TORRES STRAIT HAND COLLECTIBLES WORKING GROUP (HCWG) MEETING #7

2 October 2013

AFMA Conference Room, Pearls Building, Thursday Island

MEETING START TIMES: 9:00am – 5:00pm

Morning Tea: 10:30-10:45; Lunch 12:00-13:00; Afternoon Tea 15:00 – 15:15

AGENDA

1. Preliminaries

1.1. Apologies/ Adoption of agenda

1.2. Conflict of interest declarations

1.3. Ratification of HCWG #6 Minutes

1.4. Action items from HCWG #6

2. 2011 Fishery update

2.1. Trochus (AFMA – For Noting)

2.2. Pearl shell (AFMA – For Noting)

2.3. Beche-De-Mer (AFMA – For Noting)

3. Future Management Options/ Considerations

3.1. Review of Developmental Hookah permits (AFMA – For Discussion)

3.2. Pearl Boat Replacement Policy (AFMA – For Discussion)

3.3. Pearl Shell size limit (AFMA – For Discussion)

4. Research

4.1. Sea Cucumber Species Guide (CSIRO – For Discussion)

4.2. East Coast MSE Beche de mer studies (CSIRO – For Noting)

4.3. Research priorities for the BDM Fishery and collaborative opportunities with PNG (AFMA – For Discussion)

5. Compliance

5.1. Foreign compliance update (AFMA – For Noting)

5.2. Domestic compliance update (QLD – For Noting)

6. Reports

6.1. Strategic Assessment (AFMA – For Noting)

6.2. Fisheries and Important Habitats in Torres Strait (CSIRO – For Noting)

7. Other Business

7.1. Date of next meeting

Individuals wishing to attend the meeting as an observer are required to contact HCWG Executive Officer – Kylie Tonon (kylie.tonon@afma.gov.au).

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Apologies and adoption of agenda (AFMA)	Agenda Item No. 1.1 FOR DISCUSSION

PURPOSE

For members of HCWG to:

- note apologies for the meeting; and
- adopt the HCWG agenda at **Attachment 1**

BACKGROUND

The group is asked to note any apologies.

The agenda for HCWG No 7 is at **Attachment 1**. The HCWG are asked to adopt this agenda or suggest any amendments at the start of the meeting.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Conflict of Interest Declarations (AFMA)	Agenda Item No. 1.2 FOR DISCUSSION

RECOMMENDATION

That all members of the HCWG:

- declare any conflicts of interest in relation to the HCWG No 7 agenda items; and
- agree on whether a member is to be excluded from providing advice on any agenda items on the basis that they have a conflict of interest.

BACKGROUND

All Protected Zone Joint Authority (PZJA) consultative committees, including the HCWG, are bound by the provisions in the PZJA Fisheries Management Paper No 1 (FMP1). The process outlined in FMP 1 in relation to Conflicts of Interest is:

- Members should declare any conflicts of interests at the beginning of each meeting.
- If the group decides that a conflict of interest exists and it is likely to interfere with deliberations and the framing of advice on an agenda item, the group may:
    - decide that the Member may participate in the discussion of that item but not in the decision making process, or
    - ask to hear the Member's views and then ask them to retire from the remainder of the discussion.
- the Chair should ensure that conflicts of interest and how they were managed are recorded in the Minutes of the meeting.

AFMA recommend that the most efficient way to ensure conflicts of interest are dealt with appropriately is to go through each of the agenda items at the beginning of the meeting and ensure that if there are any conflicts of interests, that they are declared before the agenda item is discussed.

- Members are only required to leave the room if the agenda item only affects them and not a fishery as a whole.
- Further detail is included in the extract of FMP1 at **Attachment A.**

FINANCIAL IMPLICATIONS

Nil

Extract from PZJA Fisheries Management Paper No. 1 (May 2008)

8.3 Disclosure of interests

8.3.1 Types of interests

MAC, SAC, WG and RAG members are appointed to provide input based on their knowledge and expertise and as a consequence, it is inevitable that members may face potential or direct conflicts of interest. There may be a conflict of interest where a member:

- has a material personal interest, including a direct or indirect financial or economic interest, in a matter being considered, or about to be considered, by the MAC, SAC, WG or RAG; and
- the interest could conflict with the proper performance of the member's duties in relation to the consideration of the matter.

There may often be a level of general conflict simply because members come from areas of the industry that may be affected as a result of a recommendation. For example, industry members may be participants in the fishery, TSRA members may represent the geographical region under discussion or scientific members may face a conflict related to a research proposal. To assist in identifying areas of potential conflict, a MAC, SAC, WG or RAG may consider it appropriate to maintain registers of members' interests that could possibly lead to conflicts.

Of greater concern is the specific conflict created where a member is in a position to derive direct benefit from a MAC, SAC, WG or RAG recommendation if it is subsequently implemented. In either case, members should recognise the potential for conflict to occur and its possible impact on the operations of the Committee/Group.

8.3.2 Declaring an interest

When a MAC, SAC, WG or RAG member recognises that a real or potential conflict of interest exists, the conflict must be disclosed as soon as possible to other members. Where this relates to an issue on the agenda of a meeting this disclosure can normally wait until that meeting, but where the conflict relates to decisions already made, members must be informed immediately. If there is any doubt, a specific conflict of interest and its nature should be declared and recognised in the discussions of the meeting and recorded in the minutes of the meeting.

8.3.3 Dealing with an interest

To facilitate the smooth operation of meetings, it is suggested that conflicts of interest are dealt with at the start of each meeting. Members receive agenda and associated papers prior to the meeting and should be able to make disclosures of potential conflicts of interest and their nature (including, for example, the type and quantity of fishing concessions held by industry members) at the commencement of meetings.

Where it is determined that a direct conflict of interest exists, the MAC, SAC, WG or RAG may allow the member to continue to participate in the discussions relating to the matter but not in any decision making process. The member or the Committee/Group may also determine that, having

made his/her contribution to the discussions, the member should retire from the meeting for the remainder of discussions on that issue.

As a guide, members with a direct conflict of interest should only be excluded from decision making if the matter being considered only affects the individual member rather than all persons involved in the fishery.

Finally, the Chair must ensure that the minutes of the meeting show the disclosure of interest, reflect the meeting's subsequent decision(s) and demonstrate that these are put into effect at the appropriate point in the meeting. If members become aware of a potential conflict of interest during the course of the meeting, they must immediately disclose the conflict of interest and the members present must consider how best to deal with the disclosure at that point.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Ratification of HCWG No 6 Minutes (AFMA)	Agenda Item No. 1.3 FOR DISCUSSION

RECOMMENDATION

That the members of the HCWG No 7 agree:

- to adopt the draft minutes from as final; and
- to note the new process for finalising minutes out of session.

BACKGROUND

The HCWG is asked to adopt the HCWG No 6 draft minutes as final at this meeting.

To assist in promoting transparency in decision making processes, AFMA has adopted a more streamlined process for finalising meeting minutes for Resource Assessment Groups (RAGs) and Management Advisory Committees (MACs). This process will be outlined in the revised Commonwealth Fisheries Management Paper No 1 for MACs and the Commonwealth Fisheries Administration Paper No 12 for RAGs. Although the HCWG is not bound by the same provisions as the Commonwealth, AFMA would like to adopt the same process for clearing minutes as outlined below:

- The Executive Officer will have the Minutes prepared within two weeks of the meeting and to have them cleared by other members within a further two weeks of their preparation.
- The Minutes should then be placed on the PZJA website within two weeks after being cleared by Members

The HCWG Executive Officer intends to follow this procedure for finalising the minutes from this HCWG meeting. The proposed time frame for this is outlined below:

- 16 October 2013 - draft minutes from this HCWG meeting to members for comment.
- 25 October 2013 - comments due.
- 30 October 2013 - AFMA incorporate comments and finalise the minutes out of session.

If these timeframes are believed to be unachievable for PZJA forums AFMA is happy to discuss and make amendments where suggested.

FINANCIAL IMPLICATIONS

Nil

Australian Government
Australian Fisheries Management Authority

HAND COLLECTABLE WORKING GROUP
MEETING NO. 6
10TH DECEMBER 2012

AFMA CONFERENCE ROOM, THURSDAY ISLAND

MINUTES

CHAIR: JOHN POLLOCK

These are **DRAFT** minutes and should not be considered as final until they are ratified at the next meeting of the HCWG.

Australian Government
Queensland Government
TORRES STRAIT PZJA PROTECTED ZONE JOINT AUTHORITY

Prepared by the Australian Fisheries Management Authority on behalf of the Torres Strait Protected Zone Joint Authority

TORRES STRAIT HAND COLLECTIBLES WORKING GROUP (HCWG) MEETING #6
10 December 2012
AFMA Conference Room, Pearls Building, Thursday Island

MEETING START TIMES: Monday 9:00am – 5:00pm

Morning Tea: 10:30-10:45; Lunch 12:00-13:00; Afternoon Tea 15:00 – 15:15

AGENDA

1. Preliminaries

1.1. Apologies/ Adoption of agenda
1.2. Ratification of HCWG #5 Minutes
1.3. Action items from HCWG #5
1.4. Correspondence

2. 2012 Fishery update

2.1. Beche-De-Mer (AFMA – For Noting)
2.2. Trochus (AFMA – For Noting)
2.3. Pearl shell (AFMA – For Noting)

3. Research

3.1. Reef Gardens Assessment Update (CSIRO – For Noting)
3.2. Sandfish Experimental Catch Survey Update (CSIRO – For Noting)
3.3. Sea Cucumber Species Guide (CSIRO – For Noting)
3.4. Opportunities for collaborative research with PNG (AFMA – For Discussion)

4. Future Management Options/ Considerations

4.1. Changes to 'other species' basket TAC (AFMA – For Noting)
4.2. Catch Trigger for 'other species' basket TAC (AFMA – For Discussion)
4.3. Review of Developmental Hookah permits (AFMA – For Discussion)
4.4. Black teatfish TAC implementation (AFMA - For Discussion)
4.5. Catch monitoring (AFMA – For Discussion)

5. Compliance

5.1. Foreign compliance update (AFMA- For Noting)
5.2. Domestic compliance update (QDAFF – For Noting)

6. Reports

6.1. TSSAC update (AFMA – For Noting)

7. Other Business

7.1. Towing of Traditional Inhabitant dories on non-traditional inhabitant TPC
7.2. Date of next meeting

ATTENDANCE

The following members and observers were in attendance at Torres Strait Hand Collectables Working Group number 6:

Members

Name	Role/ Organisation
John Pollock	Chairperson (temporary)
Adam Leatherbarrow	Executive Officer/AFMA
Shane Fava	AFMA Representative/AFMA
Mr Dimas Toby	IFAC Member/TSRA
Mr Gavin Mosby	IFAC Member/TSRA
Mr Ned Larry	IFACMember/TSRA
Mr Grant Leeworthy	Industry Representative/Tasmania Seafoods
Mr Nyall Ledger	Fisher Representative/TVH License holder
Mr Tim Skewes	Scientist/CSIRO
Mr Steve Hall	TSRA Representative/TSRA
Mr Neville Nakata	TSRA Representative/TSRA
Mr Ian Jacobsen	Queensland Fisheries Representative/QDAFF (PHONE LINK UP)

Observers

Name	Role
Mr John Marrington	AFMA Foreign Compliance
Mr John Adams	TSRA
Mr Ian Liviko	PNG NFA

DECISION RECORD – HCWG NO. 6

The Hand Collectables Working Group (HCWG):

1.2.1 Agreed that the minutes from HCWG meeting No. 5 were an accurate record of the meeting and were ratified.

3.1.1 Noted the findings presented in CSIRO's Reef Gardens Assessment report.

3.2.1 Noted the findings presented in CSIRO's Sandfish experimental fishing survey report.

RECOMMENDATIONS TO THE TSFMAC

The following recommendations were made:

1) The HCWG agreed to recommend to the Torres Strait Fisheries Management Advisory Committee (TSFMAC) that a 5 tonne catch trigger be implemented for all species managed under the 'other species' basket TAC.

ACTION ITEMS

#	Action Item	Agenda	Champion	Due Date
1)	IFAC to consult with communities regarding removing the 7m boat restriction for the Beche de Mer TIB sector.	HCWG 5	IFAC/TSRA	Dec 2013
2)	HCWG through AFMA to work with CSIRO in providing input into and finalising a user-friendly Torres Strait Sea Cucumber Species Guide.	3.3	AFMA/ CSIRO	Dec 2013
3)	AFMA to review the developmental permits allowing hookah in the fishery and to provide to the HCWG OOS before an outcomes paper is then recommended to the TSFMAC.	4.3	AFMA	July 2013
4)	CSIRO to frame a research question/s specific to the group for endorsement by the group before any pre-proposals are submitted.	6.1	CSIRO	July 2013

Agenda Item 1: Preliminaries

1.2 Ratification of HCWG No. 5 meeting records

1.2.1 The group **AGREED** that the minutes from HCWG meeting No. 5 were a true and accurate record of the meeting and were therefore ratified.

Agenda Item 2: 2011 Fishery update

2.1 Beche-de-mer

In 2012 there was continued interest in the collection of a cross section of Beche de Mer species. The 15 tonne white teatfish TAC catch was fully utilised in January 2012. Table 1 shows the other primary species to be harvested during 2012 fishing season. Note, the catches of sandfish can be attributed to CSIRO's *Sandfish Experimental Fishing* Survey conducted on Warrior Reef during March.

Table 1: Torres Strait Beche de Mer catch for 2012 (source: AFMA docket book database).

Species	no. taken	WWG (kg)#
White teatfish	12053	15667
Prickly redfish	713	998.2
Blackfish	3278	1704.56
Sandfish	3940	2061.6
Deepwater Redfish*	6043	2417.2
Golden Sandfish	369	
Stonefish	554	
TOTAL	**26950**	**22848.56**

* density estimate used 0.4 (estimate/ not published)
#WWG = Wet Weight Gutted

Current research on the black teatfish and sandfish populations (at one stage described as overfished) indicate that densities are increasing. Managers and stakeholders will consider long-term management arrangements to promote optimum utilisation of the fishery, whilst maintaining sustainability of these key commercial species.

2.2 Trochus

There were no documented catch reports of any trochus harvest for the 2012 season. However, IFAC representative Mr Gavin Mosby explained that there had been reports of trochus being harvested throughout central-eastern Torres Strait during 2012. The group acknowledged that such reports highlight the need for mandatory catch reporting in all hand collectable fisheries.

2.3 Pearl shell

The HCWG noted that there were insignificant amounts of pearl shell harvest reported in 2012. AFMA made mention that one of the local pearl farmer operator/owners, Mr Rusty Tully had contacted the AFMA office to discuss his concerns regarding the minimal level of effort in the fishery and its impact on his ability to source pearl farm stock. The group would continue to work with Mr Tully to discuss ways to generate interest in the fishery. The idea of a community harvest of pearl shell for farm grow-out was also raised. The group was happy to discuss and support this concept so long as fishing was within the bounds of current fisheries management instrument regulations.

Agenda Item 3: Research

3.1 Reef Gardens Assessment Update

The HCWG noted the progress of the TSSAC funded *Reef Gardens Assessment* research project which had recently been finalised by the CSIRO. This project collated information to assist traditional owners in identifying suitable locations, and stocking rates for reef gardens with valuable hand collectable species including sandfish, black teatfish and trochus in the Torres Strait. Two types of reef gardens were identified throughout the research; 'breeding reefs' and grow-out reefs'. Breeding reefs could potentially be utilised in strategically designated areas that are maintained for protecting the stock and improving recruitment. Whilst 'Grow-out Reefs' hold suitable habitat for grow-out and removal of individuals for market. An example of a potential grow-out reef is the reef surrounding Yam Island. This reef has been surveyed by the CSIRO and although no sandfish were observed, the habitat is suitable to support sandfish populations, and thus could have high potential as a 'Grow-out Reef'.

Tim Skewes spoke about the dispersal of sandfish larvae to the North-West of the Torres Strait Protected Zone (TSPZ) and a possible migration of adult sandfish to the southern part of the Warrior Reef system. IFAC member Gavin Mosby asked if the closure of the sea cucumber fishery in PNG has aided in the fishery recovery observed during the most recent surveys on Warrior Reef system. Mr Skewes said this is a definite possibility, saying that this closure may have allowed stock numbers to migrate to the south and participate in broadcast spawning events, increasing overall recruitment. On the back of this conversation the

potential for strategically seeding sandfish on breeding reefs such as Dungeness Reef was discussed by the group.

A final report will soon be made publically available regarding this research project. The HCWG was particularly interested in the potential for re-stocking and ranching of high-value species of Beche de Mer such as sandfish. It is expected the concept of reef gardens will be a topic of conversation at future meetings and that this research will play a key role in future management discussions for the hand collectible fisheries of the Torres Strait.

3.2 Sandfish Experimental Catch Survey update

Experimental catch surveys for sandfish were carried out on the Warrior Reef system in March, 2012 by the CSIRO. It is expected that a final report will soon be publically available. From the survey a total of 2,062 kg of sandfish was harvested by a small number of Islander fishers using standard commercial fishing practices over a limited period. The average catch rate observed throughout the study was 87kg per person per day. Although this is less than half the observed catch rates of the commercial sandfish fishery in the early 1990s the study showed some promising signs of recovery for the sandfish population on the Warrior Reef system. The group acknowledged the good work conducted by the CSIRO researchers and agreed that it would be beneficial to see additional survey work (either experimental fishing surveys or the conventional transect surveys) in the coming years to help support/validate the results of this work.

Tim Skewes highlighted the fact that the Warrior Reef sandfish population is a shared stock with PNG. High catches in the 1990s by both PNG and Australia caused a rapid decline in sandfish numbers in this area. As such the Sandfish fishery has been closed in the Australian jurisdiction for 13 years. The last survey in 2010 showed some encouraging signs, identifying 7 year classes in total.

This particular survey aimed to get fishers involved and to validate the positive signs from the 2010 survey. The survey was controlled and the catch was limited to a maximum of 2 tonnes, data was collected to compare with information from the fishery when catches were peaking in the mid 1990's (noting the effect of seasonality). .

