

# Torres Strait Scientific Advisory Committee Meeting 71

Meeting Record

5-6th December 2018

Thursday Island

Note all meeting papers and record available on  
the PZJA webpage: [www.pzja.gov.au](http://www.pzja.gov.au)



Australian Government

Australian Fisheries Management Authority

# Contents

Meeting participants .....	3
Members.....	3
Observers and Permanent Observers* .....	4
1 Meeting Administration .....	4
1.1 Acknowledgement of Traditional Owners/Chair's Opening Remarks/Meeting attendance/Declaration of Interests/Apologies.....	4
TSSAC meeting 70 decision record TSSAC meeting 71 decision record .....	5
1.2 Review and adoption of agenda.....	6
1.3 Correspondence .....	7
1.4 Action items from past meetings .....	7
2 Fishery Updates.....	8
3 Research Project Updates .....	10
Agenda Item 3.1 CSIRO presentation on the fly-river pollution project .....	10
Agenda Item 3.2 – research project updates.....	12
Agenda item 3.5 – Climate change project update .....	13
4 Five Year Fishery Research Plans and Annual Research Statement .....	14
5 Other Business .....	22
6 Actions arising from TSSAC 71 .....	23

## Meeting participants

### Members

Name	Position	Declaration of interest
Mr Dave Brewer	Acting Chair	Independent consultant. No current conflicts of interest. Finfish RAG chair.
Ms Selina Stoute	AFMA Representative	No conflict declared.
Ms. Lisa Cocking	Executive Officer (AFMA)	No conflict declared.
Sam Miller (day one only, phoned into meeting)	Queensland member	No conflict declared.
Dr Natasha Stacey	Scientific Member	Researcher at Charles Darwin University. On FRDC NT Research Advisory Forum. No Torres Strait related projects.
Dr Roland Pitcher	Scientific Member	Fisheries Scientist, CSIRO. No current conflicts of interest as no Torres Strait related projects. Some CSIRO projects are held by researchers in same office.
Dr Dirk Welsford	Scientific Member	Research scientist at AAD in Department of Environment and energy. Sub-Antarctic resource assessment group. No conflict declared.
Mark Anderson	TSRA Representative	Program manager for TSRA. TSRA hold licences for the traditional sector.
Mr Rocky Stephen	Traditional Inhabitant Industry member (Kemer Kemer Meriam)	Kemer Kemer Meriam member. Member of TSIRC for Ugar. President of Kos and Abob Ugar fishers association. Finfish working group member and Finfish RAG member.
Mr Paul Kabai	Traditional Inhabitant Industry member (Gudumalulgal)	No conflict declared. Only attended second day of meeting due to travel issues.
Mr Jerry Stephen	TSRA Fisheries Portfolio member	TSRA Board member for Ugar. TSRA Deputy Chair, TSRA fisheries Portfolio member, TIB licence holder, Traditional owner.

## Observers and Permanent Observers\*

Name	Position	Declaration of interest
Joseph Posu (permanent observer)	PNG National Fisheries Authority (NFA)	Nil.
Gary Ginate	PNG National Fisheries Authority (NFA)	Nil.
Allison Runck	TSRA observer	Nil.
Nick Boucher	TSRA observer	Nil.
John Rainbird	TSRA Observer (climate change)	Nil.

## 1 Meeting Administration

### 1.1 *Acknowledgement of Traditional Owners/Chair's Opening Remarks/Meeting attendance/Declaration of Interests/Apologies*

The Chair opened the meeting at 915am and welcomed the TSSAC members and observers and acknowledged the traditional owners.

The committee discussed declarations of interest from members, with groups of committee members leaving the room while the remaining members discussed potential conflicts of interest. The following points were discussed:

#### *Traditional Inhabitant Industry members:*

The committee noted that both Traditional Inhabitant Industry members present are from the eastern cluster group with a strong interest in Beche-de-Mer and finfish fisheries. This identified a need to be mindful of any possible conscious or unconscious bias towards supporting research related to these fisheries, given the other TIB members from other clusters were not present at the meeting. The committee agreed that this could be easily monitored throughout the meeting and addressed as needed.

#### *Scientists/ researchers:*

The committee noted that as independent consultants Mr Brewer and Ms Stacey could potentially benefit from the TSSAC if they were to apply for project funding, however there were no conflicts specific to this agenda. They also agreed that Mr Pitcher, being a CSIRO employee, could leave the meeting if we are making recommendations about CSIRO managed research projects.

#### *Torres Strait Regional Authority:*

The TSSAC noted that TSRA had declared their role in holding finfish entitlements in trust and generating revenue from the leasing of those licences on behalf of Traditional Inhabitants. This could be considered a perceived conflict however the committee did not feel there was an actual conflict risk relating to this meeting and the TSRA should participate in the meeting.

*AFMA and Queensland Fisheries:*

No conflicts of interest were recorded.

*PNG National Fisheries Association:*

TSSAC and NFA sometimes jointly fund projects, which could be seen as a potential conflict of interest, or benefit. There were no concerns specifically relating to this agenda.

