spawning biomass level equal to 60% of B_0 to take account of the fact that the resource is important for the traditional way of life and livelihood of traditional inhabitants, is leased to sunset licence holders and the target biomass level must be biologically and economically acceptable. The current agreed B_{TARG} is based on the assumption that B_{MSY} is 50% of B_0 for this species and B_{TARG} should be set at 1.2 B_{MSY}. Stakeholders were supportive of a target that can take into account the patchiness of the stock (small areas with good trout catch rates separated by large areas of desert), the preliminary nature of the stock assessment, the risk of localised depletion, the basket of four species and that a proportion of the stock is not available.
	Limit reference point (B_{LIM}) = B_{20}	B_{LIM} is the spawning biomass level below which the ecological risk to the stock is unacceptable and the stock is defined as 'overfished'. This is an agreed level which we do not want the stock to fall below. B20 is the default limit proxy in the Commonwealth HS Policy[5].
Outstanding (10)	Consideration of alternative approaches to guide decision making in the fishery.	Reference points for coral trout have been agreed though, as per below, additional work is required on development of decision rules to move the stock relative to these points. Given that the initial stock assessment model does not provide a sufficient basis to support formation of decision rules, FFRAG advice is sought on possible alternative approaches for a strategy to guide decision making, for example the FFRAG may want to consider tiered harvest strategies approaches from data-poor fisheries. Such tiered strategies may set out a precautionary base-level (or status quo) position, outline what data are required to progress the fishery and what the next tier may mean for a fishery in terms of improved understanding/decreased risks to the stock and less precautionary catch levels.

[5] Comm HSP: All stocks must be maintained above their biomass limit reference point (BLIM) at least 90 per cent of the time. Where information to support selection of a stock-specific limit reference point is not available, a proxy of 0.2 times unfished biomass should be used.

Decision rules (also called harvest control rules). These rules are designed to maintain and/or return the stock to the target reference point.		
Recommended	Maintain current TAC until next Stock assessment	There is no current agreed decision rule for setting catch limits. The FFRAG/FFWG meeting recommended that the current constant RBC of 134.9 tonnes be adopted as the interim RBC until the stock assessment is updated. The current preliminary assessment indicates the stock is likely to be greater than 80% of the unfished biomass level. In the future the decision rules would recommend a harvest level (as a recommended biological catch -RBC) on the basis of evaluating the resource status.
	If stock falls below the limit reference point (B_{LIM}).	The Fishery is closed (all commercial fishing to cease) and subject to a rebuilding strategy. The nature of the rebuilding strategy will be determined on the basis of the stock assessment (to be applied immediately) and the rate of recovery (i.e. number of years to achieve a biomass greater than B_{LIM}).
	Re-opening the Fishery[6]	Following closure of the Fishery, the Fishery can only be re-opened when a stock assessment determines the Fishery to be above the biomass limit reference point.
Outstanding (11)	Maintain current TAC until next Stock assessment	FFRAG are to provide further advice on the operational objective for maintaining the stock at present levels, specifically what an appropriate level of harvest might be to maintain the present impact on the stock, noting: a. while the available TAC has been 134.9 t a maximum of 46 t of harvest has been reported taken per year since the 2007 buyout; b. potential risks to individual species within the species basket (the four different coral trout species) noting the species distribution and catch composition is not well understood which add uncertainty around the biomass estimates; c. there is no absolute certainty as to when additional data will be available to Fishery (improved TIB data, independent dive survey).
Outstanding (12)	If stock falls below B LIM	Consistent with the Commonwealth HS policy the FFRAG and FFWG have recommended that commercial fishing for coral trout should cease if the stock falls below B_{LIM}. Further FFRAG discussion and advice is now sought to consider additional decision rules and actions required to

[6] Comm HSP: Once a stock has been rebuilt to above the limit reference point with a reasonable level of certainty, it may be appropriate to recommence targeted fishing in line with its harvest strategy, which will continue to rebuild the stock towards its target reference point.