The Chair asked about the large increase in density between the 2010 and the 2012 surveys. Mr Skewes answered by saying that the fishers were choosing their favorite locations, compared to the 2010 survey when site selection was more random.

There was much discussion about the timeframes and types of future research to be conducted before the sandfish fishery could be reopened. The CSIRO made it known that there is still work to be done in validating the most recent survey results before a reopening of the fishery could be discussed. It has previously been recommended by the CSIRO that the stock would need to be at a level equivalent to 50% of virgin biomass before it could be reopened. The possibility of a staged reopening was discussed by the group. This could be carried out in a similar fashion to the recent experimental fishing survey with the possibility of a higher TAC being implemented for similar research.

3.3 Sea Cucumber Species Guide

Tim Skewes and associates from the CSIRO have developed a Sea Cucumber Species Guide providing photo identification of Beche de mer species, identifying characteristics, species distribution and environmental and habitat preferences particular to the Torres Strait region.

John Pollock asked if there is scope for the HCWG to have input into the guide. The scientific member Tim Skewes made mention that any input from the HCWG and particularly the IFAC members would be appreciated. The group discussed the possibility of having information such as species value, processing methodologies and linkages to management arrangements included in the guide. The Chair John Pollock suggested that the CSIRO work with the HCWG Out Of Session through AFMA in the development stages of the guide (pending funding approval through the TSSAC).

Action item 2	HCWG through AFMA to work with CSIRO in providing input into and finalising a user-friendly Torres Strait Sea Cucumber Species Guide(pending funding approval through the TSSAC).

3.4 Opportunities for collaborative research with PNG

At the recent series of Torres Strait Treaty meetings (22-25 October 2012) representatives from the National Fisheries Authority (NFA) expressed an interest in investigating opportunities for collaborative management and research initiatives between PNG and Australia within the Torres Strait Protected Zone (TSPZ). The Beche de Mer and the Prawn fisheries were identified as priority areas for investigating collaborative research and management opportunities.
An update on items discussed at the recent bi-lateral meetings was provided to the HCWG with the group noting the synergies in the research needs of both AFMA and NFA and the potential for collaborative research in Torres Strait hand collectable fisheries.
The NFA representative, Mr Ian Liviko, expressed the NFA's continued interest to work with AFMA on collaborative research within the Torres Strait with particular reference to shared stocks such as the Warrior Reef Sandfish population.

Agenda item 4: Future Management Options

4.1 Changes to 'other species' basket TAC

The HCWG noted that a Protected Zone Joint Authority (PZJA) decision to remove blackfish and deepwater redfish species from the current 80 tonne 'other species' TAC and introduce individual 5 tonne and 25 tonne TACs respectively is yet to be finalised. These changes will be progressed to the PZJA for decision in the coming months.

4.2 Catch Trigger for 'other species' basket TAC

There was discussion relating to the inclusion of a 5tonne trigger limit for those species managed under the 80 tonne 'other species' basket (as recommended in Skewes et al. 2010). The group heard that the potential for 80 tonnes of one of those species in the 'other species' basket to be taken in a single year could be detrimental to that particular stock. The CSIRO explained that there was a precedent for trigger limits throughout other commonwealth managed fisheries.

There was much discussion amongst the group about what the trigger would actually initiate and when reviews of triggers would be completed. AFMA explained that initially the triggers would only need to be analysed post-season and when compared to other Commonwealth Harvest Strategy Policy the trigger in this instance would initiate a soft/ low level control rule.

4.2.1 The group AGREED to recommend to the Torres Strait Fisheries Management Advisory Committee (TSFMAC) that a 5 tonne catch trigger for the 'other species' basket which currently has an 80 tonne Total Allowable Catch (TAC).

4.3 Review of Developmental Hookah permits

The following options were presented to the group and discussed:

- **Option 1 -** Remove the prohibition on the use of hookah apparatus in the fishery. Although the ban on hookah apparatus was initially introduced for diver safety, not stock sustainability, the health of Beche de Mer stock/s could be a concern should the ban be lifted. Increased catch efficiency in the fishery as a result of the use of hookah apparatus, combined with deficiencies in current catch monitoring may have severe impacts on Beche de Mer stocks.

- **Option 2 -** Remove the prohibition on the use of hookah apparatus in the fishery and implement a number of licence conditions. Possible conditions could include:
    - selected deep water species of sea cucumber only on hookah (e.g. white teatfish and golden sandfish);
    - 10nm exclusion around communities;
    - additional fishery dependant data to enhance stock assessment e.g. dory positional information from the TVH sector; and
    - mandatory catch reporting.

- **Option 3 -** Keep the prohibition on the use of hookah apparatus in the fishery.

After much discussion it was decided that the group would require more information and an in-depth review of the recently expired developmental permits would need to be carried out before a decision could be made. AFMA will be working on the review in early 2013 and it is envisaged that this paper will also provide a number of management options for the group to analyse with advantages and disadvantages for each.

Action item 3	AFMA to review the developmental permits allowing hookah in the fishery and to provide to the HCWG OOS before an outcomes paper is then recommended to the TSFMAC.

4.4 Black teatfish TAC implementation

The implementation of a 15 tonne TAC for the black teatfish fishery which was initially planned to be implemented in September 2012 is now planned for opening in September 2013. The group discussed the challenges of implementing this initiative and eventually decided that the recommendation from the 2011 HCWG meeting to open the fishery in 2012 will remain the same with the aim of opening the fishery in 2013.

4.5 Catch monitoring

There has been increasing concern among the HCWG regarding the current lack of compulsory catch reporting from the TIB sector, particularly with the potential increase in effort for high valued species such as black teatfish. This is further supported by recommendations from the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) Wildlife Trade Operation (WTO) requesting improvements in reporting mechanisms in the Beche de Mer fishery.

The group agreed that in order to build capacity and open up opportunities for increased effort in the Torres Strait hand collectible fisheries the HCWG needs to review the current catch monitoring systems in place.

Agenda Item 5: Compliance

5.1 Foreign Compliance

John Marrington presented a paper on foreign compliance with regard to the hand collectible fisheries in the Torres Strait. The group discussed the success of the recent three year closure on BDM commencing in September 2009. The group was made aware by the NFA representative, Mr Ian Liviko, that a further three year closure will be in place in PNG. Mr Marrington explained that AFMA officers are still boarding CUSTOMS vessels to respond to reports of suspicious activities and that in terms of foreign compliance the resources in the Torres Strait are quite high. The group heard that there had been no known significant foreign compliance issues relevant to the HCWG.

5.1 Domestic Compliance

Ian Jacobsen of QDAFF presented a paper on domestic compliance operations throughout the Torres Strait. The group heard that there had been no known significant domestic compliance issues relevant to the HCWG. There were questions arising from the recent closure of the Queensland Boating and Fisheries office on Thursday Island. It was explained to the group that the service provided by QDAFF will be similar and that the same amount of compliance sea days will be met, however fisheries officers will now be fly in fly out of Cairns.

Agenda Item 6: Reports

6.1 Torres Strait Scientific Advisory Committee (TSSAC) Update

HCWG noted the TSSAC research priorities for the 2013 Annual Operational Plan relevant to hand collectables as outlined below.

RESEARCH AREA	RESEARCH NEED
1) Stock abundance/assessment for TAC setting	a) Complete stock assessment and estimate TAC for target species.
	b) Improved monitoring of catch and effort in all sectors of the fishery.
2) Efficacy of management arrangements	a) Provide information for community based harvest strategies and/or management plans.
	b) Address uncertainties regarding trochus and Bêche de Mer stock status and/or recovery.
	c) Impact of overfishing on PNG Warrior Reef.
3) Knowledge of biology, ecology and distribution of target species	a) Assessment of trochus habitat using Indigenous knowledge or remote sensing to inform stock assessment.
4) Effective recovery strategies	a) Modeling recovery strategies using tools such as Management Strategy Evaluation.

AFMA explained the process for the TSSAC approving research and asked the HCWG if they agreed with the research priorities and if there was any targeted research that the group felt needed to be accomplished. Tim Skewes explained that there are three types of surveys that could be done. A full scale survey; communities run the survey with observers and a similar

survey to what has just been run with additional scope for more scientific transects etc. IFAC member, Mr Gavin Mosby, supported a continuation of the reef gardens concept and the idea of supporting both breeding and grow-out reefs. The Chair asked scientific member Tim Skewes to prepare a research question for the group along the lines of continuing the survey work. AFMA reiterated the process for submitting pre-proposals to the TSSAC. The chair tasked the scientific member Tim Skewes of CSIRO to produce a 'research question' to be distributed to the group out of session before any pre proposal submissions. AFMA advocated that this would be looked upon favorably by the TSSAC.

Action item 4	CSIRO to frame a research question/s specific to the group for endorsement by the group before any pre-proposals are submitted to the TSSAC.

Agenda Item 7: Other Business

7.1 Towing of Traditional Inhabitant dories on non-traditional inhabitant TPC

This agenda item was added upon request from industry representative Mr Grant Leeworthy of Tasmanian Seafoods. Mr Leeworthy asked about the process for Tasmanian Seafoods to apply to be able to tow the dories of TIB licence holders when operating in the Torres Strait under our TPC-C (Processor/ Carrier) licences. Mr Leeworthy went on to say that Tasmanian Seafoods believe this is an unfair restriction.