*Absences*

Mr Daniel Takai and Mr Phillip Ketchell were not in attendance at the meeting. My Ned Larry was an apology due to flight cancellations.

## **TSSAC meeting 70 decision record TSSAC meeting 71 decision record**

- 1.3.1 The TSSAC **NOTED** outgoing and incoming correspondence since meeting No. 70, held on 26-27 March 2018.
- 1.4.1 The TSSAC **NOTED** the progress against actions arising from TSSAC meeting 70, held on 26-27 March 2018, and historic meetings.
- 1.5.1 The TSSAC **DISCUSSED** the self-assessment process and members individually ranked the committee. The process would be finalized out of session due to time constraints.
- 3.2.1 The TSSAC **NOTED** the progress of the current TSSAC funded research projects.
- 4.1.1 The TSSAC **DISCUSSED** the Fisheries five year rolling research plans.
- 5.1.1 The TSSAC **DISCUSSED** research priorities and agreed on 9 possible projects for funding in 2019-20 to go into the annual research statement.
- 5.1.2 The TSSAC **AGREED** that scopes should be developed for the following 7 projects and put out through a call for research before Christmas:
  - 1. Climate variability and change relevant to key fisheries resources in the Torres Strait — a scoping study.

2. Measuring non-commercial fishing (indigenous subsistence fishing and recreational fishing) in the Torres Strait in order to improve fisheries management and promote sustainable livelihoods.
3. Fishery independent survey, stock assessment, Harvest Strategy and Recommended Biological Catch calculation for the Torres Strait Tropical Rock Lobster Fishery.
4. Torres Strait Beche de Mer Stock Status Survey.
5. Management Strategy Evaluation of Torres Strait Finfish Harvest Strategy
6. Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment.
7. Scoping for Spanish mackerel stock assessment – Torres Strait Scientific Advisory Committee.

5.1.3 The TSSAC **NOTED** that Ecological Risk Assessments for the Beche de Mer and Tropical Rock Lobster fisheries were compulsory to ensure wildlife trade operation export approvals continue, and would need to be carried out in 2019-20 under the research budget.

5.1.4 The TSSAC **NOTED** that the Torres Strait Prawn Fishery management strategy evaluation and Tropical Rock Lobster peer review projects would also be considered for funding during the 2019-20 funding round through direct sourcing specific researchers, rather than going in the call for research.

The TSSAC **DISCUSSED** the future funding of Torres Strait research given anticipated increased research needs across Torres Strait fisheries in the future, noting the committee should continue to collaborate with other funding bodies where possible.

6.1.1 The TSSAC **NOTED** the funding cycle for the 2019-20 research budget.

6.1.2 The TSSAC **NOTED** the new research application package at attachment 6A.

## 1.2 Review and adoption of agenda

The TSSAC went through the agenda, noting that the Land and Sea Management Unit (LSMU) was unable to attend the meeting to provide an update on the LSMU research projects including the traditional ecological knowledge project (agenda items 3.3 and 3.4), however were happy to attend the next meeting. No other changes to the agenda were

made. The committee also agreed in future years, the March TSSAC meeting considering research priorities should consider any current Torres Strait Fisheries related research being funded through other programs such as the Fisheries Research and Development Corporation (FRDC) including the Indigenous Reference Group (IRG) and the National Environmental Science Program (NESP).

ACTION 71.1: Create standing agenda item for the November research priority TSSAC meeting, to gather a list of current research priorities and projects related to Torres Strait fisheries from other funding bodies. This should be considered when setting TSSAC research priorities and sent to members before the meeting for consideration with papers.

2

### 1.3 Correspondence

The Committee **NOTED** the incoming and outgoing correspondence since Meeting 70 held on 26-27 June 2018.

#### RECOMMENDATION 1.3.1

That the TSSAC **NOTED** outgoing and incoming correspondence since meeting No. 70, held on 26-27 June 2018.

### 1.4 Action items from past meetings

The TSSAC noted the actions from past meetings and removed a number of actions that have now been complete. The below actions were discussed in detail.

Action 70.2 - The PNG NFA spoke to action item 70.2 relating to PNG trawlers in Australian waters. Trawling in 2014-2017 was mainly in the Gulf of Papua and the only border issue that was identified was related to the crab fishery, not so much trawlers. They acknowledged that more detail could be provide at the upcoming Prawn Management Advisory Committee meeting if needed.

Action 70.5 – The committee noted that the standard Ecological Risk Assessment (ERA) format used across AFMA would not be used in the TSPF during the current updates, given the sustainability assessment “ERA” undertaken by Roland Pitcher in 2013 and the reduced fishing effort and spatial area currently fished since that time. The committee also discussed ERAs more generally and questioned the frequency of these assessments. The committee noted that undertaking a form of ERA is required under the strategic assessments and export approvals, however the frequency of review undertaken by AFMA may be more flexible. The committee questioned whether frequency could be linked to specific triggers, for example based on effort, instead of the current routine five year review. They also noted that the current ERA methodology used by AFMA is not good at assessing cumulative impacts. For example if there are gear changes, these could affect what is caught and risks to species.

