Australian Government

Australian Fisheries Management Authority

Torres Strait Scientific Advisory Committee

2012 OPERATIONAL PLAN FOR TORRES STRAIT FISHERIES

July 2012

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 TSSAC, 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.

PART 1

1.1 RESEARCH PRIORITISATION AND EVALUATION

The Torres Strait Scientific Advisory Committee (TSSAC) agreed on the following guidelines in assessing if research areas are considered high priority for funding. Priority research areas will:

- address an essential management need such as the threat to sustainability;

- address a fundamental management need such as surveys for stock assessment;

- strengthen and facilitate Torres Strait Islander engagement/development;

- be a strategic project that demonstrates value for money;

- have strong stakeholder support; or

- address areas of uncertainty such as for stock assessments.

Resource Assessment Groups (RAGs), Management Advisory Groups (MACs) and other (Protected Zone Joint Authority (PZJA)) consultative groups play a fundamental role in identifying priority research areas (Figure 1). The TSSAC will take into consideration the views of RAGs and other committees to assess research priorities across competing interests.

Figure 1: **PZJA Consultative Structure**
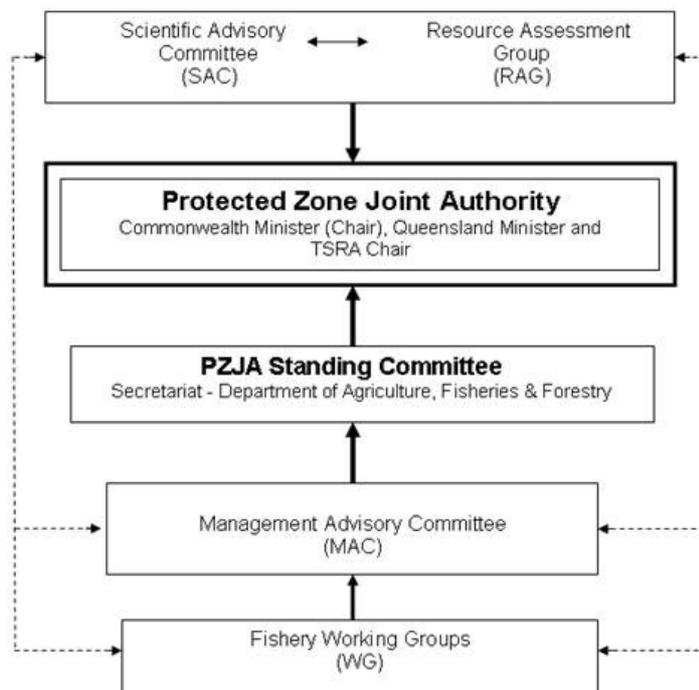
The TSSAC agreed at meeting No. 48 to assess research proposals against evaluation criteria grouped into two main areas of attractiveness and feasibility (see attachment A).

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.

Part 2

2.1   RESEARCH PRIORITIES

The 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 Torres Strait Fisheries Management Advisory Committee (TSFMAC) is to be responsible for identifying research priorities in the turtle and dugong fisheries.

	RESEARCH AREA	RESEARCH NEED	THEME [1]	NEED[2]
A) Prawn	1) Fishery assessment[3]	1a) Stock assessment, fishing power, development of optimal harvest strategies[4], economic efficiency.	2, 3	T
		1b) Improve effort uptake		
	2) By-catch reduction and reduced interactions with TEP species[5]	2a) More efficient by-catch reduction devices.	2	S
		2b) Ecosystem effects of trawling (desktop study)[6].		S
		2c) Assess impact of trawl harvest on Islander subsistence fisheries.	2, 6, 4	S
	3) Developing economic efficiency	3a) Assess the impact of increasing vessel and gear size on the economic efficiency of the fishery	3	T
		3b) Assess the overall economic environment of the fishery to inform marketing strategies.	3	T
B) Rock lobster	1) Fishery assessment	1a) Optimising harvest strategies, Stock assessments, strategic assessments and ERAs.	2, 3	T
		1b) Improved monitoring of catch and effort in all	2, 3, 6	T[7]

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[1] These themes relate to those detailed in the Strategic Research Plan.

[2] S = Strategic, T = Tactical. See 'Explanatory Note' above.

[3] Effort in the prawn fishery is currently extremely low with less than 2000 days used which is 1/3 of maximum effort.

[4] Optimal harvesting will increase profitability of the fishery which is a major aim for management in this fishery. This also has implications for Papua New Guinea (PNG).

[5] May be a need for further by-catch reduction research to allow Strategic Assessments to be undertaken within the next 5 years.

[6] 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.

		sectors of the fishery.		
	2) Efficacy of management arrangements	2a) Alternative monitoring techniques of stock status, for example GPS tracking.	3, 6	S
			1, 2	S
		2b) Estimate of non-commercial take of rock lobsters		

	3) Impact of fishing behaviour under output controls on market preferences	3a) Understanding of:
		  i. the impact of ITQs or competitive quota on the fishery;
		  ii. the extent and impact of discard mortality;
		  iii. the effect of fishing behaviour under output controls on changing market preference;
		  iv. the extent of higher grading eg. moving to live product, targeting different sizes.
			3, 6	T

	4) Connectivity between stocks in Torres Strait and neighbouring jurisdictions, including QLD and PNG, and associated management implications	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
		4c) Understanding of sink and source connectivity across jurisdictions and associated management implications.	2, 5	S
	5) Environmental impacts	5a) Collect relevant baseline information to assess environmental change impacts on lobster populations	2, 3	S
C) Finfish (reef line,Spanish mackerel)	1) Efficacy of management arrangements	1a) Investigating improvement of efficient, long term monitoring for all sectors of the fishery.	6	S
		1b) Assessing efficient harvest strategies for the fishery	2, 6	T
	2) Fisheries assessment	2a) Development of an efficient stock status/abundance assessment.	2, 6	S
		2b) Development of operational management objectives,		

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[7] Potential research providers should note that a currently funded project is investigating this area and new projects should add to this project rather than duplicate it.

