

**29<sup>th</sup> MEETING OF THE PZJA TORRES STRAIT TROPICAL  
ROCK LOBSTER RESOURCE ASSESSMENT  
GROUP (TRLRAG 29)**

**Tuesday 6 October 2020 | 2:00 PM – 4:00 PM**

**Video Conference**

**DRAFT AGENDA**

**1 PRELIMINARIES**

**Welcome and apologies**

The Chair will welcome members and observers to the 29<sup>th</sup> meeting of the RAG.

**Adoption of agenda**

The RAG will be invited to adopt the draft agenda.

**Declaration of interests**

Members and observers will be invited to declare any real or potential conflicts of interest 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.

**2 UPDATES FROM MEMBERS**

Industry, scientific and government agency members and observers will be invited to provide verbal updates on matters concerning the TRL Fishery.

**3 TRL FISHERY RESEARCH PRIORITIES**

The RAG will discuss and provide advice on research priorities for the 2021/22 – 2025/26 five year period.

**The Chair must approve the attendance of all observers at the meeting. Individuals wishing to join the meeting as an observer must contact the Executive Officer – Georgia Langdon ([georgia.langdon@afma.gov.au](mailto:georgia.langdon@afma.gov.au))**

<b>TROPICAL ROCK LOBSTER RESOURCE ASSESSMENT GROUP (TRLRAG)</b> (Video conference)	<b>MEETING 29</b> <b>6 October 2020</b>
<b>PRELIMINARIES</b>	<b>Agenda Item 1</b> <b>For NOTING and DECISION</b>

## RECOMMENDATIONS

That the RAG:

1. **NOTE:**

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

2. **ADOPT** the draft agenda;

3. **DECLARE** all real or potential conflicts of interest in the Torres Strait Rock Lobster Fishery at the commencement of the meeting (**Attachments 1a** and **1b**);

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

5. **ABIDE** by decisions of the RAG regarding the management of conflicts of interest; and

6. **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 being made, on the matter which is the subject of the conflict.

## BACKGROUND

### *Apologies*

7. As at 25 September 2020, apologies had been received from Industry member, Brett Arlidge.

### *Declarations of Interest*

8. 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.

9. RAG members are asked to confirm the standing list of declared interests (**Attachments 1a** and **1b**) is accurate and provide an update to be tabled if it is not.

10. FMP1 recognises that members are appointed to provide input based on their knowledge and expertise and as a consequence, may have 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.

11. 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.

12. 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.

**TRLRAG Declarations of interests from most recent meetings**

<b>Name</b>	<b>Position</b>	<b>Declaration of interest</b>
<b>Members</b>		
Dr Ian Knuckey	Chair	Chair/Director of Fishwell Consulting Pty Ltd and Olrac Australia (electronic logbooks). Chair/member of other RAGs and MACs. Conducts various AFMA and FRDC funded research projects including FRDC Indigenous Capacity Building project. Nil interests in TRL Fishery and no research projects in the Torres Strait.  In 2019, delivered components of TSRA Induction Program for Traditional Inhabitant members on PZJA advisory committees.  Full declaration of interests provided at <b>Attachment 1b</b> .
Dr Eva Plaganyi	Scientific Member	Lead scientist for PZJA funded TRL research projects conducted by CSIRO.
Dr Andrew Penney	Scientific Member	Research consultant (Pisces Australis) with potential interest in a wide range of fisheries research or management related projects. However, no current involvement in any research projects in the Torres Strait. No involvement and no pecuniary interest in any fishing activities in the Torres Strait or elsewhere. Appointed independent scientific member of TRL RAG, SE RAG and SPF RAG.
Aaron Tom	Traditional Inhabitant Member	Traditional Inhabitant Gudumalulgal and TIB licence holder.
Les Pitt	Traditional Inhabitant Member	Traditional Inhabitant Kemer Kemer Meriam, TIB licence holder and runs an independent freezer facility on Erub Island.
Harry Nona	Traditional Inhabitant Member	Traditional Inhabitant Kaiwalagal and TIB licence holder.
James Ahmat	Traditional Inhabitant Member	Traditional Inhabitant Malualgal and TIB licence holder.
James Billy	Traditional Inhabitant Member	Traditional Inhabitant Kulkaalgal, TIB licence holder, Coxwains holder and free diver.
Dr Ray Moore	Industry Member	Torres Strait Master Fisherman licence holder and East Coast TRL Fishery licence holder.
Selina Stoute	AFMA Member	Nil.
TBA	TSRA Member	To be declared.