**ACTION 71.2:** Provide feedback to the AFMA ERA team regarding possible limitations of the current ERA system including the frequency of review being related to effort rather than a set time period, and possible limitations relating to cumulative impacts.

The committee had a general discussion relating to the Turtle and Dugong Fisheries, noting action items relating to these fisheries have been difficult to progress because of uncertainty regarding jurisdiction. Current arrangements mean that Queensland are responsible for management of traditional fisheries inside State waters, and the Commonwealth Minister (not the PZJA) is outside State waters. Consequently, a meeting will need to be arranged to work with Queensland to create future arrangements to manage the fishery. For this reason all actions relating to Turtle and Dugong management should remain on the agenda.

## 2 Fishery Updates

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AFMA provided important progress in each fishery since the June meeting.

### ***Tropical Rock Lobster Fishery***

- The TRL fishery was managed with a very low Total Allowable Catch (TAC) limit this year, resulting in an early closure.
- The PZJA introduced additional measures to slow down effort hoping the season could then stay open longer (through a hookah ban). Some Traditional Inhabitant community members appealed one of the bans, and the decision was overturned based on improper procedure being undertaken when making the decision, not on the merit of the decision itself.
- A mandatory fish receiver system is now in place, making it easier to monitor catch and the TAC.
- An extra mid-year survey and RAG meetings were undertaken to discuss CPUE and continue closer monitoring of the stocks. The survey indicated that the earlier predictions for the TAC were accurate.

AFMA acknowledged the CSIRO for providing significant levels of scientific analysis and advice this year that was not envisaged under their current contract. The RAG is now focusing on how to improve catch data, including considering a third party review of the whole stock assessment and survey design for TRL. This will be discussed during the research priority section of the meeting. The TRL Management Plan is also now in place and a full functioning quota system will be introduced for the fishery next season if there are no appeals relating to the management plan.

**ACTION 71.3:** TSSAC Chair/ AFMA to send letter of appreciation to TRL project team for all their hard work with the extra TRL surveys.



The PNG NFA provided an update on the PNG TRL fishery. Because there are no legal avenues for closing the fishery, the closure they introduced when they reached their TAC, for the first time ever this year, was not mandatory. They believe that many communities are still fishing. This is the first year that they have reached their TAC and they are currently putting the legal framework in place for next year to ensure a proper fishery closure can be implemented if needed. In a normal PNG season, there is only a hookah ban for 1 Dec to end March. The fishery remains open the rest of the year.

The TSRA also provided an update on the Community framework currently being developed to move management of allocations in the finfish fishery to the sunset licence sector. to an independent body. A consultant is working on a number of options for a framework for the entity, which will then go out for community consultation.

### ***Beche-de-Mer Fisheries***

The committee noted that the BDM fisheries needs to be managed carefully as they are vulnerable to overfishing due to the small TAC limits. At the June Hand Collectables Working Group (HCWG) meeting, the TIB sector identified that the lack of survey data since 2009 is a major issue for managing the fishery. This resulted in the HCWG identifying a BDM survey as a high priority for research in the coming years. The TIB sector believe some species are under threat, however we don't have a base line of data to consider. The TSRA indicated that they are able to contribute some funding to BDM surveys for the 2019-20 financial year, and would like the TSSAC to endorse and validate any projects through this committee.

The PNG NFA provided an update on the PNG BDM fishery. The fishery was open from May to October in 2018, but most provinces have already reached their TAC. They are planning to open in 2019, however the season length will be reduced.

### ***Finfish Fishery***

- A newly formed FFRAG has been looking at an updated stock assessment from 2014.
- The Harvest Strategy project is continuing and a big focus. There will be a need to look at a management strategy evaluation for the harvest strategy going forward.
- Working to finalise the Spanish mackerel stock assessment and to develop one for Coral Trout.

The committee noted that the benefits of the fish receiver system data for future management of this fishery.

### ***Turtle and Dugong***

The committee noted that one of the biggest risks to this fishery is climate, with green turtles starting to show a skewed sex ratio which could lead to a steep decline. This is a global

issue. The Hawksbill Turtle is also in steep decline due to over harvesting, related specifically to the Torres Strait.

The committee questioned how sustainable harvest was managed under the community management plans. The TSRA explained that they follow traditional lore and practices with a focus on empowering traditional governance systems to police the harvesting that is occurring.

ACTION 71.4: Circulate the current Turtle and Dugong management plans to TSSAC.

### 3 Research Project Updates

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#### Agenda Item 3.1      CSIRO presentation on the fly-river pollution project

The CSIRO provided a presentation on the outcomes of their project “*identifying water quality and ecosystem health threats to the Torres Strait from runoff arising from mine-derived pollution of the fly-river*”. Presenters included;

Simon Apte – CSIRO Land and Water

Cass Hunter – CSIRO Land and Water

Jane Waterhouse – James Cook University

Scott Bainbridge – Australian Institute of Marine Sciences

Julie Carmodoy – Reef and Rainforest Research Centre – NESP water quality hub.

