

**TROPICAL ROCK LOBSTER RESOURCE ASSESSMENT GROUP 36  
(TRLRAG 36)**

**Thursday 11 July 2024 | 930am – 12pm**

**Video Conference**

**DRAFT AGENDA**

**1 PRELIMINARIES**

**1.1 Welcome and apologies**

The Chair will welcome members and observers to the 36<sup>th</sup> meeting of the RAG.

**1.2 Adoption of agenda**

The RAG will be invited to adopt the draft agenda.

**1.3 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 TRL FISHERY RESEARCH PRIORITIES**

The RAG will discuss and provide advice on research priorities for the 2025/26 – 2029/30 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 36</b> 11 July 2024
<b>PRELIMINARIES</b>	<b>Agenda Item 1</b> <b>For NOTING and DECISION</b>

## RECOMMENDATIONS

1. That the RAG **NOTE**:
  - a. an acknowledgement of Traditional Owners;
  - b. the Chair's welcome address;
  - c. apologies received from members unable to attend.
2. That the RAG consider and **ADOPT** the draft agenda.
3. That RAG members and observers:
  - a. **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**);
  - b. **DETERMINE** whether the member may or may not be present during discussion of or decisions made on the matter which is the subject of the conflict;
  - c. **ABIDE** by decisions of the RAG regarding the management of conflicts of interest; and
  - d. **NOTE** that the record of the meeting must record the fact of any disclosure, and the determination of the 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

4. As at 28 June 2024, apologies had been received from:
  - a. Jermain Reuben, Traditional Inhabitant member for Maluilalgal; and
  - b. Les Pitt, Traditional Inhabitant member for Kemer Kemer Meriam.
5. This meeting was noted by members at TRLRAG 34 (12-13 December 2023) and a draft agenda was circulated to members on 28 June 2024.
6. Due to timing constraints on providing advice to the Torres Strait Scientific Advisory Committee (TSSAC) the scope of this meeting is limited to discussing research priorities only.
7. Any revisions to the TRL harvest strategy will be discussed later in the year at a separate RAG meeting to be convened in early October 2024.

### ***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 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.
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

Name	Position	Declaration of interest
<b>Members</b>		
Ian Knuckey	Chair	<p>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.</p> <p>In 2019, delivered components of TSRA Induction Program for Traditional Inhabitant members on PZJA advisory committees.</p> <p>Full declaration of interests provided at <b>Attachment 1b</b>.</p>
Eva Plaganyi	Scientific Member	<p>Lead scientist for PZJA funded TRL research projects conducted by CSIRO. Contribute to other Torres Strait research projects that receive research funding, including currently Shared science and Indigenous knowledge to support fisheries capacity building in Torres Strait. No other interests in the fishery. Independent scientific member of HCRAG and NPFRAG.</p>
Andrew Penney	Scientific Member	<p>Director of Pisces Australis Pty Ltd, an Australian registered marine/coastal research and management consultancy based in Canberra - interests in any opportunities in this regard.</p> <p>Currently Principal Investigator on FRDC Projects Nos 2017-180: Design and implementation of an Australian National Bycatch Report: Phase 1 – Scoping; and 2019-036: Implementation of dynamic reference points and harvest strategies to account for environmentally-driven changes in productivity in Australian fisheries, potentially red leg banana prawns or TRL.</p> <p>Independent scientific member on the AFMA Southeast RAG, the Tropical Rock Lobster RAG and the Small Pelagic Fishery RAG. Member of the AFMA ERA Technical Working Group.</p> <p>No shareholding and hold no positions relating to any other companies, including any fishing companies or industry associations.</p>
Les Pitt	Traditional Inhabitant Member – Kemer Kemer Meriam	<p>Traditional Inhabitant Member Kemer Kemer Meriam, TIB licence holder and runs an independent freezer facility on Erub Island. Board member of Zenadth Kes Fisheries.</p>