		guide rebuilding and to trigger any necessary reviews of the HS, noting the HS should be designed to avoid the stock breaching the limit. FFRAG note and discuss the HS policy requirements to be included in the Spanish Mackerel HS if the stock falls below $B_{LIM:}$ a) that targeted commercial fishing for Spanish mackerel will cease, b) a rebuilding strategy will be developed to build the stock above B_{LIM} with a reasonable level of certainty. c) If B_{LIM} is breached while the fishery is operating in line with HS, the HS must be reviewed. FFRAG to provide advice on: c) A process to understand how the stock has rebuilt above B_{LIM} with certainty in the absence of commercial fishing e.g. model projections. a) whether a decision rule with a lower level of fishing pressure would be appropriate if the stock is above but close to B_{LIM}.
Outstanding (13)	If the stock is above the limit reference point but below the target reference point.	The RBC is to be set at level that allows for the stock to build towards the target. Importantly a decision rule must be designed and agreed to build the stock at different rates (e.g. the number of years for the stock to build to the target reference point or the rate of building near the target or limit). FFRAG are to advise on a process for this decision rule to be developed.
Outstanding (14)	Harvest based decision rules (desired fishing intensity) a fishery may have indicators and reference points including spawning stock size (biomass) or the amount of harvest (F or fishing mortality).	Decision rules have not yet been established for harvest related performance metrics (measuring how the stock is being used) such as future 'target' catches or 'target' catch rates desired by industry per primary vessel or per TIB dory day. The focus so far has been placed on agreeing biomass based reference points and decision rules.
Outstanding (15)	Precautionary increases to total allowable catches.	Stakeholders recommended that if the stock assessment outcomes suggested increases in the TACs, these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low present level of utilisation.

		Stakeholder advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock. At the last FFRAG/WG meeting a number of challenges were identified with applying a change limiting rule for possible TAC increases. Instead the RAG/WG placed priority on examining different building rate scenarios which may achieve this desired precautionary outcome. FFRAG are asked to confirm this approach and provide advice on how to progress change-limiting rules if necessary
Monitoring and assessment cycle		
Recommended	FFRAG has recommended that a stock assessment should be conducted during the 2021-22 season, once further data is available, ahead of setting catch limits for the 2022-23 season. Postponing the stock assessment for three years would allow enough time for additional data to be included. The additional data priorities identified are: a) the 1994-95 CSIRO fish survey data which may form a valuable baseline datum; b) improved catch and effort data from TIB fishers; and c) fishery independent data such as an underwater survey or biological sampling.	
	Trigger reference points (or breakout rules) were recommended for the years between stock assessments. The agreed trigger reference points will use standardised CPUE data as a proxy for biomass and the yearly fishery catch data to ensure the maximum yield of the fishery zones are not being exceeded. The specific trigger points for when an assessment would be undertaken the next season are: a) In line with the recommended target reference point (B TARG = B60) and taking into account the conservative approach preferred by industry, if the biomass of coral trout is less than B_{60} (B TARG) then an integrated stock assessment will be conducted. To determine the biomass level, this trigger will use CPUE data as a proxy for biomass. It was agreed that the average CPUE from 2012 until 2017 (inclusive) would be used as an indicative reference point of the CPUE at B_{80} (average = 120.8 kg per vessel per day) from which the CPUE at B_{60} can be calculated and used as the trigger reference point. Given the ratio of 80:60 is equal to 0.75 then the trigger reference point which would activate the rule that an assessment must be undertaken is: *if the standardised CPUE falls below 90.6 kg per (primary) vessel per day* (computed as 0.75*120.8 = 90.6). b) If the combined yearly total catch of the four coral trout species from both commercial sectors is greater than 90 tonnes. Ninety tonnes was agreed because this 2/3 of the current constant RBC of 134.9 tonnes. If either (a) or (b) above occurs, the stock assessment must be repeated the following year in order to monitor the condition of the stock.	
Outstanding (16)	FFRAG to provide advice on likely data needs to support monitoring stock performance under the Strategy over time.	

	The FFRAG advice should also take into account the possible scenario where assessments are able to be funded in accordance with the recommended cycle and/or the additional data recommended to support a further stock assessment are not readily available. FFRAG to provide advice on procedures for interpreting the stock assessment outcomes under HS and how decision rules are to be applied based on these outcomes. While a stock assessment may be triggered through analysis of CPUE data in intervening years between assessment FFRAG advice is sought on what the process should be following this trigger being met and what decision rules should be applied based on the outcomes of this stock assessment i.e. whether the TAC should be changed to reflect this suggested change in biomass.