Tom Roberts	QDAF Member	To be declared.
Georgia Langdon	Executive Officer	Nil.
<b>Observers</b>		
Yen Loban	TSRA Board Member and TSRA Portfolio Member for Fisheries	TIB licence holder.
Maluwap Nona	Malu Lamar (Torres Strait Islander) Corporation RNTBC	To be declared.
Joseph Posu	PNG National Fisheries Authority (NFA)	To be declared.

**Declaration of interests Dr  
Ian Knuckey – May 2020**

**Positions:**

Director	Fishwell Consulting Pty Ltd
Director	Olrac Australia (Electronic logbooks)
Deputy Chair	Victorian Marine and Coastal Council
Chair / Director	Australian Seafood Co-products & ASCo Fertilisers (seafood waste)
Chair	Northern Prawn Fishery Resource Assessment Group
Chair	Tropical Rock Lobster Resource Assessment Group
Chair	Victorian Rock Lobster and Giant Crab Assessment Group
Chair	Victorian Central Zone Abalone Fisheries Resource Advisory Grou
Chair	Gulf of St Vincent's Prawn Fishery MAC Research Scientific Committee
Scientific Member	Northern Prawn Management Advisory Committee
Scientific Member	SESSF Shark Resource Assessment Group
Scientific Member	Great Australian Bight Resource Assessment Group
Scientific Member	Gulf of St Vincent's Prawn Fishery Management Advisory Committee
Scientific Member	Tropical Tuna Resource Assessment Group
Scientific participant	SEMAC, SESSF Resource Assessment Group

**Current projects:**

AFMA 2020/0807	Bass Strait Scallop Fishery Survey – 2020-22
FRDC 2017/069	Indigenous Capacity Building
FRDC 2016/116	5-year RD&E Plan for NT fisheries and aquaculture
Traffic Project	Shark Product Traceability
FRDC 2018/021	Development and evaluation of SESSF multi-species harvest strategies
FRDC 2017/014	Informing structural reform of South Australia's Marine Scalefish Fishery
NT Fisheries	Design and implementation of a tropical snapper trawl survey
Sea Cucumber Ass.	Design and implementation of a sea cucumber dive survey
FRDC 2019-072	A survey to detect change in Danish Seine catch rates of Flathead and School Whiting resulting from CGG seismic exploration.

<b>TROPICAL ROCK LOBSTER RESOURCE ASSESSMENT GROUP (TRLRAG) (Video Conference)</b>	<b>MEETING 29 6 October 2020</b>
<b>UPDATES FROM MEMBERS</b>	<b>Agenda Item 2 For NOTING</b>

## **RECOMMENDATIONS**

1. That the RAG **NOTE** verbal updates provided by industry, scientific and government agency members.

## **BACKGROUND**

2. Verbal reports are sought from members under this item, with particular emphasis on COVID-19 related impacts to the fishing season.
3. It is important that the RAG develops a common understanding of any strategic issues, including economic, fishing and research trends relevant to the management the TRL Fishery. This includes within adjacent jurisdictions. This ensures that where relevant, the RAG is able to have regard for these strategic issues and trends.
4. RAG members are asked to provide any updates on trends and opportunities in markets, processing and value adding. Industry is 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 in future.