**Attachment 1a**

Charles David	Traditional Inhabitant Member - Kulkalgal	Traditional Inhabitant Member Kulkalgal, TSRA Fisheries Advisory Committee and Zenadth Kes Fisheries member.
Patrick Mooka	Traditional Inhabitant Member – Guda maluylgal	Traditional Inhabitant Member, Guda maluylgal. Zenadth Kes Fisheries member.
Jermaine Reuben	Traditional Inhabitant Member - Maluyilgal	Traditional Inhabitant Member Maluyilgal, TIB licence holder. Zenadth Kes Fisheries member.
Thomas Fujii	Traditional Inhabitant Member - Kaiwalalgal	Traditional Inhabitant Member Kaiwalalgal. Queensland East Coast TRL and TIB license holder. Zenadth Kes Fisheries member.
Brett Arlidge	Industry Member	General Manager MG Kailis Pty Ltd. MG Kailis Pty Ltd is a holder of 5 TVH licences. Seafood buyer from Torres Strait, QLD and PNG TRL fisheries.
Ken McKenzie	Industry Member	TVH license and quota holder. Queensland East Coast TRL license and quota holder.
Damian Miley	TSRA Member	TSRA Fisheries Project Manager, TSRA holds multiple TVH TRL fishing license on behalf of Torres Strait Communities but dos not benefit from them. No personal pecuniary interest.
Jenny Keys	QDAF Member	Queensland Fishery manager of tropical rock lobster fishery, sea cucumber fishery and aquarium and coral fisheries.
Steven Harris	AFMA Member	Nil be declared.
Georgia Langdon	Executive Officer	Senior Management Officer for Tropical Rock Lobster Fishery. No pecuniary interests.
<b>Observers</b>		
Joseph Posu	PNG National Fisheries Authority	To be declared.
Yen Loban	TSRA Fisheries Portfolio member	Traditional Owner. TSRA Board member and TSRA Fisheries Portfolio member. Chair of Zenadth Kes Fisheries
Quinten Hirakawa	TSRA	TSRA employee, TIB license holder with a TRL endorsement.

**Declaration of interests**  
**Dr Ian Knuckey – October 2022**

**Ian Knuckey positions:**

Director –	Fishwell Consulting Pty Ltd
Director –	Olrac Australia (Electronic logbooks)
Chair –	Northern Prawn Fishery Resource Assessment Group
Chair –	Tropical Rock Lobster Resource Assessment Group
Chair –	Victorian Rock Lobster and Giant Crab Assessment Group
Chair – Group	Victorian Central Zone Abalone Fisheries Resource Advisory
Chair – Committee	Gulf of St Vincent's Prawn Fishery MAC Research Scientific
Scientific Member –	Northern Prawn Management Advisory Committee
Scientific Member – Committee	Gulf of St Vincent's Prawn Fishery Management Advisory
Scientific Member –	Tropical Tuna Resource Assessment Group
Scientific Member –	SESSF Resource Assessment Group
Councillor –	Victorian Marine and Coastal Council
Member –	The Geelong Agri Collective

**Fishwell current projects:**

DAWE Project	Multi-sector fisheries capacity building
AFMA 2022-	Annual monitoring, reporting and assessment of SPF marine mammal interactions, including effectiveness of mitigation measures
AFMA 2020-0807	Bass Strait Scallop Fishery Survey – 2020-22
AFMA project	Design sea cucumber fishery-independent survey for Coral Sea
FRDC 2019-027	Improving and promoting fish-trawl selectivity in the SESSF and GABTS
FRDC 2018-021	Development and evaluation of SESSF multi-species harvest strategies
Traffic Project	Shark Product Traceability
Sea Cucumber Ass.	Design and implementation of various sea cucumber dive surveys.
Australia Bay	Queensland Gulf of Carpentaria Developmental Fin Fish Trawl Fishery
Expert Witness	Gladstone Harbour development impacts

<b>TROPICAL ROCK LOBSTER RESOURCE ASSESSMENT GROUP (TRLRAG)</b>	<b>MEETING 36 11 July 2024</b>
<b>TRL Fishery Research Priorities</b>	<b>Agenda Item 2 For Discussion and Advice</b>