The Chair advised that this group could not make a decision on this request however the HCWG could support a process or a way for the request to be formally assessed. QDAFF representative Ian Jacobsen explained that as the licensing delegate Queensland Fisheries would be assessing any licencing requests and that a request in writing would be the best way forward in this case.

7.2 Date of Next Meeting

The HCWG agreed that the date of the next HCWG meeting would be early in the 2013-14 financial year.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Action Items from HCWG No. 6 **(AFMA)**	**Agenda Item No. 1.4** **FOR NOTING**

PURPOSE

For members of HCWG No. 7 to note the progress against action items from HCWG No. 6 in December 2012.

BACKGROUND

There were four action items from HCWG No. 6 that are outlined in Table 1. The majority of these action items will be progressed through discussions at the HCWG No. 7 meeting.

Table 1. Action items from HCWG No. 6.

#	Action Item	Agenda	Champion	Due Date	Progress
1)	IFAC to consult with communities regarding removing the 7m boat restriction for the Beche de mer TIB sector.	HCWG5 Agenda item 4.2	IFAC/ TSRA	Dec 2013	This is yet to be completed. TSRA have suggested the possibility of taking this issue to communities with consultation on other Torres Strait fishery issues in late 2013
2)	HCWG through AFMA to work with CSIRO in providing input into and finalising a user-friendly Torres Strait Sea Cucumber Species Guide.	HCWG6 Agenda item 3.3	AFMA/ CSIRO	Dec 2013	ID guide to be discussed at HCWG7 Agenda item 4.1 noting that funding for this project has only recently been endorsed by the TSSAC.
3)	AFMA to review the developmental permits allowing hookah in the fishery and to provide to the HCWG OOS before an outcomes paper is then recommended to the TSFMAC.	HCWG6 Agenda item 4.3	AFMA	July 2013	OOS paper regarding the use of hookah in the fishery drafted and distributed. Hookah use to be discussed at HCWG7 Agenda item 3.2.
4)	CSIRO to frame a research question/s specific to the group for endorsement by the group before any pre-proposals are submitted.	HCWG6 Agenda item 6.1	CSIRO	July 2013	Pre-proposals to be discussed and agreed by the group at HCWG7 Agenda item 4.3.

FINANCIAL IMPLICATIONS

Financial implications for the development of the Beche de mer identification guide will be discussed under agenda item 4.1.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Fishery Update – Trochus (AFMA)	Agenda Item No. 2.1 FOR NOTING

PURPOSE

To inform the members of the HCWG of the recorded catch and other significant information for the Torres Strait Trochus Fishery.

DISCUSSION

There have been no reports of Trochus harvested or sold in 2013, continuing the trend of recent low effort in the fishery. The low level of catch and effort is due to market variability rather than a decline in stocks.

Table 2: Torres Strait trochus fishery catch and effort (source: AFMA docket book database).

Year	2008	2009	2010	2011	2012	2013
Trochus catch (kg)	8,046	1,526	650	0	0	0
Number of fishers	16	7	5	0	0	0

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Fishery Update – Pearl Shell (AFMA)	Agenda Item No. 2.2 FOR NOTING

PURPOSE

To inform the members of the HCWG of the recorded catch and other significant information for the Torres Strait Pearl Shell Fishery.

DISCUSSION

There have been no reports of pearl shell harvested in 2013 continuing the trend of low effort in the fishery.

Anecdotal observations have indicated that shallow water pearl shell areas that were previously overfished are recovering. Although it is hard for the Torres Strait Pearl Shell fishery to compete in international markets, it can still be viable when combining pearl production with the manufacture of jewellery for the local tourist industry. A pearl farm operator from Escape River, aims to do this, but requires a consistent supply of 2,000-3,000 pearl shells each year.

In an attempt to decrease limiting factors on participation in the pearl shell fishery, AFMA is reviewing the Pearl Shell Boat Replacement Policy and minimum size limits. This is discussed further at Agenda Items 3.2 and 3.3.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Fishery Update – Beche de mer (AFMA)	Agenda Item No. 2.3 FOR NOTING

PURPOSE

To inform the members of the HCWG of the recorded catch and other significant information for the Torres Strait Beche de mer Fishery.

DISCUSSION

Catch data

Catch data from docket books in 2012 is shown in **Table 1**. For 2013, AFMA is aware of catches from Stephens Island but these are yet to be entered into the database. AFMA intend to have updated information to present to the working group.

Table 1. Beche de mer catch data for 2012 from AFMA docket book database

Species	Weight (kg salted)
Black teatfish	1,735
Prickly redfish	1,088
Sand fish	1,098
White teatfish	13
TOTAL	**3,934**

Note - the catches of sandfish in Table 1 were most likely from the experimental sandfish survey conducted in March 2012.

It is concerning that species that currently have a zero tonne Total Allowable Catch (TAC) such as Black Teatfish were taken in significant quantities last year, and anecdotally appears to be occurring this year for other closed species.

This may be an identification issue, or may highlight a need to better inform communities and fishers about the species closures. If it is a matter of the species being misidentified, the CSIRO is looking to produce a sea cucumber identification guide (funded by AFMA) to assist in identifying key species. This guide will be discussed at Agenda Item 4.1.

Black Teatfish opening trial

At time of writing, the decision to endorse the trial opening of Black Teatfish for a 15 tonne total allowable catch (TAC) is with the Protected Zone Joint Authority (PZJA). AFMA will continue to keep operators informed and when the PZJA decision is made will seek to visit communities to discuss the opening further.

When the Black Teatfish TAC becomes available, catch reporting will be compulsory during the trial period. The PZJA will rely on information from these catch records to decide

whether to trial an increase in the Black Teatfish TAC again next year. An example of the catch record is at Attachment A. These have been sent out to each of the Torres Strait communities. Copies of the Black teatfish record sheets and prepaid envelopes can be collected from the Torres Strait Regional Authority Ranger Office, the Torres Strait Island Regional Council Office and relevant Fisheries Corporations in each community.

These records are important to monitor the fishery status, and to demonstrate participation in the fishery. As the TAC is being opened on a trial basis only, the Protected Zone Joint Authority (PZJA) will depend on this information to make a decision whether to re-open the Black teatfish TAC again next year and to review future arrangements.

AFMA will announce the end of the trial period through the PZJA website (www.pzja.gov.au), a letter to licence holders and in the Torres News.

Changes to other species basket

The outstanding action item to remove Blackfish and Deepwater redfish from the 80 tonne combined species basket and set TACs of five and 25 tonnes respectively, will be progressed through the PZJA after the federal government caretaker mode.

IUCN Listing

Black Teatfish has recently been rated as “Endangered” on the International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species. This classification is based on evidence of declines of 60% to 90% in the majority of their range which spans across the tropical Pacific Ocean, and a slow recovery rate.

It should be noted that the PZJA has previously implemented strict management measures to recover the Torres Strait Black Teatfish stock such as the zero TAC. Black Teatfish is not listed as threatened, endangered or protected in Australia under the Environment Protection and Biodiversity Conservation Act 1999.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Utilisation of Hookah in the White Teatfish fishery (AFMA)	Agenda Item No. 3.1 FOR NOTING

PURPOSE

For members of the HCWG to note that the recent discussion regarding the future use of hookah diving equipment for White Teatfish has been postponed until AFMA obtains information from the Black Teatfish opening trial.

BACKGROUND

At the HGWG No 6 meeting in December 2012, the following options for the use of hookah diving equipment for the collection of White Teatfish was discussed:

Option 1 - Remove the prohibition on the use of hookah apparatus in the fishery.

Option 2 - Remove the prohibition on the use of hookah apparatus in the fishery and implement a number of licence conditions.

Option 3 - Keep the prohibition on the use of hookah apparatus in the fishery.

After reviewing the options and the level of risk associated with each, AFMA agreed to develop an out of session paper providing information on catch/dive data gathered during the developmental permit period. The paper detailed options/conditions that could be utilised to increase catch monitoring if hookah diving equipment were to be used. This discussion paper can be found at **Attachment A**.

DISCUSSION

After reviewing out of session comments on the discussion paper, the HCWG still have concerns with the ability to monitor compliance with the take of a single species (White Teatfish) with hookah gear and to ensure accurate catch reporting from the TIB sector.

It was suggested that discussion on this issue be postponed until AFMA receive feedback on the level of compliance with the mandatory reporting process during the trial of the Black Teatfish opening. AFMA were expecting the opening to occur in September 2013, and therefore would have had preliminary information to present to this meeting. However as the opening has been delayed AFMA recommend postponing this discussion until we have more information to base a recommendation on.

FINANCIAL IMPLICATIONS

Nil.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP	Meeting No. 6 10 December 2012
Options Paper **Utilisation of Hookah Diving Equipment in the White Teatfish fishery** **Torres Strait (AFMA)**	**Out of Session Discussion Paper**

PURPOSE

For the Hand Collectables Working Group (HCWG) to consider and provide comment (out of session) on the attached potential management options regarding the use hookah diving equipment in the Beche de Mer (White Teatfish) Fishery.