<b>TROPICAL ROCK LOBSTER RESOURCE ASSESSMENT GROUP (TRLRAG)</b> (Video conference)	<b>MEETING 29</b> <b>6 October 2020</b>
<b>TRL Fishery Research Priorities</b>	<b>Agenda Item 3</b> <b>For ADVICE</b>

## RECOMMENDATIONS

1. That the RAG **DISCUSS** and provide **ADVICE** on the research priorities provided in the rolling five year research plan for 2021/22 to 2025/26 (the Research Plan) for the Torres Strait Tropical Rock Lobster (TRL) Fishery (**Attachment 3a**), with a particular focus on:
  - a. Feasibility, timing and indicative costing of essential, unfunded research projects.
2. That the RAG **NOTE**:
  - a. The current status of recently identified research needs, as last reviewed by TRLRAG 27 (held on 10-11 December 2019), and TRLWG 10 (held on 12 December 2020) (**Table 1**); and
  - b. that \$290,000 of the 2021/22 AFMA research budget is pre-committed to a multi-year TRL project (the annual pre-season survey over three years – AFMA research project 2019/0825). This means there is approximately \$120,000 of the AFMA research budget available for additional research priorities in the 2021-22 financial year across all Torres Strait fisheries.

## KEY ISSUES

### *Rolling five year research plan for the TRL Fishery*

3. Under TSSAC's *Torres Strait Fisheries Strategic Research Plan 2018-2023* (SRP), each PZJA Working Group and RAG is tasked with identifying research priorities for their respective fisheries and updating their rolling five year fishery research plans by September/October each year.
4. While the TSSAC research funds available in the 2021/22 financial year is limited (approximately \$120,000) across all Torres Strait fisheries, it remains a valuable task that the RAG consider research priorities and future research needs for the TRL Fishery.
5. **Table 1** provides an overview of recent research needs identified or discussed by the RAG with an update on current status.
6. Having regard to **Table 1**, the RAG is asked to review and provide advice on further changes to the research priorities provided in the draft rolling five year research plan for 2021/22 to 2025/26 (**Attachment 3a**), with a particular focus on feasibility (e.g. in COVID-19 environment), timing and estimated costs of unfunded projects.
7. Advice may include changes to the prioritisation of existing proposed projects or any new priorities projected for the next five years.
8. The draft research plan includes the recommended changes from TRLRAG27 and TRLWG10.

### *Outcomes of TSSAC 2020/21 funding cycle*

9. Three projects were included in the call for research for the 2020-21 funding cycle, with a limited budget of \$45,732 available for tactical research projects. These were:
  - a. Determining weight conversion ratios for curryfish species *Stichopus herrmani* and *S. vastus*;



- b. Torres Strait Finfish Fishery Spanish Mackerel Biological Sampling; and
  - c. Torres Strait Finfish Fishery Coral Trout Catch Per Unit Effort Standardisation.
10. The TSSAC did not support the coral trout catch per unit effort standardization project (c) above at the time as the budget was higher than anticipated. As such, the TSSAC invited full proposals for the other two projects.
11. Due to COVID-19 impacts, the project team for the *curryfish conversion ratio project* had to withdraw their application for 2020-21 funding.

## BACKGROUND

12. TSSAC operates under a SRP which guides priority setting for research in Torres Strait fisheries over a five year period. 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.
13. There are 3 research themes within the SRP, under which the TRLRAG and TRLWG could identify research priorities for the TRL Fishery (**Attachment 3b**). There are several strategies under each theme and suggested ideas to help RAGs and Working Groups to think about the sorts of projects which may fit within these themes and strategies.
14. The TSSAC requires each fishery to develop a rolling five year research plan, which fits into the themes identified in this SRP.

### ***Rolling five year research plans***

15. 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 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.
16. The rolling five year research plans will be updated annually, thus always having a five year projection for research.