**RECOMMENDATIONS**

1. That the RAG **NOTE** that the currently funded three-year TRL project “*Torres Strait TRL Fishery independent survey, stock assessment and Recommended Biological Catch calculations*” is in its final year and is not scoped nor funded beyond 2024-25.
2. That the RAG **DISCUSS** and provide **ADVICE** on the research priorities provided in the draft rolling five-year research plan for 2025/26 to 2029/30 (the Research Plan) for the Torres Strait Tropical Rock Lobster (TRL) Fishery (**Attachment 2a**), including advice on feasibility, timing and indicative costing of essential, unfunded research project(s), and identifying any new research needs.
3. That the RAG **NOTE**:
  - a) The current status of recently identified research needs, as last reviewed by the TRLRAG and Working Group in July 2023 (**Attachment 2b**) outlined in **Table 1**; and
  - b) The Torres Strait Scientific Advisory Committee (TSSAC) is scheduled to meet on 28-29 August to discuss the 2025/26 research funding.
  - c) If recent minimum research funding is secured again for 2025-26, there would be a minimum of \$645,000 available for use in Torres Strait research.
  - d) In recent years, additional funding has also been secured for critical projects, however, cannot be guaranteed. Having a complete list of urgent and desirable research for each fishery is crucial in PZJA agency budget planning.

**KEY ISSUES**

***Research priorities for the TRL Fishery***

4. The RAG last discussed research priorities July 2023 and these were supported by the TRL Working Group. The Working Group did not identify any new research priorities or changes to existing priorities at their most recent meeting on 5 June 2024 (TRLWG 16).
  - a) The highest ‘essential’ priority for the fishery remains the need to undertake **fishery independent surveys, stock assessment, harvest control and Recommended Biological Catch (RBC)** work.
5. The current three year project undertaking this work is due for completion at the end of the 2024-25 financial year. The RAG is invited to provide advice on what a new project scope might entail in addition to the essential survey, stock assessment and RBC elements. It is anticipated that this work will cost approximately \$345,000 each year.
6. Assuming an available budget of \$420,000 in AFMA research funds and a minimum of \$225,000 from TSRA, it is expected there will be approximately \$645,000 available to fund new or ongoing research projects in 2025-26.

7. This baseline funding needs to cover all fishery research priorities, and TSSAC are responsible for considering competing priorities and making recommendations on how funding should be allocated across fisheries. It is also possible PZJA agencies will be able to source additional funding above this estimated base budget for critical projects, however this is considered against individual agency budget allocations each year.
8. Having a complete list of urgent and desirable research for each fishery is crucial in PZJA agency budget planning.
9. A detailed breakdown of committed TSSAC funds for multi-year projects 2024/25 – 2027/28 is provided at **Attachment 2c**.
10. The RAG is being invited to discuss and provide advice on research priorities for the TRL Fishery for 2025/26 financial year and beyond.

## **BACKGROUND**

11. There are several projects already underway or scheduled for funding which will address some of the identified research priorities. Although these will not require funding consideration by the TSSAC the RAG agreed it would be good to have these included in the research plan. These include:
  - a) TSRA's WAPIL project which will contribute to **understanding fisher behaviour**
  - b) *CSIRO's Modelling climate change impacts on key fisheries resources in the Torres Strait to co-develop adaptation and mitigation strategies*, which will contribute to **understanding connectivity, environmental drivers and adaptation strategies**.
12. The RAG also agreed:
  - a) that the significance of climate change across all Torres Strait fisheries, including TRL, warrants having it listed as its own priority. This item was separated out from understanding connectivity and placed as a higher priority.
  - b) The highest 'essential' priority for the fishery remains the need to undertake **fishery independent surveys, stock assessment, harvest control and Recommended Biological Catch (RBC)** work.
  - c) Undertaking an update to the 2007 **Ecological Risk Assessment (ERA)** for the TRL Fishery remains an essential priority. Assessment by CSIRO this financial year is dependent on prioritisation against other high priority fisheries.
  - d) **Improvement of data collection** (to be pursued by the TRL RAG data sub-group) remains an essential priority.
  - e) **Impact and mitigation of climate change effects in Torres Strait fisheries** is an essential priority, noting the CSIRO project on this will benefit all Torres Strait fisheries, including TRL.
  - f) **Understanding fisher behaviour**, including capturing information on the impacts of COVID-19 on things like effort levels, spatial effort distribution and economically driven changes in behaviour in the fishery, remain essential priorities.
  - g) **Understanding connectivity, environmental drivers and adaptation strategies** is desirable rather than essential, as climate change has been separately identified as a priority and is higher than understanding connectivity implications between jurisdictions.