BACKGROUND

During 2010/11 developmental permits (two) allowing for the harvest of high value White Teatfish whilst utilising use of hookah diving equipment were issued by the Protected Zone Joint Authority (PZJA). In 2011 the 15 tonne total allowable catch (TAC) was harvested in the first month of the season due primarily to the use of hookah diving equipment. The use of hookah diving equipment also saw a growing interest in the collection of other Beche de Mer species within the Torres Strait during 2011.

The two developmental permits have now expired and the continued use of such management arrangements is up for review. The use of hookah diving equipment was discussed at the Torres Strait hand Collectibles Working Group meeting #6 with the following options presented to the group for discussion:

Option 1 - Remove the prohibition on the use of hookah apparatus in the fishery.

Option 2 - Remove the prohibition on the use of hookah apparatus in the fishery and implement a number of licence conditions.

Option 3 - Keep the prohibition on the use of hookah apparatus in the fishery.

The group reviewed the options and the level of risk to the fishery associated with each. There was a number of important questions raised regarding the ability of the PZJA to effectively monitor catch and consequently stop the use of hookah diving equipment once the TAC has been reached. It was noted that with no mandatory requirement for the use of logbooks in the traditional inhabitant sector effective catch monitoring is limited and increases the risk of harvesting over the 15 Tonne TAC.

After much discussion it was agreed that the group would require details regarding the catch/dive data gathered during the developmental permit period and also an in-depth review into the options/conditions that could be utilised to increase catch monitoring efficiency levels if hookah diving equipment were to be utilised.

As a result AFMA agreed to develop a paper providing this information and options for the group to review out of session.

The group agreed to review the out of session paper and progress the outcomes to the next Torres Strait Fisheries Management Advisory Committee (TSFMAC) meeting.

DISCUSSION

Although two developmental permits were issued (one to a Traditional Inhabitant (TIB) operator and the other to a non-Traditional Inhabitant (TVH) operator), only the TVH operator was active in utilising the permit for the 2011 and 2012 fishing seasons. The permit conditions required fine-scale catch and effort information to be provided to fisheries managers. The fine-scale data was recorded via the use of depth loggers. These depth loggers were capable of storing 1500 hours of dive data with a 10 second sampling interval. This depth data combined with catch records can be used to get an index of highly localised density. Combined with dory positional information (not currently available) we could be able to determine (over time) how quickly a population recovers after being harvested (long term productivity of patches).

For the 2011 season the 15 tonne white teatfish TAC was fully utilised for the first time; a direct result of divers being permitted to use hookah apparatus. Two distinct fishing scenarios were observed for the 2011 season. The first scenario was where divers would target white teatfish only and the second scenario observed was where divers would target white teatfish, prickly redfish and species of blackfish on hookah. In 2011 299 dives were recorded were divers would target white teatfish only this equates to a cumulative bottom time of 128 minutes. The average bottom time per dive was just under 26 minutes and the average depth for this particular scenario was 14.34 metres; approximately 30 white teatfish per dive were collected. Using published conversion factors this equates to 42kg per dive. The second scenario observed where fishers would target a mixed bag of species mainly white teatfish; prickly redfish and blackfish showed that divers were diving in shallower water (average of 5.83m). Here divers were collecting approximately 10 sea cucumbers per dive almost half of which were prickly redfish (average dive time equated to 19 minutes).

Overall catches of Beche de Mer jumped from 500kg in 2010 to 26 tonne in 2011; the 2012 season yielded a further 23 tonnes (figures yet to be finalised). Effort in the fishery for the few years leading up to 2010 was almost non-existent. Commercial logbook and voluntary docket book records show that the majority of the catch in the 2011 and 2012 seasons were either captured by or purchased by the active non-traditional license utilising the developmental permit (permitting hookah apparatus).

It is evident that the developmental permits have ignited interest within the Torres Strait Beche de Mer fishery, especially for the high-value white teatfish. The white teatfish TAC of 15 tonnes has been fully utilised in the past two seasons. The depth data collected would suggest it would be difficult to collect this species without the aid of hookah apparatus. The appeal of white teatfish to the operator/s has also seen a growing interest in the opportunistic collection of other species within the fishery. The presence of a Processor Carrier licensed vessel (also the non-Traditional Inhabitant vessel utilising the developmental permit) has also been the catalyst for non-

Traditional effort amongst many Torres Strait communities. If the decision to remove the current ban on hookah apparatus was purely economic based, the prohibition would be lifted.

However, other concerns that need consideration include the increased effectiveness of targeting of shallow water sea cucumber species on hookah. This combined with the current catch monitoring system would mean that overfishing would be of great concern. Therefore it is envisaged that the use of hookah will be only allowed for the use of collecting white teatfish (TAC 15 tonne). Other measures as described in Attachment A will need to be considered in conjunction with a consideration on the future of hookah in the Torres Strait Beche de Mer Fishery.

FINANCIAL IMPLICATIONS

Nil

Attachment A

Management option	Conditions	Positives	Negatives
Mandatory catch reporting across the whole fishery	Both sectors of the fishery are required to fill out logbooks (already required in the non-indigenous sector)	• The mandatory use of logbooks would provide for a greater level of catch monitoring • A higher level of catch monitoring would allow for a greater degree of flexibility with management arrangements • A good test case of the implementation of logbooks across other fisheries	• Lack of community uptake or support • Increased resource demand for government
Mandatory catch reporting across only white teat hookah fishers	Fishers utilizing hookah diving equipment are required to fill out logbooks (already required in the non-indigenous sector)	• The mandatory use of logbooks would provide for a greater level catch monitoring • A higher level of catch monitoring would allow for a greater degree of flexibility with management arrangements	• Lack of community uptake or support
Spatial closures	Restrict the area to be accessed by fishers using hookah diving equipment	• Allows compliance authorities to plan operations more effectively	• Does not clearly address catch monitoring issues • Potential for localised depletion • Increased demand on domestic compliance
Temporal closures	Restrict the period for access by fishers using hookah diving equipment	• Valid input technique that has the ability to limit catch potential • Allows compliance authorities to plan operations more effectively	• Does not clearly address catch monitoring issues • Can lead to pulse fishing which may have both diver safety and localized stock depletion issues attached.
Limited entry	Restrict the number of fishers permitted to use hookah diving equipment	• This was the system used previously via the issuing of permits • The demands of catch monitoring are less	• Does not clearly address catch monitoring issues • Potential for backlash from those who do not have the right to fish • Equity concerns over the right to fish

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Pearl Shell Boat Replacement Policy (AFMA)	Agenda Item No. 3.2 FOR DISCUSSION

PURPOSE

For members of the HCWG to review the pearl shell boat replacement policy, taking into consideration its consistency with other boat replacement policies.

BACKGROUND

The current size restrictions in the boat replacement policies of various Torres Strait Protected Zone Fisheries are outlined in Table 1.

Table 1. Boat Size restrictions in Finfish, Lobster and Pearl Fisheries

Finfish (MK, LN)		Tropical Rock Lobster (CR)		Pearl Shell (PL)	
Boat size (m)	Permitted replacement (m)	Boat size (m)	Permitted replacement (m)	Boat size (m)	Permitted replacement (m)
0 to ≤6	≤ 6	0 to ≤6	≤ 6	0 to ≤6	≤ 6
>6 to ≤14	≤14	>6 to <10	<10	>6	≤ current size
>14	≤ current size	≥10 to ≤14	≤14		
		>14	≤ current size		

Note: there is no Boat Replacement Policy for the Beche de mer, Trochus or Prawn fisheries, however in the Prawn fishery there is a 20m maximum boat length restriction.

The maximum size in the pearl shell boat replacement policy is six meters, unless approval is given to replace a boat larger than six meters with a boat of the same size or less. This differs from other fisheries which are typically set with an upper limit of 14 meters. This inconsistency has caused issues for duel endorsed TVH operators wanting to increase the size of their vessel.

Applications from duel endorsed operators (i.e. CR and PL) to replace the boat attached to the licence may meet the boat replacement policy for the Tropical Rock Lobster (TRL) fishery but not for the pearl shell fishery. In these instances, licence holders either have to surrender their PL endorsement or Fisheries Queensland needs to place conditions on the licence prohibiting the collection of pearl shell with the larger vessel.

Pearl farms, such as those out in Escape River require approximately 2,000-3,000 pearl shells per year to remain viable and this boat restriction hinders the ability of TVH operators to provide the product.

DISCUSSION

The situation described above could be rectified by aligning the pearl shell boat replacement policy with the TRL boat replacement policy. This will ensure consistency across management arrangements and will allow TVH operators in this situation to use their TRL boats between October and January to revive the pearl shell industry in the Torres Strait.

As there is very little effort in the Pearl shell fishery, this proposal does not represent a significant risk to the fishery, however it still needs a PZJA decision and as such will need to be progressed through the appropriate channels.

Based on this, the HCWG are asked to review the pearl shell boat replacement policy, considering its consistency with other boat replacement policies such as the TRL boat replacement policy.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Pearl Shell Size Limit (AFMA)	Agenda Item No. 3.3 FOR DISCUSSION

PURPOSE

For members of the HCWG to review the minimum *Pinctada Maxima* size limit.