## ATTACHMENTS

- 1a** Draft rolling five year research plan for 2021/22 to 2025/26 for the TRL Fishery
- 1b** Torres Strait fisheries strategic research themes, strategies and research activities

**Table 1. Overview of recent research needs identified or discussed at previous TRLRAG and TRLWG meetings with an update on current status.**

Research need	Detail	TRLRAG Prioritisation	Status	Comments/Questions
<b>Fishery surveys, stock assessment, harvest control rules and recommended biological catch (RBC)</b>	<ul style="list-style-type: none"> <li>Monitor ongoing changes in the fishery and update or develop fishery performance indicators as required.</li> <li>Recommend a recommended biological catch (RBC) annually for each season.</li> <li>Every third year update and implement the long-term stock assessment.</li> <li>Conduct a pre- season survey in November each year, including seabed habitat monitoring.</li> <li>Continue development of a harvest strategy for the TRL Fishery including an empirical harvest control rule.</li> <li>Facilitate data sharing with PNG.</li> <li>Development of a tiered harvest strategy for the TRL Fishery.</li> </ul>	<b>Essential</b>	<b>Currently funded</b> under AFMA Research Project (2019/0825) until 2021-22	Unfunded after from 2022-23 onwards
<b>Ecological risk assessment (ERA)</b>	<ul style="list-style-type: none"> <li>Conduct an update to the 2007 ERA for the TRL Fishery.</li> <li>Required for WTO re-assessment by December 2020</li> </ul>	<b>Essential</b>	<b>Identified for potential assessment under broader AFMA Research Project.</b>  Assessment dependent on remaining funding once high priority fisheries have been assessed. Required for WTO re-assessment by December 2020	
<b>Improvement of data collection</b>	<ul style="list-style-type: none"> <li>Improved monitoring of commercial catch and effort in all sectors of the fishery.</li> <li>Estimate of non- commercial take of TRL.</li> <li>Alternative monitoring techniques of effort, for example GPS tracking.</li> </ul>	<b>Essential</b>	Due to COVID-19 impacts, AFMA temporarily ceased face-to-face meetings in 2020 which has impacted the ability of the RAG data sub-group to reconvene. The next meeting of the RAG data sub-group is still to be confirmed and will likely be sometime in 2021.	The RAG supported the continuation of the data sub-group as a means to progress options for addressing ongoing fishing dependent data needs for the fishery. The funding for RAG data sub-groups is to be sourced from the AFMA TRLRAG budget.

Research need	Detail	TRLRAG Prioritisation	Status	Comments/Questions
<b>Understanding fisher behaviour</b>	<ul style="list-style-type: none"> <li>Understanding the drivers and incentives in determining fishing behaviour in all sectors.</li> <li>Understanding fishing behaviour under output controls: the impact of ITQs or competitive quota on the fishery (including social impacts); the extent and impact of discard mortality; the effect of changing market preferences on fishing behaviour under output controls; the extent of value adding e.g. moving to live product, targeting different sizes; the extent of high grading under output controls.</li> </ul>	<b>Essential</b> (as per TRLRAG 27 advice)	Currently unfunded and requires an indicative cost estimate.	Feasibility under COVID-19 climate? Timing? Cost?
<b>Science peer review</b>	Consistent with best practice Guidelines for quality assurance of Australian fisheries research and science information (the Guidelines), a peer review be conducted of the TRL Fishery survey design, stock assessment and draft Harvest Strategy.	<b>To be advised</b> following RAG agreement of a final draft Terms of Reference (ToR).	This project is currently estimated to cost between \$60,000 - \$80,000 and is flagged for the 2021-22 financial year, depending on final scope.  A draft ToR is expected to be developed ahead of the next RAG meeting on 15-16 December 2020.	Feasibility under COVID-19 climate? Timing? Cost?
<b>Understanding connectivity, environmental drivers and adaptation strategies</b>	<ul style="list-style-type: none"> <li>Understanding of migration of different age classes of lobsters between, and within, jurisdictions (e.g. PNG, QLD East Coast and Torres Strait).</li> <li>Understanding of recruitment connectivity between, and within, jurisdictions, including key areas of larval release within each jurisdiction.</li> <li>Management implications of movement and recruitment connectivity between, and within, jurisdictions.</li> </ul>	<b>Essential</b> (as per TRLRAG 27 advice)	Unfunded	Feasibility under COVID-19 climate? Timing? Cost?
<b>Understanding changes to fishing power through time</b>	Understanding changes in fishing behaviour and power over time (e.g. changes to the size of engines, use of GPS, gear, areas fished, time fished, experience of divers), to inform the standardisation of CPUE data.	<b>Desirable</b>	Sub-group to progress once progress on improving data collection has been made – funding for sub-group meetings to be sourced from RAG budget	Feasibility under COVID-19 climate? Timing? Cost?