- h) **Understanding changes to fishing power** and a **science peer review** remain desirable.

### ***TSSAC Research Funding Process***

13. Each year the TSSAC invites applications for funding to undertake research to support the management of Protected Zone Fisheries. The TSSAC seek input from each fishery advisory committee to identify research priorities.
14. Historically, Protected Zone Joint Authority fisheries research has predominantly been funded by AFMA. The AFMA research budget is generally set at around \$420,000 each year. In recent years TSRA has recently committed to contributing around \$225,000 each year towards PZJA fisheries research as a minimum, with recent contributions well above this amount. This baseline Government budget estimate allows around \$625,000 annually for all Torres Strait research.
15. Additional funding can also be sought from other bodies such as the Fisheries Research and Development Corporation (FRDC), when needed, and when projects align with FRDC objectives.

### ***Draft updated TSSAC Fisheries Strategic Research Plan 2024 – 2028 and rolling five-year fishery specific research plans***

16. TSSAC operates under a Strategic Research Plan (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. 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.
17. In August 2023, the TSSAC recommended that the Strategic Research Plan (SRP) change form to be a higher level 1-2 page document. They recommended the SRP be much more visual, and simply include background, research priorities and some information on how research is enabled in Torres Strait. A draft of the new SRP 2024-2028 is at **Attachment 2d**. TSSAC welcome comments from the TRLWG on the draft. The TSSAC hope to finalise the SRP at their August meeting.
18. The TSSAC requires each fishery to develop a rolling five-year research plan, which fits into the themes identified in this SRP.
19. The rolling 5 year research plan should be drafted using the existing SRP, noting the new one is not yet finalised. There are 3 research themes within the existing SRP, under which the TRLRAG and TRLWG could identify research priorities for the TRL Fishery. 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.



# DRAFT Rolling Five Year Research Plan 2025/26-2029/30

## Torres Strait Tropical Rock Lobster Fishery



Compiled by AFMA with TRLRAG advice

Last updated July 2023

## **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 2025/26 to 2029/30. 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 2025/26 to 2029/30.

Proposed Project	Objectives and component tasks	Year project to be carried out and indicative cost					Notes on project timings	Other funding bodies	Evaluation		
		2025/26	2026/27	2027/28	2028/29	2029/30			Priority essential / desirable	Priority ranking 1-5 (1=highest)	Theme
<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>	Estimated 345,000	Estimated 345,000	Estimated 345,000			currently funded under AFMA Research Project 2021/ 0816 which is in its final year in 2024		Essential	1	1
<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> </ul>	20,400	0	0	0		Assessment in 2024/25 financial year dependent on prioritisation against other high priority fisheries.	Funding can be sourced from the AFMA TRL budget for future FYs	Essential	1	1
<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>	0	0	0	0		Data sub-group to be progressed alongside RAG meetings	Funding can be sourced from the AFMA TRLRAG budget	Essential	1	1,3
<b>Impact and mitigation of</b>	<ul style="list-style-type: none"> <li>➤ Enable fisheries managers and communities to better prepare for</li> </ul>							Funded by TSRA	Essential	1	1,2,3