The main outcomes of the project discussed in the presentation included:

- The Fly River is the second largest river in PNG, draining into the Gulf of Papua, and the CSIRO have been collecting geochemical data for over 25 years.
- Sometimes flooding conditions take mine tailings and waste rock contaminants into Torres Strait waters through the Fly River, and this project aimed to see the extent of this pollution and possible effects. Possible effects include increased copper mineral which is toxic to aquatic life, increased water turbidity and changes to water geomorphology due to sediment movement.
- CSIRO data from the past 20 years has shown a double in the copper content of waters and sediments in the fly-river estuary, which could then spread to Torres Strait through plumes during flooding events.
- The aim of this project was to:
  1. Summarise the characteristic of Fly River discharges including hydrodynamics, pollutant sources and material transport – particularly trace metals.

2. Define the temporal patterns (frequency and duration) of plume suspended sediment delivery and transport to the Gulf of Papua and northern Torres Strait. This included historic analysis through coral coring techniques.
3. Generate high quality data on trace metal contaminant concentrations in waters and sediments (both benthic and suspended) across the Torre Strait.
4. Determine if mine-derived contaminants were present/ accumulating in the Torres Strait and have influenced water and sediment quality.
5. Identify any hotspots of mine-derived contamination.
6. Undertake a preliminary desktop analysis to estimate the spatial and temporal extent of exposure of coral reefs and sea grasses in the Torres Strait to Fly River discharge.
7. Provide the results in a form that can be spatially and temporally delivered via the Torres Strait eAtlas to inform environmental decision-making.

During this project, a range of monitoring occurred, including:

- Weekly salinity monitoring occurred through rangers at Masig, Erub, Warraber, Poruma, Iama, Saibai and Boigu Islands.
- Onsite continuous monitoring of wind, temperature and salinity occurred at Masig Island and Bramble Cay.
- Field surveys collecting water, benthic sediments and suspended sediment samples to assess concentration of mine-derived contaminants October 2016 and June 2018 across 21 sites.
- Analysis of historic coral cores (1781-1993) at Erub and Bramble Cay to assess freshwater influence.

Major results from the project include:

- At the 29 sites surveyed across the Torres Strait, all had trace metal concentrations very low and consistent with uncontaminated marine waters from other regions of the world.
- Trace metal concentrations were highest in the North around Saibai and Boigu Islands. The source of the higher concentrations are yet to be identified and may be a combination of Fly River runoff and mainland PNG. These mineral levels were still below the 95% species protection guideline values of the Australian and New Zealand water quality guidelines.
- Runoff is effected by seasonal winds, for example, the South East trade wind period moves the Fly River sediment to the west Torres Strait.
- Results indicate that less of an area of the Torres Strait is effected by Fly River runoff than originally suspected, with the North and Northwest most effected, but little effect on Bramble Cay, Masig and Erub.
- The project team also noted that the effects and risks of the Fly River to Torres Strait are relatively low compared to risks of sea temperature rises and other climate related events.

The project team have sought a project extension which will include surveys of Ugar Island, the area considered to have the second highest exposure to runoff.

The committee also noted that there may be an effect on heavy metal accumulation in crustacean, as these species get an accumulation of heavy metals in the pancreas. This could be a food safety issue which could be explored in future projects.

The TSSAC noted the outcomes of the project and its support in the projects extension, including to explore the possible effects on food safety. The first step is to contact the Department of Health to understand their current advice relating to water and food contamination relating to heavy metals, and any commitment to providing a message to communities about possible risks. Health messages could be pinned up on notice boards or displayed on monitors in IBIS stores.

**ACTION 71.5:** AFMA to contact the department of health to determine the current actions being taken regarding food safety relating to the Fly River mine runoff.

**ACTION 71.6:** TSSAC Executive Officer to append fly river report and slideshow to TSSAC meeting minutes.

### **Agenda Item 3.2 – research project updates**

The TSSAC Executive officer provided an update on the current research projects under TSSAC funding. The committee noted that the BDM Harvest Strategy, Finfish Harvest Strategy, and Torres Strait Prawn Fishery stock assessment are all on track for completion within the contracted timelines within the 2018-19 financial year.

The committee noted that the finfish traditional take project has now been closed and was not completed. The project need initially came out of the TSRA quota committee, where they wanted to do a census / surveys to identify the traditional take of finfish. The project also aimed to set up a system for the surveys to continue to run into the future in a simple way, not requiring administration by researchers, with fishers voluntarily submitting their data. The project steering committee was closely managing the project to try to allow it to meet the original objectives, while working around difficulties with administrative support to assist the project to deliver.

The TSRA noted that it was becoming very difficult to manage the grant as it was originally granted in 2015 and could no longer justify extensions to the project, but are still open to this as a priority going forward as a new project if the TSSAC see it as important. The Committee acknowledged the need to finalise the project in the proper way, collecting lessons learned, so the same issues can be avoided in future projects. There have been a number of milestones achieved, including the production of identification guides and training materials for survey work. This will be a resource that can be used for any future work. The committee also discussed the importance of considering recreational fishing catches, which are also lacking data. The fisheries portfolio member also acknowledged that subsistence fishing or kai kai would be a better term to use than traditional take.