BACKGROUND

Harvest strategy project objectives

5. In developing these draft frameworks, the project has aimed to develop and ratify a clear and concise draft harvest strategy for the Torres Strait Finfish Fishery. It has aimed to provide guidance for sustainable fishing, the data requirements that underpins management strategies, options for flexibility to suit market and community needs, targets and limits and guidance for situations where these targets and/or limits are reached, and data requirements for potential fishery expansion. The project has aimed to:

    a) Collate and analyse available coral trout and Spanish mackerel fishery data to estimate variability and assess whether there is sufficient information to develop time-series indicators of stock status. This includes linkage to the Finfish Monitoring Project (data links and sampling methodology).

    b) Summarise and assess utility of updated stock assessments and reference points for coral trout and Spanish mackerel.

    c) Present results and HS guidelines (including Harvest Control Rules) to the Finfish working group, with fishery managers and representative stakeholders to develop and evaluate key elements of the draft HS. It is the responsibility of the FWG to take the recommended draft HS and formally adopt it as the HS (noting implementation of the harvest strategy is addressed at FFRAG5 Agenda Item 3.2).

6. The Harvest Strategy project comprises four distinct tasks.

    a) **Task 1** – Data collation and quality assessment (this task collates data and provides early consideration of harvest strategy options).

    b) **Task 2** - Assessment minor revision (Spanish mackerel) and assessment development (Coral trout)

    c) **Task 3** - Harvest Control Rule (HCR) specification – for all components of a Harvest Strategy, these being:
        - Indicators (full set of chosen indicators outlined) (here included in Task 1);
        - Current Monitoring and future monitoring (here included in Task 1, but future monitoring relevant to all Tasks);
        - Reference Points (for both stocks: Spanish mackerel and coral trout – the target and limit reference points will be defined and agreed to as part of Task 2, and this task);
        - Method of status evaluation (assessment and empirical). For each stock the actual method depends on data and is a cost/risk analysis that should be informed by resources available (AFMA to advise);
        - Decision rules.

    d) **Task 4** - Summation of formal links with other projects e.g. Finfish Monitoring Project (mackerel ageing and length frequency sampling).

Harvest strategy development

7. As per Tasks 1 and 2, the project has delivered an updated stock assessment for Spanish mackerel using data up to June 2018 and has delivered a preliminary stock assessment for coral trout.

8. Through stakeholder meetings (FFRAG, FFWG, dedicated HS meetings), project team meetings and taking advice from industry the project has developed specification on components for the two harvest strategies. Key design principles provided from stakeholders in forming these strategies (page 8, Joint FFRAG-FFWG meeting 27-28 June 2019 meeting record) has been:

General design principles

1. TACs should vary according to stock status (up and down);
2. If biomass decreases be cautious. Stock is not to go below the limit;
3. If biomass is increasing be conservative; 'bank' fish.
4. For Spanish mackerel : a shorter-term target is required

Important considerations

Commercial fishing by traditional inhabitants is important for:

- local employment and economic development; and
- passing down traditional knowledge and cultural lore.

The Finfish harvest strategy should:

- Compliment cultural lore;
- Have regard for TIB participation;
- Ensure sustainability, enough fish are left in the water to make money and the protection of traditional livelihoods and cultural value

9. The last FFRAG meeting (joint FFRAG and FFWG meeting 27-28 June 2019: meeting record is at **Agenda Paper 2.2.1b, page 43-67**) provided advice to the project team and suggested actions to be progressed. AFMA will note updates from the project team on these items and take advice from FFRAG on progressing these actions. An excerpt of the meeting record detailing these actions is as follows:

> *The Group briefly discussed the action items from the previous meeting. It was agreed at the previous meeting (Harvest Strategy Meeting 11-12 June 2019) that the project team would take the following suggestions from industry away for further development prior to this meeting if possible:*
>
> - *Explore 15 per cent change decision rules in other fisheries where there is asymmetry (the rule applies when the recommendation is to decrease the TAC but not when the recommendation is to increase the TAC) and how these rules might apply to setting TACs in this fishery.*
> - *Shorter recovery time approach for Spanish mackerel (e.g. 8 or 10 years for Spanish mackerel instead of 12 years used as a timeframe for building when below B TARG but above B LIM).*
> - *In order for the RAG to explore a CPUE trigger rule for conducting a Coral trout assessment, provide the standardised CPUE over the reference period or a shorter time period (e.g. average of last three seasons). This point was discussed during the meeting and the time frame from 2012-2017 (inclusive) was agreed to.*
>
> *The Project team noted that these items were outstanding action items and would be completed for the next Finfish Resource Assessment Group to consider (although during this meeting – the CPUE trigger rule was discussed and a recent time-period was chosen).*

Status of draft harvest strategies – Coral trout

10. Following advice from the two harvest strategy meetings held in June 2019, the project team has incorporated advice tabled from industry, FFRAG and FFWG and has supplied AFMA with a draft report.

11. The most recent stakeholder advice from 27-28 June 2019 meeting on coral trout is as follows:

> **A stock assessment should be conducted in three years provided additional data available (during the 2021-22 season)**. The Group noted that postponing the stock assessment for three years would allow enough time for additional data to be included. The additional data priorities are: a) the 1994-95 CSIRO fish survey data b) improved TIB data; c) a new catch or underwater survey.
>
> **A regular stock assessment schedule should be determined**. The Group agreed that between now and the next stock assessment, that analyses should be conducted to determine the appropriate schedule for conducting stock assessments in the Coral Trout Fishery.
>
> **The use of empirical trigger reference points was recommended for the years between stock assessments.** The agreed trigger reference points will use CPUE data as a proxy for biomass and the yearly fishery catch data to ensure the maximum yield of the fishery zones are not being exceeded.
>
> **The specific trigger reference points were:**
> a) In line with the recommended target reference point (B TARG = B60), and taking into account the conservative approach preferred by industry, if the biomass of coral trout is less than B60 (B TARG) then an integrated stock assessment will be conducted. To determine the biomass level, this trigger will use standardised CPUE data as a proxy for biomass. It was agreed that the average CPUE from 2012 until 2017 (inclusive) would be used as an indicative reference point of the CPUE at B80 from which the CPUE at B60 can be calculated and used as the trigger reference point.
>
> b) If the combined yearly total catch of the four coral trout species from both commercial sectors is greater than 90 t, an integrated stock assessment will be conducted. Ninety tonnes was agreed because this is the estimated potential yield of Zone 3 at B60 from the preliminary stock assessment, and where most of the common coral trout is caught. This level was chosen on the advice of the Science members to avoid the risk of localised depletion within any of the Zones.

Action items

The project team is to determine whether it is appropriate to use standardised CPUE or raw CPUE in the assessments and for the triggers.

Status of draft harvest strategies – Spanish mackerel

12. The most recent stakeholder advice from 27-28 June 2019 meeting on development of the Spanish mackerel harvest strategy is as follows:

> The Group reviewed what was agreed for the Spanish mackerel harvest strategy at the previous meeting (Attachment A) and provided the following recommendations for the draft Spanish mackerel harvest strategy:
>
> **A stock assessment should be conducted each year until the biomass is greater than B40**. It is assumed that the stock will take a few years to build to B40 at the current TAC. The industry participants noted that setting a lower TAC would allow for the stock to build faster. The ongoing regularity of stock assessments will be set once B40 has been reached.
>
> **B TARG (interim) was recommended to be B48**. This is an interim B TARG that will be reviewed once it has been reached. The Group were unable to settle on a higher BTARG, given the current indicative biomass (B31) and the long term (>12 years) at current TAC levels, or significant catch reduction required for the stock to rebuild above B48. Industry expressed a strong preference for management to focus on building the biomass in the coming years, before tackling any other scenarios.
>
> **The TAC will be set to reach the target reference point (B TARG) by a determined year**. From the 2020-21 season, the TAC will be set to allow the stock to build to B48. The FRAG will consider which year should be the aim for reaching B TARG prior to setting the 2020-2021 TAC.

The scientists and industry noted that in determining the target year, the social/economic impacts of a low TAC would need to be weighed against building the stock quickly.