<b>climate change effects in Torres Strait Fisheries</b>	<ul style="list-style-type: none"> <li>➤ climate change mitigation and adaptation, where possible integrate new and existing fisheries and environmental data within an overarching data framework</li> <li>➤ provide estimates of the impacts that different climate change scenarios could have on the marine ecosystem and associated fisheries/species</li> <li>➤ provide estimates of the economic, social and other fisheries-related livelihood impacts of climate change on communities</li> <li>➤ Suggest some possible actions for adaptation.</li> <li>➤ Understanding large scale environmental perturbations and their impact of lobster recruitment, availability and aggregations.</li> </ul>										
<b>Understanding fishing 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> <li>➤ Work should also include capturing information on the impacts of COVID-19 on the fishery to ensure that analysis of fishery data is accounting for potential 'COVID noise'.</li> </ul>	<p>To be advised</p> <p>TRL Data Sub-group should commence initial conversations with industry and collection of qualitative data, with a view to developing a structured quantitative survey over time.</p>					<p>TSRA is currently funding the related WAPIL project. The PZJA is also due to consider the next steps in the TIB quota allocation review at their upcoming meeting.</p>	<p>Desirable</p>	<p>2</p>	<p>1</p>	
<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, potentially utilising QLD logbook data).</li> <li>➤ Understanding of recruitment connectivity between, and within, jurisdictions, including key areas of larval release within each jurisdiction.</li> <li>➤ Management implications of movements and recruitment connectivity between,</li> </ul>	<p>To be advised</p>						<p>Desirable</p>	<p>2</p>	<p>1</p>	

	and within, jurisdictions.						
<b>Understanding changes to fishing power through time</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p>To be advised</p> <p>Sub-group to progress once progress on improving data collection has been made – funding for sub-group meetings to be sourced from RAG budget</p>			Desirable	2	1
<b>Science peer review</b>	<ul style="list-style-type: none"> <li>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.</li> </ul> <p>Terms of reference to be developed and considered by the TRLRAG</p>	<p>60,000 - 80,000</p> <p>(dependent on final scope)</p>			Desirable	3	1
<b>Mid-year survey</b> <b>Note: unless triggered under the Harvest Strategy for the TRL Fishery, this project is not a priority for the TRL Fishery.</b>	<ul style="list-style-type: none"> <li>Conduct mid- year survey, as required under the Harvest Strategy for the TRL Fishery.</li> </ul>	<p>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</p>		\$110,000 with in-kind contribution from CSIRO (if triggered)	Only if triggered under HS priority = essential	Only if triggered under HS priority ranking = 1	1

**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 and WG Prioritisation	Status	Comments/Questions
<b>Impact of climate change on Torres Strait fisheries</b>		<b>Essential</b> (as per TRLRAG 34 advice)	Supported by TSSAC, final funding approvals progressing through TSRA	Will contribute to the TRL Fishery's priority of <b>understanding connectivity, environmental drivers and adaptation strategies.</b>
<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> (as per TRLRAG 34 advice)	<b>Currently funded</b> under AFMA Research Project (2019/0825) until the end of 2024/25.	Needs to be scoped for a new project for 2025/26 onwards  Estimated projected cost is \$345,000 annually
<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> </ul>	<b>Essential</b> (as per TRLRAG 34 advice)	Assessment this financial year dependent prioritisation against other high priority fisheries.  Not budgeted for in 2025/26	TRLRAG 29 agreed that because the Fishery is based on a single species, collected by hand, there is unlikely to be any significant change in the ecological risk factors relating to the TRL fishery since the last ERA was undertaken in 2007.
<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> (as per TRLRAG 34 advice)		The RAG has 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 and WG 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> <li>Work should also include capturing information on the impacts of COVID-19 on the fishery to ensure that analysis of fishery data is accounting for potential 'COVID noise'.</li> <li>Commencing initial conversations with industry now, to capture qualitative information on fishing activities, would be a useful approach.</li> </ul>	<b>Essential</b> (as per TRLRAG 34 advice)	<p>TSRA is currently funding the related WAPPIL project.</p> <p>The PZJA Standing Committee is also due to consider the next steps in the TIB quota allocation review at their next meeting.</p>	TRL Data Sub-group should commence initial conversations with industry and collection of qualitative data, with a view to developing a structured quantitative survey over time.
<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> <li>Understanding large scale environmental perturbations and their impacts on lobster recruitment, availability and aggregations.</li> </ul>	<b>Desirable</b> (as per TRLRAG 34 advice)	Currently unfunded and requires an indicative cost estimate	<p>Industry could be engaged to undertake a discrete tagging project of 0+ (recently settled) and 1+ (juvenile) lobsters to examine movement from the East Coast into the Torres Strait.</p> <p>Useful to help better understand any potential disparity between pre-season survey data, and the fishery catch data, noting that the most recent tagging study is over 30 years old.</p> <p>The currently-funded climate project work led by CSIRO (Leo Dutra) will provide greater insights into the available environmental information, and advice on what information should be collected to develop downscaled climate effects models for TS fisheries.</p>
<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	<b>Desirable</b> (as per TRLRAG 34 advice)	TRL Data Sub-group to progress once progress on improving data collection has been made –	Following initial qualitative data collection, more specific resources can be dedicated towards the project to develop a representative and structured annual