An FRDC funded project is also currently underway looking at Aboriginal and Torres Strait Islander catch data Australia wide. This project should be looked at in relation to any future subsistence fishery data projects in Torres Strait.

**ACTION 71.7:** Dave Brewer to talk to Shaun Sloan about the Australia wide traditional take project funded by FRDC, and potential links to this work in the Torres Strait.

The committee acknowledged that data on non-commercial catches is important for use in the harvest strategy and setting suitable TACs for the finfish fishery.

The committee noted the need to update the PZJA research page on the website, and agreed that the new research documents including the strategic research plan (SRP), new research application package and memberships should be updated.

**ACTION 71.8:** Ensure the TSSAC page of the PZJA website is up to date with new memberships and research package documents.

## **Agenda item 3.5 – Climate change project update**

John Rainbird, (TSRA) provided an update on the climate change work that has been undertaken in the Torres Strait. Generally, the work shows that Australian marine systems are changing faster than any other period in recorded history, and are predicted to create ecological, economic and social changes. In order to adapt to change, it will require all sectors and agencies to work together, combining traditional ecological knowledge and scientific knowledge. The major points coming from his presentation included:

- Torres Strait is a unique marine environment due to shallow waters, complex tides, limited circulation, warmer than average air temperatures and a low nutrient environment.
- Climate change in Torres Strait is being monitored through TSRA / AIMS weather stations, tide gauges and sea level gauge, satellite monitoring of SST, Turtle, Dugong and seagrass monitoring, JCU/ CSIRO WQ.
- Climate change predictions for the western pacific include: warmer than average air temperatures, increased weather variability, likelihood of more and stronger el Nino's, increased chances of longer dry seasons and drought, increased chance of more intense rainfall events, higher chance of marine heatwaves, some increase in ocean acidity which effects some species and sea levels rising 10-20% faster than the global average.
- There are some risks and barriers to fisheries adapting to climate change, due to the predicted rapid rate of change and somewhat inflexible management regimes.
- Torres Strait fisheries already operate in a variable climate and there is already enough information from case studies to start implementing management changes. This should be done through consultation and engagement with traditional owners and fishers.
- There is also need for better integration of data between fisheries and environmental research and monitoring.
- There was mass coral bleaching during the 2016-17 marine heatwave, and the TSRA have developed a bleach risk model.
- The Gulf of Papua currents effect tropical rock lobster distribution and these are changing with climate change. Climate change effects are complex to understand because of the way the different parameters and systems overlap.

### **Torres Strait wide research priorities**

The committee discussed a number of possible research priorities related to climate change including:

- Regional ecosystem climate, population and oceanographic models.
- Integrated Marine Observing System (IMOS) keeping improving our eyes and ears relating to climate change.
- Better integration of data between fisheries and environmental research and monitoring.
- Active reef restoration projects.
- Improve the engagement and communication with fishers and communities to build awareness around climate change and develop strategies for the future. Examples included the need to talk to TRL fishers about live TRL storage, and using different water given sea surface temperatures are now too warm for storage.

The committee also agreed that looking at best practice in community engagement is another priority for the Torres Strait.

## **4 Five Year Fishery Research Plans and Annual Research Statement**

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Given the large number of projects and relatively limited research budget, the TSSAC used a group-wide rapid assessment technique to narrow down the major 2019-20 research priorities across all fisheries. There was a clear delineation within each five-year fishery plan of the highest priorities, and some plans, including the Hand collectables fishery and Finfish fishery had limited research priorities outside of the 2019-20, given the current development of the harvest strategy. Once the harvest strategies for these fisheries have been finalised, the five year plans will be updated to include more research priorities which will be identified through the harvest strategy process.

The TSSAC identified the following research priorities for the annual research statement for the 2019-20 financial year (Table 1). These objectives were taken from the fishery five-year plans, and further TSSAC discussion. Once identified, these priorities were discussed in deeper detail which is included in the table.

Fishery	Research priority	Notes and TSSAC discussions regarding the research priority
<b>All fisheries</b>	<b>Climate variability and change relevant to key fisheries resources in the Torres Strait — a scoping study.</b>	<p>The committee acknowledged the extensive work that had already been completed relating to climate change in the Torres Strait, however there has been little work done on looking at the effects of climate change on specific species. For example, looking at climate change effects on nesting sites, species movements, feeding sites and all other components effecting individual species.</p> <p>The committee agreed that a project could be scoped which would build an overarching information framework that contains climate data and projections relevant to all fisheries and species. Once developed, these data could then be used for modelling climate effects on a range of key species in Torres Strait.</p> <p>A project such as this could be developed through getting climate and oceanographic modellers together with Torres Strait fisheries researchers to identify and provide downscaled data suitable for building future models that can plug in the small scale for specific fisheries. This project will need co-funding and likely attract attention from funders such as NESP.</p> <p>The committee agreed that a scoping study should be undertaken initially looking at the possible methods and resources for building the information framework in the future.</p>
<b>TSPF</b>	TSPF Management Strategy Evaluation exploring effects of season length and dates on	The TSSAC acknowledged this as a high priority for the TSPMAC, and also acknowledged that the TSPF is only eligible to 25% funding from the TSSAC as a cost recovered fishery, so there will be little financial impact on the TSSAC budget if the project is supported. This project could also be