		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
D) Hand Collectable Fisheries	1) Stock abundance/assessment for TAC setting	1a) Complete stock assessment and estimate TAC for target species.	2, 3, 6	S (Yr 2013)
		1b) Improved monitoring of catch and effort in all sectors of the fishery.	2, 3, 6	
	2) Efficacy of management arrangements	2a) Provide information for community based harvest strategies and/or management plans.	2	In progress[8]
		2b) Address uncertainties regarding trochus and Bêche de Mer stock status and/or recovery.	2	In progress[9]
		2c) Impact of overfishing on PNG Warrior Reef.	2	T[10]
	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[11].	2, 3, 4, 6	Yr 2012 onwards
	4) Effective recovery strategies	4a) Modelling recovery strategies using tools such as Management Strategy Evaluation[12].	2, 3	T

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[8] See Tawake et al, CSIRO 2010

[9] See Skewes et al, CSIRO 2010

[10] The TSSAC will liaise with the PNG National Fisheries Authority regarding this research priority.

[11] Trochus is a small fishery with low effort so research in this area is not seen as urgent.

[12] Given recent reports on Bêche de Mer stock levels, evaluation of recovery strategies for the stock is essential before any increase in Total Allowable Catch is considered for some species.

E) Turtle and Dugong fisheries	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	T
F) Torres Strait Islander development	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	S
		1b) Increasing meaningful engagement of Torres Strait Islanders in fisheries research, monitoring and evaluation.	4	In progress
	2) Improved profitability for Torres Strait Islanders from fisheries	2a) Marketing opportunities within existing fisheries.	3, 4	S
		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
G) Engagement with Papua New Guinea	1) Collaborative research and data collection	1a) Review of areas where opportunities exist for collaborative research on shared fisheries stocks between PNG and Australia[13].	5	T
H) Other issues	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	S
	2) Environmental effects of fisheries	2a) Evaluating the impacts of anchoring, pollution and discard of waste on fishery habitats.	2	T

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[13] Funds for this more appropriately sourced from agencies such as DAFF, ACIAR and not AFMA, given the diplomatic and cross-border nature.

2.2   INDIVIDUAL FISHERY OBJECTIVES[14]

FISHERY	OBJECTIVE
Prawns	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 ii) Promote economic efficiency in the utilisation of the fisheries resources within the TSPF iii) Ensure cooperative, efficient and cost effective management of the Fishery iv) Manage the fishery's interaction with the marine environment including the incidental capture of non-target species and impacts on demersal habitats
Rock lobster	i) Maintain the spawning stock at levels that meet or exceed the level required to produce the maximum sustainable yield 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 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 iv) Monitor interactions between the prawn and lobster fisheries v) Maintain appropriate controls on fishing gear allowed in the fishery so as to minimise impacts on the environment 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 vii) Optimise the value of the fishery, ensure cooperative, efficient and cost effective management of the Fishery
Finfish (reef line and Spanish mackerel)	i) To manage the resource to achieve its optimal utilisation ii) To maximise the opportunities for Traditional Inhabitants of both Australia and PNG to participate in the commercial fishery iii) To promote the fishery as a line fishery

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[14] 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
Finfish (reef line and Spanish mackerel)	iv) To continue monitoring of the fishery and enter into a catch sharing agreement with PNG.
Trochus	i) Manage the resource so as to achieve optimum utilisation ii) Maximise opportunities for traditional inhabitants of Australia iii) Encourage traditional inhabitants to participate in the fishery
Bêche-de-mer	i) Ensure the sustainable use of all sea cucumber in Torres Strait ii) Ensure that utilisation of the sea cucumber resources is for the direct benefit of the Australian traditional inhabitants of the Torres Strait iii) Ensure increased involvement in the management and control of all aspects of the fishery by the Australian traditional inhabitants of the Torres Strait iv) Promote a cooperative approach to management with Papua New Guinea 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
Dugong and turtle	i) Conserve the stock vi) Manage the fishery as a traditional fishery
Pearl shell, crab and barramundi	i) Manage the resource so as to achieve optimum utilisation ii) Maximise opportunities for Traditional Inhabitants of Australia and PNG to participate in the commercial fishery

Attachment A.

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Torres Strait Scientific Advisory Committee
Research Proposal Evaluation

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Research Title	Organisation:
Research Themes:	Date:
Principal Investigator:	

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

Attractiveness	n/a	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 they appropriate to the end-users?											
4. Do the outputs contribute towards outcomes and are they measureable?											
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 involve capacity development for Communities?											
10. Is there collaborative funding (cash and/or in-kind contributions)?											
11. Does the proposal actively engage Traditional Inhabitants and Torres Strait Islanders in the research?											
12. Are there employment opportunities for Traditional Inhabitants and Torres Strait Islanders?											
13. Are extension and communication well developed and appropriate; in particular to Traditional Inhabitants and Torres Strait Islanders?											
14. Is there a path to uptake and impact relevant to fisheries management?											

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

Feasibility	n/a	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?											

Proposal Comments: