



Australian Government

Australian Fisheries Management Authority

**Torres Strait Scientific Advisory Committee**

**2010 OPERATIONAL PLAN FOR  
TORRES STRAIT FISHERIES**

**July 2010**

**DRAFT**

## BACKGROUND

This operational plan was developed by the Torres Strait Scientific Advisory Committee (TSSAC) to complement the Strategic Research Plan for Torres Strait Fisheries (June 2009) and describe:

1. The operational aspects of assessment and evaluating research proposals considered by the TSSAC including:
  - a. How the TSSAC prioritise research projects;
  - b. What criteria are set for assessing research proposals.
2. Current research areas identified by the Torres Strait Scientific Advisory Committee, through consultation with stakeholders, as priority areas for research.

The information in this document provides guidance to scientists developing research proposals, and the TSSAC in evaluating proposals. Documentation of these operational processes will also ensure the evaluation process undertaken by the TSSAC is conducted in a transparent and strategic way.

The TSSAC will update this document annually to ensure it remains relevant.



The Torres Strait Scientific Advisory Committee agreed at TSSAC meeting No. 48 to assess research proposals against evaluation criteria grouped into two main areas of attractiveness and feasibility (see attachment A).

**Explanatory Note:**

Although all research items in this plan are considered to be priorities, some have more immediate need than others. Therefore, indicative levels of need have been assigned to each research priority. Tactical (T) research has immediate need and should be conducted as soon as practicable. Strategic (S) research should be carried out within the next couple of years. Longer term research priorities have been given an indicative future date. Researchers are encouraged to apply for research priorities with the shorter term T or S ranking.

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## Part 2

### 2.1 RESEARCH PRIORITIES

TSSAC seeks input from PZJA consultative bodies to identify research areas and needs and these will be updated on an annual basis as required. In the absence of a dedicated turtle and dugong consultative body, the TSFMAC is to be responsible for identifying research priorities in the turtle and dugong fisheries.

	RESEARCH AREA	RESEARCH NEED	THEME <sup>1</sup>	NEED <sup>2</sup>
<b>A) Prawn</b>	1) Fishery assessment <sup>3</sup>	1a) Stock assessment, fishing power, development of optimal harvest strategies <sup>4</sup> , economic efficiency.	2, 3	S
	2) By-catch reduction and reduced interactions with TEP species <sup>5</sup>	2a) More efficient by-catch reduction devices.	2	S
	3) Developing economic efficiency	3a) Catch composition of trawl harvest and by-catch and impact on Torres Strait Islander subsistence. 3b) Ecosystem effects of trawling (desktop study) <sup>6</sup> .	2, 6	S T
<b>B) Rock lobster</b>	1) Fishery assessment	1a) Optimising harvest strategies, Stock assessments, strategic assessments and ERAs.	2, 3	T
		1b) Improvement of monitoring of catch and effort in all sectors of the fishery.	2, 3, 6	T
		1c) Understanding of impact of bi-furcation point of ocean currents on post-settlement larval distribution.	2	S

<sup>1</sup> These themes relate to those detailed in the Strategic Research Plan

<sup>2</sup> S = Strategic, T = Tactical. See 'Explanatory Note' above.

<sup>3</sup> Effort in the prawn fishery is currently extremely low with less than 4000 days allocated which is 1/3 of maximum effort

<sup>4</sup> Optimal harvesting will increase profitability of the fishery which is a major aim for management in this fishery. This also has implications for PNG.

<sup>5</sup> May be a need for further by-catch reduction research to allow Strategic Assessments to be undertaken within the next 5 years.

<sup>6</sup> Research has been undertaken previously by CSIRO regarding seabed composition and the relationship with trawl effort. A desktop study on previous research in this area could determine whether there are any research gaps which still need to be addressed.

<b>B) Rock lobster (cont.)</b>	2) Efficacy of management arrangements	2a) Alternative monitoring techniques of stock status, for example GPS tracking. 2b) Estimate of non-commercial take of rock lobsters	3, 6 1, 2	S S
	3) Impact of changed market preferences on fishing behaviour under output controls.	3a) Understanding of: <ul style="list-style-type: none"> <li>i. the impact of ITQs or competitive quota on the fishery;</li> <li>ii. the impact of discard mortality;</li> <li>iii. the impact market forces on the fishery;</li> <li>iv. the extent of higher grading eg. moving to live product, targeting different sizes.</li> </ul>	3, 6	S
	4) Connectivity between stocks in Torres Strait and neighbouring jurisdictions including QLD and PNG	4a) Understanding of migration of lobster across different jurisdictions.	2, 5	S
		4b) Impacts of fishing in neighbouring jurisdictions on Torres Strait fishery.	2, 5	S
<b>C) Finfish (reef line &amp; Spanish mackerel)</b>	1) Efficacy of management arrangements	1a) Investigating improvement of efficient, long term monitoring for all sectors of the fishery.	6	T
Spanish mackerel)	2) Fisheries assessment	2a) Development of an efficient stock status/abundance assessment.	2, 6	S
		2b) Development of operational management objectives, performance measures and decision rules to inform future management strategy evaluation.	2, 6	S
		2c) Understanding PNG cross jurisdictional finfish migration.	2, 5	S
	3) Biology, ecology, distribution of target species	3a) Understanding of growth maturity, fecundity and spawning characteristics of Spanish mackerel and Coral trout.	2,6	S