Research need	Detail	TRLRAG Prioritisation	Status	Comments/Questions
<b>Mid-year survey</b>	Conduct mid- year survey, as required under the Harvest Strategy for the TRL Fishery.	To be conducted only if requirement to undertake a mid-year survey is triggered under the Harvest Strategy – indicative cost \$110,000 with in-kind contribution from CSIRO	n/a	Unless triggered under the Harvest Strategy for the TRL Fishery, this project is not a priority for the TRL Fishery.



# Rolling Five Year Research Plan

## 2021/22-2025/26

## Torres Strait Tropical Rock Lobster Fishery



Compiled by AFMA

September 2020

## **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 2021/2022 to 2025/26. 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.

## RESEARCH PRIORITIES

**Table 1.** Five year Torres Strait Tropical Rock Lobster Fishery research plan for 2021/22 to 2025/26.

Note: light blue shading indicates a project that has been funded.

Proposed Project	Objectives and component tasks	Year project to be carried out and indicative cost*						Other funding bodies <sup>1</sup>	Evaluation		
		2021/22	2022/23	2023/24	2024/25	2025/26	Notes on project timings		Priority essential / desirable	Priority ranking (1-5 – 1 being highest priority)	Theme
Fishery surveys, stock assessment, harvest control rules and recommended biological catch (RBC)	<ul style="list-style-type: none"> <li>➤ Monitor ongoing changes in the fishery and update or develop fishery performance indicators as required.</li> <li>➤ Recommend a recommended biological catch (RBC) annually for each season.</li> <li>➤ Every third year update and implement the long-term stock assessment.</li> <li>➤ Conduct a pre- season survey in November each year, including seabed habitat monitoring.</li> <li>➤ Continue development of a harvest strategy for the TRL Fishery including an empirical harvest control rule.</li> <li>➤ Facilitate data sharing with PNG.</li> <li>➤ Development of a tiered harvest strategy for the TRL Fishery.</li> </ul>	290,824 (funded under AFMA Research Project 2019/ 0825)	240,000 (not yet funded)	240,000 (not yet funded)	240,000 (not yet funded)	240,000 (not yet funded)	Nil	AFMA CSIRO PNG NFA Industry	Essential	1	1
Ecological risk assessment (ERA)	<ul style="list-style-type: none"> <li>➤ Conduct an update to the 2007 ERA for the TRL Fishery.</li> </ul>	20,400 (identified for potential assessment under broader AFMA Research Project)	0	0	0	0	Assessment dependent on remaining funding once high priority fisheries have been assessed. Required for WTO re-assessment by December 2020	AFMA CSIRO	Essential	1	1
Improvement of data collection	<ul style="list-style-type: none"> <li>➤ Improved monitoring of commercial catch and effort in all sectors of the fishery.</li> <li>➤ Estimate of non- commercial take of TRL.</li> </ul>	20,000	0	0	0	0	Sub-group of the RAG to progress alongside RAG meetings – funding for sub-group	AFMA PNG NFA	Essential	1	1,3