BACKGROUND

The current size limits for the gold-lipped pearl oyster, *P. maxima*, is 130mm to 230mm, which are outlined in clause 8 of the *Torres Strait Fisheries Management Instrument No. 7*. There have been discussions amongst stakeholders from the pearl shell fishery to decrease the minimum size limit to 100mm. This will allow the smaller, faster growing oysters to be harvested which in turn will produce high quality pearls in a shorter time frame and provide maximum seeding potential from the shell.

P. maxima are protandrous hermaphrodites which means that they change sex from males to females as they grow. There is evidence from the WA pearl fishery that suggests that *P. maxima* males reach 50% maturity at around 110mm in length, and females reach 50% maturity at 170-180mm. There is limited documented evidence as to the reasoning behind the minimum size limit of 130mm in the Torres Strait, but it could be assumed that this limit allows male *P.Maxima* to spawn at least once before being harvested.

The size limits of *P Maxima* has changed numerous times throughout the history of the Torres Strait Pearl Shell Fishery as detailed below:

1891 – Minimum size limit of 152mm introduced

1897 – Minimum size reduced to 127mm

1985 – Size limit of160mm implemented under FMN No. 6

1988 – Minimum size limit of 130mm and maximum 200mm

1989 – Maximum size limit increased to 230mm

In Queensland the *P. maxima* size restrictions are 130mm to 230mm, which is consistent with the Torres Strait. In Western Australia, the minimum size limit is 120mm and maximum legal sizes are set in zones where appropriate. However for a trial period of three years, (2011-2013) Western Australian pearl divers are permitted to take 15% of their quota of *P. Maxima* at sizes between 100mm and 120mm. The research trial is run by the WA pearling industry to examine the effectiveness of improved seeding technology on smaller pearl oysters. As the study is in its final year the results have not yet been released.

DISCUSSION

As there is very little effort in the Pearl shell fishery, this proposal does not represent a significant risk to the fishery, however it still needs a PZJA decision to amend the *Torres Strait Fisheries Management Instrument No. 7*. The HCWG are asked to review the pearl shell minimum size limit, with respect to potentially decreasing the current size limit.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Sea Cucumber Identification Guide (AFMA)	Agenda Item No. 4.1 FOR DISCUSSION

PURPOSE

For members of the HCWG to provide CSIRO with practical advice as to the design and information included in the Sea Cucumber Species Identification Guide.

BACKGROUND

The Torres Strait Scientific Advisory Committee (TSSAC) has approved funding for the development of an identification guide for sea cucumber species commonly found in the Torres Strait.

A sea cucumber species guide for Torres Strait is needed to help managers and fishers correctly identify sea cucumbers. This is important in regard to the sustainable fishing and management of sea cucumbers in Torres Strait.

DISCUSSION

The HCWG are asked to provide input into the ID guide particularly in relation to the species to be included in the guide, types of information, layout of the guide and printing requirements.

At the previous HCWG the group discussed the possibility of including information such as an indicator of species value, processing methodologies and linkages to management arrangements. The HCWG are asked to provide feedback along these lines.

CSIRO will seek feedback from the Torres Strait Communities on the information in and layout of the ID guide through consultation and feedback forms such as that included at **Attachment A**.

FINANCIAL IMPLICATIONS

The cost of the original project proposal was revised based on comments from the TSSAC and the total AFMA contribution is now $30,912.

Sea cucumber ID guide Feedback Form

We require your feedback for an effective identification guide for sea cucumber species. A sea cucumber guide for Torres Strait will help fishers and fisheries managers correctly identify different sea cucumber species. This is important in regard to the sustainable fishing and management of sea cucumbers in Torres Strait.

Species included:

Please indicate if you think the following species are important to include in the guide by ticking YES or NO in the box. Please add any other sea cucumber species suggestions that you would like to see in the guide.

Possible species to include	**Yes**	**No**
Sandfish		
Golden sandfish		
White teatfish		
Black teatfish		
Prickly redfish		
Surf redfish		
Deepwater redfish		
Hairy blackfish		
Burrowing blackfish		
Deepwater blackfish		
Stonefish		
Tigerfish (leapordfish)		
Brown sandfish		
Brownspotted sandfish		
Chalkfish		
Greenfish		
Curryfish		
Brown Curryfish		
Curryfish		
Amberfish		
Flowerfish (black spotted sea cucumber)		
Dragonfish (Selenka's sea cucumber)		
Lollyfish		
Snakefish		
Pinkfish		
Elephant trunkfish		
Other:		

Written information

Please rank the importance of including the following written information where 1 = lowest importance and 5 = highest importance. Please add any other information suggestions you would like to see in the guide.

Possible written information to include	**1**	**2**	**3**	**4**	**5**
Common Name					
Scientific Name					
FAO Species Code					
General description (colour, identifying features)					
General description when processed					
Species distribution					
Habitat					
Depth range					
Average length					
Average weight					
Body thickness					
Indicative value					
Glossary of terms					
Background information about sea cucumber biology					
Background information on the Torres Strait					
Processing methods					
Management arrangements (TAC, size limits, etc)					
Other:					

Pictures

Please rank the importance of including the following pictures where 1 = lowest importance and 5 = highest importance. Please add any other picture suggestions you would like to see in the guide.

Possible pictures to include	**1**	**2**	**3**	**4**	**5**
Colour photo in natural habitat					
Colour photo wet on land (dorsal surface)					
Colour photo wet on land (ventral surface)					
Colour photo dried and processed (dorsal surface)					
Colour photo dried and processed (ventral surface)					
Colour photo of anus terminal and teeth					
Close up photos of key identifying features					
Diagram / sketch of species					

Diagram / Sketch pointing out key biological features					
Other:					

Layout

Please rank the following possible layouts in order of preference. Please add any other picture suggestions you would like to see in the guide.

Layout format	**Preference**
A4 size book	
A5 size booklet	
Flash cards	
Poster	
Other:	

Thank you for taking the time to provide feedback on the identification guide. If you would like us to keep you informed as to the progress of this project, please provide your contact details below.

Name

Community

Phone number

Email

If you would like further information please contact Tim Skewes on tim.skewes@csiro.au or 07 3833 5963.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
East Coast Beche de mer Management Strategy Evaluation (CSIRO)	Agenda Item No. 4.2 FOR NOTING

PURPOSE

For the members of the HCWG to:

- note the primary outputs of the Management Strategy Evaulation (MSE) for Beche de mer on the East Coast; and
- note the TSSAC assessment of the Beche de mer MSE for the Torres Strait, highlighting the importance of identifying key research priorities.

BACKGROUND

Tim Skewes from CSIRO to provide a presentation of the primary outputs of the East Coast Beche de mer MSE project.

(Note: In November 2012, CSIRO submitted a pre-proposal for a Torres Strait Beche de mer MSE project to the Torres Strait Scientific Advisory Committee (TSSAC). The objective of the project was to formulate and test a range of potential community based harvest strategies for the Torres Strait Sea cucumber fishery to mitigate localised depletion and make explicit trade-offs in risk to population status and fishery profits. The TSSAC were uncertain of the priority need for this research in the Torres Strait Protected Zone.)

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Research priorities and collaborative opportunities with PNG (AFMA)	Agenda Item No. 4.3 FOR DISCUSSION

PURPOSE

For members of the HCWG to:

- review and comment on the research priorities listed in the Torres Strait Scientific Advisory Committee (TSSAC) Annual Operational Plan for 2013; and
- discuss complimentary research opportunities with Papua New Guinea National Fisheries Authority and recommend that the TSSAC agree to a strategy for identifying and delivering these.

DISCUSSION

Research Proposals

The TSSAC meets on a regular basis to manage AFMA's marine research budget, including the allocation of marine research funding for the Torres Strait Protected Zone. The next TSSAC meeting is being held on 15-16 October 2013. At this meeting the TSSAC will review research pre-proposals and seek full proposals from successful applicants.

Research Priorities for 2014

When assessing the research proposals, the TSSAC consider priorities in the Operational Plan and advice from PZJA committees and working groups. It is important for the HCWG to identify key areas of research to assist the TSSAC.

The research priorities for hand collectable fisheries that are identified in the Operational Plan 2013 are outlined in Table 1. The HCWG are asked to review these priorities and provide recommendations for the priorities for 2014.

Table 1. Hand Collectable Fisheries Research Priorities 2013

Research Area	Research Need
Stock abundance/ assessment for TAC setting	Complete stock assessment and estimate TAC for target species. Improved monitoring of catch and effort in all sectors of the fishery.
Efficacy of management arrangements	Impact of overfishing on PNG Warrior Reef.
Knowledge of biology, ecology and distribution of target species	Assessment of trochus habitat using Indigenous knowledge or remote sensing to inform stock assessment.

Collaborative opportunities with Papua New Guinea (PNG)

Another research priority for 2013 identified in the Operational Plan is to review areas where opportunities exist for collaborative research on shared fisheries stocks between Australia and PNG (there is currently a pre-proposal to the TSSAC in collaboration with the PNG NFA relating to the BDM fishery).

Beche de Mer and the Prawn fisheries were identified as priority areas for investigating collaborative opportunities at the 2012 Bilateral Torres Strait Treaty meetings.