	fishery sustainability and economics.	directly sourced through the existing stock assessment scientist, due to its low cost, specific skills and access to the previously built stock assessment model.
<b>TSPF</b>	Determining possible environmental drivers for changes to recruitment for the Torres Strait prawn fishery,	The committee questioned the timing of this environmental drivers project, noting the low effort in the fishery, and given higher catch rates this year. They agreed this project wasn't a priority this year and should be further developed by the Torres Strait Prawn Management Advisory Committee. In particular, it was unclear whether the first question to be answered was if there have been changes to prawn distribution, and if so, is it related to climate change or other factors. This project may also be covered by the broader climate change project now proposed.
<b>BDM</b>	BDM Sandfish survey	<p>The TSSAC acknowledged the Sandfish survey as a very high priority to community members, and noted some people have a sense of ownership and desire to collect the data themselves. However, the compliance for the fishery is not strong enough to allow fishery dependant hookah surveys and ensure other species aren't being taken or overfished. The committee agreed that an all species survey is needed, not just Sandfish, despite the different survey design for Sandfish due to different collection methods. They agreed that instead of having separate surveys, researchers could specifically identify techniques for Sandfish data collection. The TSRA also noted the need to collect deep-water species data as there has been no work below 20m. There is a need to determine whether there is a stock that can be targeted between 20-30m, if so, they may be able to open these waters at certain times of year. The TSRA noted they consider this a very high priority and would be willing to commit funding to this project, outside of the regular AFMA funding that TSSAC considers.</p> <p>The committee also discussed a range of methods for collecting deep-water species data, including drones (ROVs or AUVs), and the need to consider existing deep-water data from the CSIRO surveys using sleds in 2005-06. The committee agreed that the existing CSIRO data should be reviewed as a part of the BDM survey before additional funds are spent collecting new data.</p>
<b>BDM</b>	BDM All species survey	
<b>BDM</b>	BDM Deep water survey	



		<p>The TSRA also acknowledged the need to complete the project in the 2018-19 financial year if possible. AFMA will determine whether the surveys need to occur at a specific time like for TRL, or if it could occur at any time of year.</p> <p>The process can also be sped up because community consultation has already been undertaken by the TRSA, with strong community buy-in, reducing this requirement under the new procedural framework for undertaking research in the Torres Strait.</p>
<b>TRL</b>	TRL Main survey and stock assessment	<p>This ongoing survey is still considered the highest priority for Torres Strait research. As a short-lived species, with highly variable recruitment, regular data is required to ensure sustainable harvest. The committee also noted that the survey design may be slightly different to past years, as a mid-season survey was conducted in 2018 and may be required in future years. This should be considered by researchers in the development of proposals. The committee also noted that there are few other places to get money for these projects, unless industry contribute like in cost-recovered fisheries, as FRDC do not fund routine science work, only strategic projects.</p>
<b>TRL</b>	TRL Mid-year survey	
<b>TRL</b>	TRL Scientific peer review of stock assessment and survey design	<p>The TSSAC agreed on the benefits of a third party peer review of the current TRL survey and stock assessment design to ensure best practice. The original proposal was to employ a consultant to undertake a full review, likely to cost over \$60 000. However, the committee agreed on a more cost-effective method, successfully used in the past, to pay a specialist for a few days work where the methodology would be reviewed through an interview and questioning process with the current researchers (CSIRO). The current researchers are best placed to understand the strengths and weaknesses of a project as they know the data very well.</p> <p>This project will not be scoped, and would be implemented through a direct source due to the low cost.</p>

<b>TRL</b>	TRL Ecological Risk Assessment	This project is compulsory for export approval and will be directly sourced through the consultants currently used for AFMA ERAs, rather than scoping.
<b>Finfish</b>	Finfish Harvest Strategy Management Strategy Evaluation testing	The committee noted that the Commonwealth harvest strategy policy identifies the need to test harvest strategies using a management strategy evaluation (MSE). This project will fund this testing, to ensure the harvest strategy can meet its objectives.
<b>Finfish</b>	Finfish Spanish Mackerel stock assessment	<p>The TSSAC discussed the costs and benefits of undertaking a Spanish mackerel stock assessment now instead of after implementation of the harvest strategy, particularly given one was completed last year.</p> <p>Given concerns about the declining CPUE, and the small financial investment it is considered a priority for AFMA. The committee agreed that a stock assessment scope should be released through the call for research, however it may be considered a lower priority than other projects if there are insufficient funds for supporting all projects.</p>
<b>Finfish</b>	Finfish Spanish Mackerel (data gaps) age and length	<p>The committee discussed the need to improve aging and length frequency data through biological sampling of fishery dependent data. A review of this data hasn't been undertaken in several years, and with declining CPUE, this is a priority right now. A number of agencies including QDAF or the Melbourne aging and growth facility could complete the analysis.</p> <p>The committee also acknowledged the possible links between this project and the management strategy evaluation project.</p>