Research need	Detail	TRLRAG and WG Prioritisation	Status	Comments/Questions
	fished, experience of divers), to inform the standardisation of CPUE data.		funding for sub-group meetings to be sourced from RAG budget	fishing power survey. This will be better facilitated when face-to-face stakeholder engagement is more feasible, allowing for trusted relationships with industry to be built up over time.
<b>Science peer review</b>	Consistent with AFMA's best practice <i>Guidelines for quality assurance of Australian fisheries research and science information</i> (the Guidelines), a peer review be conducted of the TRL Fishery survey design.	<b>Desirable</b> (as per TRLRAG 34 advice)	This project is currently estimated to cost between \$60,000 - \$80,000 depending on final scope. The Chair and independent scientific member agreed to finalise the Terms of Reference for the review out-of-session (TRL RAG 29)	Original driver for this research need may be now less important.
<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.

## Committed Torres Strait Scientific Advisory Committee (TSSAC) funds for multi-year projects 2024/25 – 2027/28

Key

FUNDED

Project Title	Cost per year			
	2024/25	2025/26	2026/27	2027/28
FIS, stock assessment, Harvest Strategy and Recommended Biological Catch calculation for the Torres Strait TRL Fishery	\$338,429	(Estimate \$345,000)	(Estimate \$345,000)	(Estimate \$345,000)
Finfish Fishery: Coral Trout and Spanish Mackerel Biological Sampling 2021-2024	\$186,159	(Estimate \$190,000)	(Estimate \$190,000)	(Estimate \$190,000)
TS Spanish mackerel CKMR – contamination analysis (3 year project with stop/go after first year)	\$23,491	(Estimate \$240,000)	(Estimate \$240,000)	
Climate change project (Funded by TSRA)	\$881,755	\$177,980	\$29,202	
<b>Total cost for all contracted projects (excluding Climate Change)</b>	<b>\$548,079</b>	<b>\$775,000</b>	<b>\$775,000</b>	<b>\$535,000</b>
Predicted available research budget <sup>1</sup> (excluding Climate Change)	<b>\$548,079</b>	<b>\$645,000</b>	<b>\$645,000</b>	<b>\$645,000</b>
	\$420,000 AFMA \$128,079 TSRA <sup>2</sup>	\$420,000 AFMA <sup>3</sup> \$225,000 TSRA <sup>4</sup>	\$420,000 AFMA \$225,000 TSRA	\$420,000 AFMA \$225,000 TSRA
Available remaining funds or shortfall (factoring in TRL, Spanish Mackerel and CKMR projects ongoing and assuming available research budget moving forward)	\$0	<b>-\$110,000</b>	<b>-\$110,000</b>	<b>~\$110,000</b>

<sup>1</sup> This is an estimate of the minimum expected budget, noting sometimes PZJA agencies find additional funding for critical research above this amount. Further this amount is not guaranteed as a minimum.

<sup>2</sup> Includes \$90,000 rollover of underspent TSRA funds from 2023-24 FY and in principle support for remaining \$38,079

<sup>3</sup> Assumed Government budget allocation

<sup>4</sup> Estimate of an annual ongoing TSRA contribution

# Torres Strait Scientific Advisory Committee Strategic Research Plan 2024–2028

For more information about TSSAC and our research in the Torres Strait, visit the PZJA website at [pzja.gov.au](http://pzja.gov.au) or contact the AFMA Torres Strait Fisheries team on (07) 4069 1990 or [torresstraitresearch@afma.gov.au](mailto:torresstraitresearch@afma.gov.au).

## Who we are

The Torres Strait Scientific Advisory Committee (TSSAC) is a Protected Zone Joint Authority (PZJA) advisory committee providing advice to the PZJA on use of research funds for Torres Strait fisheries research.

TSSAC includes members from the Australian Fisheries Management Authority (AFMA), the Torres Strait Regional Authority (TSRA), Fisheries Queensland, the Torres Strait Islander industry, and the scientific community.

## What we do

TSSAC provides advice and recommendations in prioritising research across all Torres Strait fisheries.









AFMA, as the secretariat of the committee, assesses milestone reports and advises on the use of funds to ensure research projects are achieving expected outcomes.

## Our objectives

- **Develop research priorities** for Torres Strait fisheries in conjunction with resource assessment groups, management advisory committees and working groups, addressing the PZJA's management objectives.
- Review and **provide advice on individual fishery research plans** for Torres Strait fisheries.
- **Advise** the PZJA on allocating research funds.
- **Engage and inform** representatives of Torres Strait communities about proposed research and project outcomes.

## Strategic research themes

Any research recommended by TSSAC for funding will help the PZJA achieve the objectives of the Act.

 <p>Undertake scientifically robust surveys, assessments and targeted scientific projects, which may include Traditional Ecological Knowledge, for risk-based management of fisheries resources, including the direct and indirect impacts of fishing on stocks and the broader ecosystem.</p>	 <p>Understand the relationship between fishing pressures and stock structures in the Torres Strait alongside other jurisdictions (such as Queensland and Papua New Guinea) and the implications for stock assessment and management.</p>	 <p>Identify and assist in developing resources and the optimal use of existing resources.</p>	 <p>Develop cost effective approaches for data capture, storage, and analysis to improve fisheries assessments.</p>	 <p>Address the effects of climate change on Torres Strait fisheries through adaptation pathways for management, for the fishing industry and communities.</p>	 <p>Understand what influences participation in commercial fishing by Traditional Inhabitants and explore ways to promote better engagement in under-utilised fisheries.</p>	 <p>Identify opportunities to increase economic, cultural, and social benefits arising from Torres Strait fisheries.</p>	 <p>Develop, review, and advance harvest strategies to streamline decision making processes, optimise economic return, and instil confidence in management practices.</p>
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## Key enablers

AFMA provide secretariat support to TSSAC including organising meetings, managing research contracts and project milestones, linking research teams with Torres Strait community representatives, and publishing final project reports on the PZJA website.

The communication of research outcomes to non-scientific audiences include summary documents on project outcomes and implications for fisheries management, and these are published online and provided to relevant Torres Strait stakeholders.

PZJA continues to facilitate greater involvement of Torres Strait Islanders in fisheries research and management through capacity development and collaborative approaches in research projects.

## Research objectives

This plan responds to the complex research needs for Torres Strait fisheries where the management environment pursues sustainability objectives alongside social, economic, and cultural objectives.

Research carries high costs. In an economic environment of competing funding pressures there is a reliance on PZJA advisory committees for strategic planning to deliver the best long-term return on research investment.

There are significant social objectives in managing Torres Strait fisheries and returns on investment may need to be assessed differently to a typical western economic value model. Assessing the value of research against broader objectives will assist the PZJA pursue the social objectives of the Act, alongside the more routinely measured economic and environmental objectives.