	➤ Alternative monitoring techniques of effort, for example GPS tracking.						meetings to be sourced from RAG budget				
Science peer review	➤ Consistent with best practice Guidelines for quality assurance of Australian fisheries research and science information (the Guidelines), a peer review be conducted of the TRL Fishery survey design, stock assessment and draft Harvest Strategy.	60,000-80,000 (depende nt on final scope)0	0	0	0	0	Terms of reference to be developed and considered by the TRLRAG in 2019/20	AFMA	To be advised	1	1
Understanding fishing behaviour	➤ Understanding the drivers and incentives in determining fishing behaviour in all sectors. ➤ Understanding fishing behaviour under output controls: the impact of ITQs or competitive quota on the fishery (including social impacts); the extent and impact of discard mortality; the effect of changing market preferences on fishing behaviour under output controls; the extent of value adding e.g. moving to live product, targeting different sizes; the extent of high grading under output controls.	To be advised					Timing of project to be considered once a Management Plan has been fully implemented in the TRL Fishery	AFMA	Essential	2	1
Understanding connectivity, environmental drivers and adaptation strategies	➤ Understanding of migration of different age classes of lobsters between, and within, jurisdictions (e.g. PNG, QLD East Coast and Torres Strait). ➤ Understanding of recruitment connectivity between, and within, jurisdictions, including key areas of larval release within each jurisdiction. ➤ Management implications of movement and recruitment connectivity between, and within, jurisdictions.	To be advised					Nil	AFMA PNG NFA CSIRO	Essential	2	1
Understanding changes to fishing power through time	➤ Understanding changes in fishing behaviour and power over time (e.g. changes to the size of engines, use of GPS, gear, areas fished, time fished, experience of divers), to inform the standardisation of CPUE data.	To be advised					Sub-group to progress once progress on improving data collection has been made – funding for sub-group meetings to be sourced from RAG budget	AFMA CSIRO	Desirable	2	1



Mid-year survey Note: unless triggered under the Harvest Strategy for the TRL Fishery, this project is not a priority for the TRL Fishery.	➤ Conduct mid- year survey, as required under the Harvest Strategy for the TRL Fishery.	0	0	0	0	0	To be conducted only if requirement to undertake a mid-year survey is triggered under the Harvest Strategy – indicative cost \$110,000 with in-kind contribution from CSIRO	AFMA CSIRO PNG NFA Industry	Only if triggered under the Harvest Strategy, priority = essential	Only if triggered under the Harvest Strategy, priority ranking = 1	1
---	---	---	---	---	---	---	---	---	--	--	---

## Torres Strait fisheries strategic research themes, strategies and research activities

<b>Theme 1: Protecting the Torres Strait marine environment for the benefit of Traditional Inhabitants</b>	
<b>Aim:</b> 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	<p>Possible research activities under this theme may include:</p> <ul style="list-style-type: none"> <li>a. Stock assessment and fishery harvest strategies for key commercial species.</li> <li>b. Ecological risk assessments and management strategies for fisheries.</li> <li>c. Minimising marine debris in the Torres Strait.</li> <li>d. Addressing the effects of climate change on Torres Strait fisheries through adaptation pathways for management, the fishing industry and communities.</li> <li>e. Incorporating Traditional Ecological Knowledge into fisheries management.</li> <li>f. Methods for estimating traditional and recreational catch to improve fisheries sustainability.</li> </ul>
Strategy 1b – Catch sharing with Papua New Guinea	<p>Possible research activities under this theme may include:</p> <ul style="list-style-type: none"> <li>a. Status of commercial stocks and catches by all sectors within PNG jurisdiction of the TSPZ.</li> <li>b. Good cross-jurisdictional fisheries management through better monitoring and use of technology.</li> </ul>
<b>Theme 2: Social and Economic Benefits</b>	
<b>Aim:</b> 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	<p>Possible research activities under this theme may include:</p> <ul style="list-style-type: none"> <li>a. Models for managing/administering Traditional Inhabitant quota</li> <li>b. Understanding what influences participation in commercial fishing by Traditional Inhabitants.</li> <li>c. Understanding the role and contribution of women in fisheries.</li> <li>d. Capacity building for the governance of industry representative bodies</li> <li>e. Methods for valuing social outcomes for participation in Torres Strait fisheries.</li> <li>f. Identifying opportunities and take-up strategies to increase economic benefits from Torres Strait fisheries.</li> </ul>
<b>Theme 3: Technology and Innovation</b>	
<b>Aim:</b> 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.	<p>Possible research activities under this theme may include:</p> <ul style="list-style-type: none"> <li>a. Electronic reporting and monitoring in the Torres Strait, including for small craft.</li> <li>b. Technologies or systems that support more efficient and effective fisheries management and fishing industry operations.</li> </ul>