<b>Finfish</b>	Finfish Ecological Risk Assessment	This project is compulsory for export approval and will be directly sourced through the consultants currently used for AFMA ERAs, rather than scoping.
<b>All fisheries</b>	Quantifying non-commercial fishing (subsistence and recreational catch) across all Torres Strait fisheries	The committee discussed the past finfish project, which was recently closed, looking at the traditional take of finfish and noted that a broader project should be implemented going forward filling the data gaps for all non-commercial take (especially subsistence and recreational) for all Torres Strait commercial species. They acknowledged the need to closely review the lessons learned from the closed finfish project, including the need for community collaboration and possible employment of community members as co-investigators to strengthen community collaboration, expertise and community buy-in. They also discussed the possible benefits of social scientists rather than just fishery scientists working on this project. The committee discussed a current project being undertaken by Queensland fisheries, looking at recreational and charter fishing data. Queensland fisheries provided a quote estimate when approached regarding collaborating with the TSSAC and extending their project to collect subsistence fishing data as well. Given this, and the complexity of a project in the Torres Strait, the TSSAC agreed to pursue its own non-commercial fishing data project across all fisheries. The project should be undertaken in two phases: phase 1 reviewing the past project, community stakeholder needs and establishing partnerships between researchers, management and communities, and phase 2 carrying out a pilot test of the survey design.
<b>All fisheries</b>	QDAF project relating to improving data in the Finfish Recreational fishing sector.	

**RECOMMENDATION:** The TSSAC **AGREED** that scopes should be developed for 7 projects and put out through a call for research before Christmas:

1. Climate variability and change relevant to key fisheries resources in the Torres Strait — a scoping study.
2. Measuring non-commercial fishing (Indigenous subsistence fishing and recreational fishing) in the Torres Strait in order to improve fisheries management and provide for sustainable livelihoods.
3. Fishery independent survey, stock assessment, harvest strategy and recommended biological catch calculation for the Torres Strait Tropical Rock Lobster Fishery.
4. Torres Strait Beche de Mer stock status survey.
5. Management Strategy Evaluation of Torres Strait Finfish Harvest Strategy
6. Enhancing biological data inputs to Torres Strait Spanish mackerel stock assessment.
7. Scoping for Spanish mackerel stock assessment – Torres Strait Scientific Advisory Committee.

The TSSAC agreed that the scopes for these projects should be completed in the next few days and sent to TSSAC members out of session for comment. The scientific members agreed to assist with writing scopes for the call for research.

**RECOMMENDATION:** The TSSAC **NOTED** that the ERA projects for the BDM and TRL fisheries were compulsory to ensure wildlife trade operation export approvals continue, and would need to be carried out in 2019-20 under the research budget.

**RECOMMENDATION:** The TSSAC **NOTED** that the TSPF management strategy evaluation and TRL peer review projects would also be considered for funding during the 2019-20 funding round. These projects would be direct sourced from specific researchers, rather than going in the call for research given the small budget and specialist nature of the work.

**ACTION 71.9:** TSSAC scientific members and AFMA staff to develop scopes and distribute to TSSAC EO.

**ACTION 71.10:** TSSAC EO to send draft scopes to TSSAC members out of session for comment prior to sending call for research before Christmas.

ACTION 71.11: Torres Strait Prawn Management Advisory Committee to further develop research priorities related to prawn recruitment and climate change, clearly identifying the need and objectives for possible future funding.

ACTION 71.12: AFMA to determine whether the BDM surveys need to occur at a specific time, like for TRL, or if it could occur at any time of year, in order to progress BDM surveys this financial year.

ACTION 71.13: TSSAC EO to send TSSAC the recent TSPF survey exploring why fishers have not been fishing in the TSPF.

### ***Research funding and budgeting***

The committee acknowledged the limited funding available for Torres Strait research with probable growing research needs given the implementation of the finfish and Hand Collectable Harvest Strategies in the next few years. They acknowledged the need to continue to seek additional funding opportunities, such as from FRDC and NESP, and also discussed the possibility of engaging PhD students, noting there are high risks with PhD funding as not all projects are successful and deliver on the project objectives. This would only work for more strategic projects that are low risk and not time critical.

The TSSAC discussed the difficulties with the PZJA forums identifying cost estimates for projects when developing their five-year rolling plans. The committee agreed that the ARC should be engaged to determine how they estimate project costs during their planning phase.

ACTION 71.14: Consult the ARC regarding their methods to estimate project costs for research during the scoping phase.

TSSAC also agreed that the committees also need more time to consider strategic planning of research, which should be feasible in future, as this was the first year we were working under the new timeline and system. It will be useful to remind committees to continue to consider possible socio-economic priorities as well that have been identified in the Strategic Research Plan developed by TSSAC, noting that some of this work has more of a TSRA focus, but projects can still be put through the TSSAC.