<b>D) Hand Collectable Fisheries</b>	1) Stock abundance/assessment for TAC setting	1a) Complete stock assessment and estimate TAC for target species.	2, 3, 6	Yr 2015
	2) Efficacy of management arrangements	2a) Provide information for community based harvest strategies and/or management plans.	2	In progress <sup>7</sup>
		2b) Address uncertainties regarding trochus and Bêche de mer stock status and/or recovery.	2	In progress <sup>8</sup>
		2c) Impact of overfishing on PNG Warrior Reef.	2	T
	3) Knowledge of biology, ecology and distribution of target species	3a) Assessment of trochus habitat using Indigenous knowledge or remote sensing to inform stock assessment <sup>9</sup> .	2, 3, 4, 6	Yr 2012 onwards
	4) Effective recovery strategies	4a) Modelling recovery strategies using tools such as Management Strategy Evaluation <sup>10</sup> .	2, 3	T
<b>E) Turtle and Dugong fisheries</b>	1) Level of traditional catch	1a) Evaluation of current methods of estimating traditional take.	1, 2	T
	2) Interactions between habitat and turtle and dugong fisheries	2a) Surveys for turtle and dugong including in protected areas.	1, 2	T
		2b) Habitat assessment for turtle and dugong using Indigenous knowledge or remote sensing.	1, 2	T
		2c) Estimate of catch by PNG and Cape York communities.	1, 2	S

<sup>7</sup> See Tawake et al, CSIRO 2010

<sup>8</sup> See Skewes et al, CSIRO 2010

<sup>9</sup> Trochus is a small fishery with low effort so research in this area is not seen as urgent.

<sup>10</sup> Given recent reports on BDM stock levels, evaluation of recovery strategies for the stock is essential before increasing TAC for some species is considered.

<b>F) Torres Strait Islander development</b>	1) Capacity building for Torres Strait Islanders in Torres Strait fisheries	1a) Identification of parallels with other fisheries of leasing internationally and learning opportunities for Torres Strait peoples.	4	In progress
		1b) Training for meaningful engagement of Torres Strait Islanders in fisheries research, monitoring and evaluation.	4	T
	2) Improved profitability for Torres Strait Islanders from fisheries	2a) Marketing opportunities within existing fisheries.	3, 4	T
		2b) Identification of alternate sustainable fishing opportunities.	3, 4	S
		2c) Business feasibility study for live coral trout and/or premium fresh fish on ice.	3, 4	T
<b>G) Engagement with Papua New Guinea</b>	1) Collaborative research and data collection	1a) Review of areas where opportunities exist for collaborative research on shared fisheries stocks between PNG and Australia.	5	S
<b>H) Other issues</b>	1) Impacts of climate change on Torres Strait fisheries	1a) Identification of potential changes to key fisheries target species and their habitats in the Torres Strait due to climate change.	2, 3	T or S
	2) Environmental effects of fisheries	2a) Evaluating the impacts of anchoring, pollution and discard of waste on fishery habitats.	2	T

## 2.2 INDIVIDUAL FISHERY OBJECTIVES<sup>11</sup>

FISHERY	OBJECTIVE
<b>Prawns</b>	<ul style="list-style-type: none"> <li>i) Ensure the optimum utilisation of the fishery resources within the TSPF is consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle</li> <li>ii) Promote economic efficiency in the utilisation of the fisheries resources within the TSPF</li> <li>iii) Ensure cooperative, efficient and cost effective management of the Fishery</li> <li>iv) Manage the fishery’s interaction with the marine environment including the incidental capture of non-target species and impacts on demersal habitats</li> </ul>
<b>Rock lobster</b>	<ul style="list-style-type: none"> <li>i) Maintain the spawning stock at levels that meet or exceed the level required to produce the maximum sustainable yield</li> <li>ii) In accordance with the Torres Strait Treaty, to protect the traditional way of life and livelihood of traditional inhabitants, in particular in relation to their traditional fishing for Tropical Rock Lobster</li> <li>iii) Provide for the optimal utilisation, co-operative management with Queensland and Papua New Guinea and for catch sharing to occur with Papua New Guinea</li> <li>iv) Monitor interactions between the prawn and lobster fisheries</li> <li>v) Maintain appropriate controls on fishing gear allowed in the fishery so as to minimise impacts on the environment</li> <li>vi) Promote economic development in the Torres Strait area with an emphasis on providing the framework for commercial opportunities for traditional inhabitants. To ensure that commercial opportunities available to all stakeholders are socially and culturally appropriate for the Torres Strait and the wider Queensland and Australian community</li> <li>vii) Optimise the value of the fishery, ensure cooperative, efficient and cost effective management of the Fishery</li> </ul>
<b>Finfish</b> (reef line and Spanish mackerel)	<ul style="list-style-type: none"> <li>i) To manage the resource to achieve its optimal utilisation</li> <li>ii) To maximise the opportunities for Traditional Inhabitants of both Australia and PNG to participate in the commercial fishery</li> <li>iii) To promote the fishery as a line fishery</li> </ul>