PNG has also suggested the need for a general stock assessment and habitat mapping of hand collectables such as Beche-de-mer, trochus, and pearl shells.

It was agreed at the previous HCWG that the TSSAC was an appropriate forum to continue further discussions and potentially agree to a strategy for identifying research opportunities between the two countries and how it could be delivered (including funding). There has been no progress on this to date so it is recommended that the HCWG reiterate the importance of collaborative research opportunities between Australia and PNG in the Operational Plan and recommend that the TSSAC agree a strategy for identifying and delivering these.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Foreign Compliance Update (AFMA)	Agenda Item No. 5.1 FOR NOTING

PURPOSE

To provide the HCWG members with an update on foreign compliance activities in respect to the hand collectable fisheries in the Torres Strait region.

BACKGROUND

At the Bilateral meetings in October 2012, Papua New Guinea (PNG) agreed to extend their Memorandum of Understanding to keep the sea cucumber fishery closed in PNG's area of jurisdiction until 2015.

However, since the sea cucumber closure was implemented in 2009, the value of Beche de mer has tripled, which has sparked an increase in illegal activity. During the last six months there has been an observed increase in trade in BDM from across the Indonesian border along the coast of PNG and return. There have also been recent sightings of illegal take of sea cucumber in Australian waters. The product is then sold to China.

Late last year, 23 arrests were made for the illegal take of sea cucumber in a PNG fisheries operation and eight dinghies were seized in a recent compliance operation in May 2013. Ongoing monitoring of this illegal trade activity and the Warrior Reef area will be maintained by Australian and PNG authorities.

At the upcoming Australia-PNG bilateral meeting, AFMA will again express its concern that overfishing will occur and incursions into Australian waters will increase if PNG National Fisheries Authority does not remain vigilant and on top of the problem in the PNG fishery.

AFMA is not aware of any foreign compliance issues in respect to the Trochus, Pearl Shell or Sponge Fisheries.

FINANCIAL IMPLICATIONS

Nil

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Domestic Compliance Update (QLD Fisheries)	Agenda Item No. 5.2 FOR NOTING

PURPOSE

For members of the HCWG to note the domestic compliance arrangements in the Torres Strait Protected Zone (TSPZ) at **Attachment A**.

BACKGROUND

Within the TSPZ, Queensland Boating and Fisheries Patrol (QBFP) administer the domestic compliance in conjunction with the Australian Fisheries Management Authority who administers the foreign compliance.

QBFP aims to achieve an average of five days at sea per month to target compliance with fisheries rules and regulations. The QBFP officers also visit island communities to encourage voluntary compliance by clarifying licensing arrangements, networking with community members and gathering intelligence.

The QBFP Compliance Risk Assessment process outlines high priority areas for each fishery. The priority compliance risks for the Beche de mer fishery are unlicensed fishing (including Papua New Guinea nationals taking Beche de mer within the TSPZ) and the take of species closed to fishing such as Sandfish, Surf Redfish and Black Teatfish. The priority compliance risk for the Pearl Shell Fishery is unlicensed fishing activity.

Further information is provided at **Attachment A** and a representative from Queensland Fisheries will provide a verbal update on compliance.

TORRES STRAIT HAND COLLECTABLES WORKING GROUP MEETING #7	2 OCTOBER 2013 AFMA MEETING ROOM THURSDAY ISLAND
Domestic Compliance Report **(QLD Fisheries)**	**Agenda Item 5.2** For Noting

Assistance: Fisheries Queensland, Department of Agriculture, Fisheries and Forestry

OUTCOME SOUGHT

- To **INFORM** members of the Hand Collectables Working Group of the domestic compliance arrangements and achievements in the Australian jurisdiction of the Torres Strait Protected Zone (TSPZ).

TALKING POINTS

- Queensland Boating and Fisheries Patrol (QBFP) currently aims to achieve an average of five days at sea per month to target particular fisheries and complaint response whilst conducting community visits.
- Queensland Boating and Fisheries in consultation with Australian Fisheries Management Authority administer the Compliance programme within the Torres Strait Protected Zone.
- Queensland Boating and Fisheries Patrol administer the domestic compliance in conjunction with the Australian Fisheries Management Authority who administers the foreign compliance.

BACKGROUND

The purpose of the Queensland Boating and Fisheries Patrol's TSPZ Compliance Program is to:

- Enforce fisheries legislation in a manner that results in a high level of compliance
- Educate and advise both traditional and commercial fishers on the need for fishing laws in a manner that results in a high level of voluntary compliance
- Undertake duties as required by the PZJA to protect TSPZ resources.

TORRES STRAIT HAND COLLECTABLES WORKING GROUP MEETING #7	2 OCTOBER 2013 AFMA MEETING ROOM THURSDAY ISLAND
Domestic Compliance Report **(QLD Fisheries)**	**Agenda Item 5.2** For Noting

SUPPLEMENTARY MATERIAL

SURVEILLANCE AND ENFORCEMENT

The Program is delivered by QBFP officers based in Cairns.
The Program is delivered through at-sea inspections using Government owned and where necessary chartered vessels and community visits.

Vessels

The QBFP currently utilises a Queensland Police Service vessel to conduct offshore patrols. QPS involvement also addresses a number of workplace health and safety issues particularly those concerning personal safety.

Community Visits

The QBFP also performs extension services through community visits. These visits are imperative for achieving voluntary compliance. During the reporting period QBFP officers visited island communities and communities on the Northern Peninsula.

Community visits are also conducted to gather intelligence and network with community members.

The visits also enable Community members to discuss issues relating to commercial, traditional and recreational fishing as well as boating safety issues. Issues arising from community visits included:

- Licensing procedures
- Unlicensed fishing
- Confusion as to the licensing requirements for Traditional Inhabitants who wish to exercise their traditional rights in regards to traditional fishing.

QBFP TSPZ Compliance Priorities

Key priorities in the TSPZ as determined by the QBFP Compliance Risk Assessment process are set out below:

Fishery	Compliance Priorities
Bêche-de-mer	• Unlicensed (PNG nationals taking BDM within TSPZ) • Take of no take species
Reef Line/ Spanish Mackerel	• Unlicensed • Excess tenders
Pearl Shell	• Unlicensed
Prawn	• Vessel Monitoring System • By catch Reduction Device/Turtle Exclusion Device • Gear restriction • Shark fining • By catch (TRL)
TRL	• Unlicensed tenders • Size restriction • Closures
Turtle and Dugong	• Non-Traditional Inhabitant take • Gear restriction

TORRES STRAIT HAND COLLECTABLES WORKING GROUP MEETING #7	2 OCTOBER 2013 AFMA MEETING ROOM THURSDAY ISLAND
Domestic Compliance Report **(QLD Fisheries)**	**Agenda Item 5.2** For Noting

Compliance Program Outcomes July 2012 to June 2013

QBFP achieved a total of 68 TSPZ patrol days.

Number of Infringement notices:	15
Number of Briefs:	0
Number of patrols:	68
Man hours:	1022
Overall Compliance rate:	97.91%
Total inspections:	567

The table below is a breakdown of the outcomes, by fishery, in the TSPZ.

Fishery Compliance Rate

Fishery Type	# Units (1)	# Persons	Offences Detected (2)	Not Compliant (3)	% Units Compliant (4)
Collection - Dugong/Turtle (Torres Strait)	2	8	0	0	100.
Collection - Rock Lobster (Torres Strait)	50	131	0	0	100.
Line - Coral Reef Finfish	12	35	0	0	100.
Line - Deep Water Demersal Finfish (Other)	4	24	0	0	100.
Line - Reef Line (Torres Strait)	36	106	0	0	100.
Line - Spanish Mackerel (Torres Strait)	11	30	0	0	100.
Net (Not Trawl) - All (Torres Strait)	1	2	0	0	100.
Other/Not Applicable	47	114	0	0	100.
Transport	133	387	15	12	90.98
Trawl - Prawn (Torres Strait)	7	24	0	0	100.
Unknown Fishery	264	133	0	0	100.
Total	**567**	**994**	**15**	**12**	**97.91**

(1) Total number of units contacted during patrols for Fisheries and Shark Control and Transport.

(2) Number of individual units that were not compliant (1 or more offences detected)

*(3) (# Units - # Units Not Compliant) / # Units * 100 = % Units Compliant*

(4) Totals should be used with caution. A unit contact may be recorded in zero or more fisheries and therefore increase the total counts.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Strategic Assessment (AFMA)	Agenda Item No. 6.1 FOR NOTING

PURPOSE

For the HCWG to note the process for obtaining a Strategic Assessment and what this means for Torres Strait Hand Collectable fisheries.

BACKGROUND

Commonwealth and Torres Strait fisheries are assessed under three parts of the *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999*:

- Part 10 of the EPBC Act requires that all Commonwealth and Torres Strait fisheries must be strategically assessed before a management plan is determined.
- Part 13 of the EPBC Act creates a number of offences in relation to listed threatened species and ecological communities but provides for accreditation of management plans or regimes. The effect of accreditation is that certain actions are not offences if they are carried out under those management plans or regimes.
- Part 13A of the EPBC Act covers the international movement of wildlife specimens. In assessing the plan under Part 13A of the EPBC Act the Environment Minister determines whether species taken in the fishery should be included on the list of exempt native specimens and therefore allowed to be exported. Where the Environment Minister is not satisfied that the fishery has fully addressed all risks he can make the exemption subject to the condition that a Wildlife Trade Operation (WTO) continues to be in force. That WTO can be subject to conditions and recommendations.