The meeting closed at 1630.

## **Day 2**

The meeting opened at 830am. The committee worked through the research priorities, finalising and agreeing to a list and allocated projects to the scientific members who agreed to assist to develop the scopes, which needed to be released in a call for research the following week (details in the minutes above). Other business was then discussed.

## 5 Other Business

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The committee discussed the desire to develop a stronger data storage system for storing research project reports and data. AFMA currently receives reports and stores them on an internal system. Some reports are placed on the PZJA website and reports are generally available on the research provider's website when working with large providers such as CSIRO. The committee agreed that historic and current reports should be uploaded to the website and this continue going forward. The next meeting should also discuss whether data should be stored or accessible somewhere.

**ACTION 71.15:** TSSAC EO to place TSSAC research reports on the PZJA website with a list of historic projects.

TSPMAC also agreed that there should be a standing agenda item for future meetings to table and discussion proposed and current research projects being undertaken by other agencies which relate to Torres Strait fisheries.

**ACTION 71.16:** AFMA to develop a table which maps the SRP themes against the projects funded by any agency, so we know how many projects are already addressing the same issues. Including project title, funding body and researcher.

The committee discussed data collection in Torres Strait fisheries, with scientific working group members raising concerns around the current low levels of data (including catch and hours per day of effort) being collected being insufficient to provide accurate advice for fisheries management.

The new docket book systems are improving data collection, particularly in the finfish fishery, and AFMA will continue to take island visits to educate around these systems and try to improve uptake by more people. Education will include showing communities the data and the uses in fisheries management so they can better understand the benefits. There is some hesitancy to provide data fishing locations, however even general areas would improve data.

Voluntary logbooks are the preferred method by AFMA, however it is possible to introduce a mandatory logbooks system. AFMA would also like to improve reporting around threatened, endangered and projected species by explaining the importance of collecting this data to communities. AFMA are also working towards electronic reporting for TIBs, however significant work needs to be undertaken on the IT system to allow smartphone/ app abilities. This may take around 12 months.

The committee agreed to add the logbook and reporting discussion to the agenda for discussion at the next face to face meeting.

The meeting closed at 1115am. The Chair thanked members for attending and thanked research members for agreeing to assist to write project scopes outside of the meeting. A final prayer was received and the meeting closed.

ACTION 71.17: TSSAC EO to add agenda item for next face to face meeting to workshop ideas to improve data collection in Torres Strait fisheries.

## 6 Actions arising from TSSAC 71

Action number	Action item	Responsible person
71.1	Create standing agenda item for the November research priority TSSAC meeting, to gather a list of current research priorities and projects related to Torres Strait fisheries from other funding bodies. This should be considered when setting TSSAC research priorities and sent to members before the meeting for consideration with papers.	TSSAC EO
71.2	Provide feedback to the AFMA ERA team regarding possible limitations of the current ERA system including the frequency of review being related to effort rather than a set time period, and possible limitations relating to cumulative impacts.	AFMA
71.3	TSSAC Chair/ AFMA to send a letter of appreciation to the TRL project team for all hard work with the extra TRL surveys.	AFMA
71.4	Circulate the current Turtle and Dugong management plans to TSSAC.	TSSAC EO
71.5	AFMA to contact the department of health to determine the current actions being taken regarding food safety relating to the Fly River mine runoff.	AFMA
71.6	TSSAC EO to append the fly river report and slideshow to TSSAC meeting minutes.	TSSAC EO
71.7	Dave Brewer to talk to Shaun Sloan about the Australia wide traditional take project funded by FRDC, and potential links to this work in the Torres Strait.	Chair
71.8	Ensure the TSSAC page of the PZJA website is up to date with new memberships and research package documents.	AFMA
71.9	TSSAC scientific members and AFMA staff to develop scopes and distribute to TSSAC EO.	TSSAC members
71.10	TSSAC EO to send draft scopes to TSSAC members out of session for comment prior to sending call for research before Christmas	TSSAC EO

<b>71.11</b>	Torres Strait Prawn Management Advisory Committee to further develop research priority related to prawn recruitment and climate change, clearly identifying the need and objectives for possible future funding.	TSPMAC (via TSSAC EO)
<b>71.12</b>	Determine whether the BDM surveys need to occur at a specific time like for TRL, or if it could occur at any time of year, in order to progress BDM surveys this financial year.	AFMA
<b>71.13</b>	Send TSSAC the recent TSPF survey exploring why fishers have not been fishing in the TSPF.	TSSAC EO
<b>71.14</b>	Consult the ARC regarding their methods to guesstimate project costs for research during the scoping phase.	TSSAC EO
<b>71.15</b>	TSSAC EO to place TSSAC research reports on the PZJA website with a list of historic projects.	AFMA
<b>71.16</b>	Develop a table which maps the SRP themes against the projects funded by any agency, so we know how many projects are already addressing the same issues. Including project title, funding body and researcher.	AFMA
<b>71.17</b>	Add agenda item for next face to face meeting to workshop ideas to improve data collection in Torres Strait fisheries.	TSSAC EO