<sup>11</sup> Fisheries Objectives were correct at the time of writing. Sources: Prawns – Draft Torres Strait Prawn Fishery Management Plan; Rock Lobster – PZJA 19: Finfish - Strategic and Export Reassessment Report, Torres Strait Finfish Fishery, AFMA 2008; Trochus - Strategic and Export Reassessment Report, Torres Strait Trochus Fishery, AFMA June 2008; Beche-de-mer - Strategic and Export Reassessment Report, Torres Strait Beche-de-mer Fishery, AFMA April 2008; Dugong and Turtle – PZJA website, February 2009 (these in turn being stated in subsidiary conservation and management arrangements agreed between Australia and Papua New Guinea); Pearl Shell, Crab and Barramundi –PZJA website, February 2009.

### Individual Fishery Objectives (cont...)

FISHERY	OBJECTIVE
<b>Finfish</b> (reef line and Spanish mackerel)	iv) To continue monitoring of the fishery and enter into a catch sharing agreement with PNG.
<b>Trochus</b>	<ul style="list-style-type: none"> <li>i) Manage the resource so as to achieve optimum utilisation</li> <li>ii) Maximise opportunities for traditional inhabitants of Australia</li> <li>iii) Encourage traditional inhabitants to participate in the fishery</li> </ul>
<b>Bêche-de-mer</b>	<ul style="list-style-type: none"> <li>i) Ensure the sustainable use of all sea cucumber in Torres Strait</li> <li>ii) Ensure that utilisation of the sea cucumber resources is for the direct benefit of the Australian traditional inhabitants of the Torres Strait</li> <li>iii) Ensure increased involvement in the management and control of all aspects of the fishery by the Australian traditional inhabitants of the Torres Strait</li> <li>iv) Promote a cooperative approach to management with Papua New Guinea</li> <li>v) In consultation with industry and traditional fishers, to ensure the recovery of the sandfish stock on Warrior Reef by adopting a precautionary approach when setting catch levels in the early years of rebuilding the fishery</li> </ul>
<b>Dugong and turtle</b>	<ul style="list-style-type: none"> <li>i) Conserve the stock</li> <li>vi) Manage the fishery as a traditional fishery</li> </ul>
<b>Pearl shell, crab and barramundi</b>	<ul style="list-style-type: none"> <li>i) Manage the resource so as to achieve optimum utilisation</li> <li>ii) Maximise opportunities for Traditional Inhabitants of Australia and PNG to participate in the commercial fishery</li> </ul>

## Attachment A.

### Torres Strait Scientific Advisory Committee Research Proposal Evaluation

<b>Research Title</b>	<b>Organisation:</b>
<b>Research Themes:</b>	<b>Date:</b>
<b>Principal Investigator:</b>	

Strongly **DISAGREE**     $\longrightarrow$     Strongly **AGREE**

<b>Attractiveness</b>	1	2	3	4	5	6	7	8	9	10
1. Is there a priority need for the research?										
2. Is/are the end-user/s identified?										
3. Do the outcomes have relevance and are measurable where appropriate?										
4. Are the outputs and outcomes relevant to end-user?										
5. Cost Benefit Analysis. Is the anticipated benefit appropriate to the Investment?										
6. Is there collaboration between stakeholders (i.e. between community and/or industry, researcher and management)?										
7. Are there links to previous research?										
8. Does the project add value to previous research										
9. Does the project lead to capacity development for Communities?										
10. Is there collaborative funding (cash and/or in-kind contributions)?										
11. Does proposal actively engage Torres Strait Islanders in the research?										
12. Are there employment opportunities for Torres Strait Islanders?										
13. Are extension and communication well developed and appropriate; in particular to Torres Strait Islanders?										
14. Is there a path to uptake and impact relevant to fisheries management?										

<b>Feasibility</b>	1	2	3	4	5	6	7	8	9	10
1. Are the methods well described and consistent with the objectives?										
2. Are the methods scientifically sound?										
3. Will the project be carried out in a culturally appropriate way?										
4. Does the applicant have the capacity to produce the outputs?										
5. Is the budget appropriate to meet the outputs and outcomes?										
6. Is there appropriate data management?										