<u>Beche de mer</u>

Torres Strait Beche-de-mer Fishery is accredited under Part 13 and has a WTO accreditation under Part 13A. The current accreditations were most recently granted on 16 June 2011 and expire on 20 June 2014.

The WTO accreditation is subject to a set of conditions and recommendations. The conditions are that the fishery must be managed in accordance with the Torres Strait Fisheries Act 1984, that the PZJA must inform SEWPAC if there is a change in management arrangements and submit annual status reports to SEWPAC. The draft status report for 2013 is at **Attachment A**. The WTO recommendations are listed below:

1. PZJA to:
    a. implement strategies to improve estimates of commercial (community) harvest from the TSBDMF; and
    b. develop and implement appropriate strategies to obtain improved estimates of all removals from sea cucumber stocks.
2. PZJA to:
    a. develop strategies for implementing existing draft community based harvest strategies to include meaningful performance indicators, performance measures and responses;
    b. extend the development of harvest strategies to other communities in the area of the TSBDMF; and
    c. Consider formalising performance indicators, performance measures and responses for those areas of the fishery not covered by community based harvest strategies.

3. PZJA to continue to identify and pursue opportunities for research relevant to species harvested in the TSBDMF.

4. PZJA and AFMA to continue and encourage further cooperation with relevant jurisdictions to pursue increased knowledge and complimentary management of sea cucumber resources across fisheries and across jurisdictions.

Trochus

The Torres Strait Trochus Fishery is accredited under Part 13 of the EPBC Act and is covered by a WTO under Part 13A that was most recently granted on 5 October 2012 and expires on 16 October 2015.

There are no special recommendations that apply specifically to the Trochus fishery other than the standard conditions that the fishery must be managed in accordance with the *Torres Strait Fisheries Act 1984*, that the PZJA must inform SEWPAC if there is a change in management arrangements and submit annual status reports to SEWPAC.

The PZJA is continuously working towards these management objectives to meet the requirements of the WTO to ensure the fishery can continue to export product to Asian markets. If these recommendations are not actively progressed, the fishery runs the risk of losing its export approval.

Note: other hand collectable fisheries such as the Pearl Shell and Crab fisheries are not subject to WTO accreditation as they are not exporting product

FINANCIAL IMPLICATIONS

Nil.

TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Fisheries and important habitats in Torres Strait (CSIRO)	**Agenda Item No. 6.2** **FOR NOTING**

PURPOSE

For the HCWG to note the CSIRO report *Fisheries and important habitats in Torres Strait*.

BACKGROUND

CSIRO, with the assistance of CSIRO Indigenous cadet, Mibu Fischer, has recently developed a booklet that summarises CSIRO's research of Fisheries and important habitats in the Torres Strait including Tropical Rock Lobster, Sea Cucumber, Trochus, Seagrass and Coral. The booklet can be found at **Attachment A**.

The purpose of the booklet is to supplement the traditional knowledge of these fisheries and habitats so that when co-management arrangements are introduced, traditional owners are able to participate in discussions with a broader understanding of the science that underpins management decisions.

The booklet also highlights how changes in management arrangements or threats such as climate change could affect these fisheries and Torres Strait communities.

FINANCIAL IMPLICATIONS

Nil.

MARINE AND ATMOSPHERIC RESEARCH
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Fisheries and important habitats in Torres Strait

Mibu Fischer & Tim Skewes

The Tropical Rock Lobster, Sea Cucumber and Trochus fisheries are of great importance to the livelihoods of communities in Torres Strait

This booklet was produced by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Division of Marine and Atmospheric Research, Brisbane, QLD.

ACKNOWLEDGEMENTS

We are particularly grateful for the assistance given by Dr Eva Plaganyi-Lloyd[1], Darren Dennis[1], Nicole Murphy[1] and Ian McLeod[1]. I would also like to extend my thanks to Vic McGrath of the Land and Sea Management Unit, Torres Strait Regional Authority (TSRA), and the team at Australian Fisheries Management Authority (AFMA), on Thursday Island. Juliet Uttley and Susan Burchill of Creative Services and Communications at CSIRO assisted with the design and layout of this booklet.

[1]CSIRO Marine and Atmospheric Research

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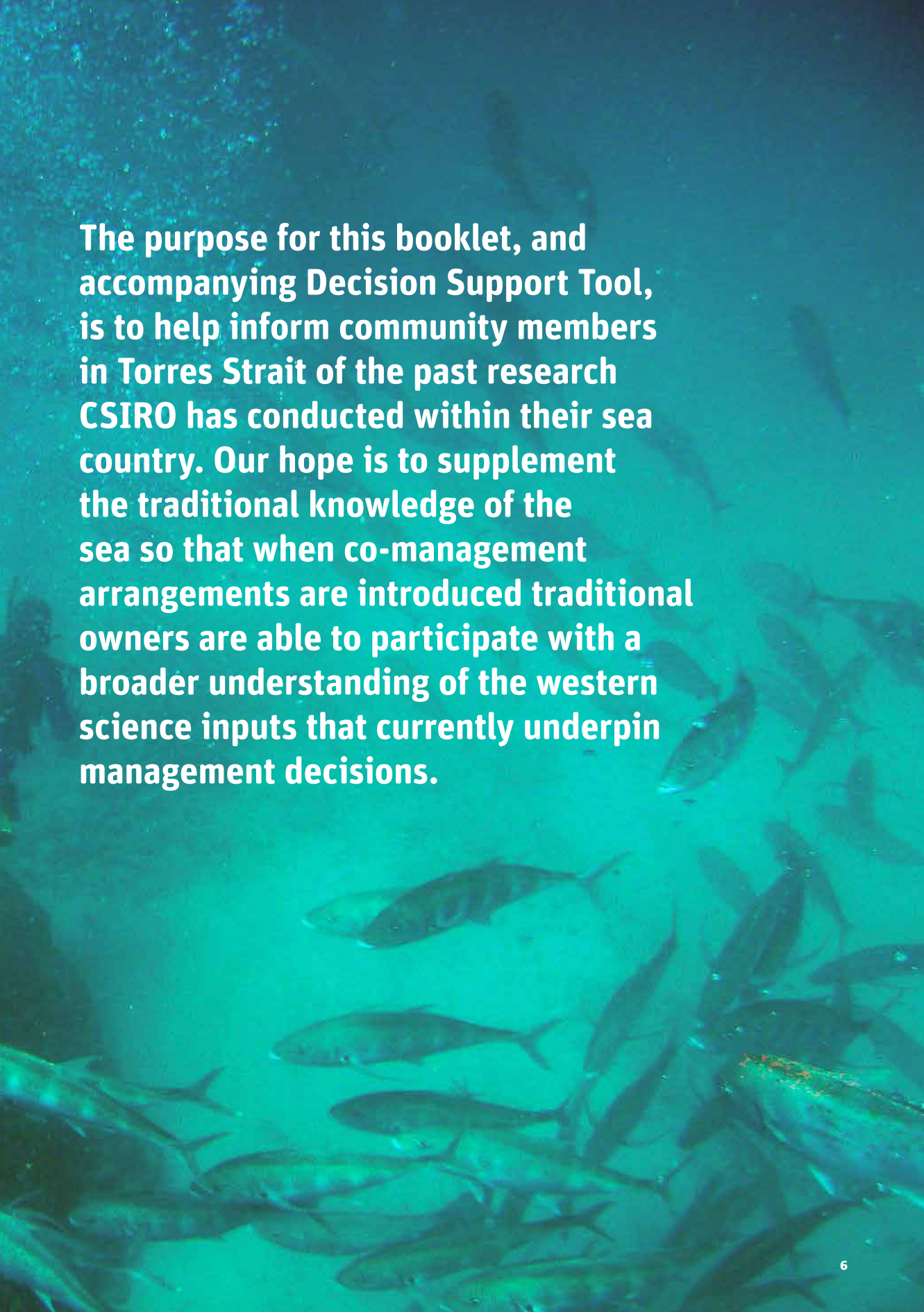


The purpose for this booklet, and accompanying Decision Support Tool, is to help inform community members in Torres Strait of the past research CSIRO has conducted within their sea country. Our hope is to supplement the traditional knowledge of the sea so that when co-management arrangements are introduced traditional owners are able to participate with a broader understanding of the western science inputs that currently underpin management decisions.

Acronyms

CSIRO	Commonwealth Scientific and Industrial Research Organisation
CMAR	CSIRO Marine and Atmospheric Research
AFMA	Australian Fisheries Management Authority
TSRA	Torres Strait Regional Authority
PZJA	Protected Zone Joint Authority
TRL Fishery	Tropical Rock Lobster Fishery
BDM Fishery	Beche-de-mer (sea cucumber) Fishery
Aus	Australia
PNG	Papua New Guinea
TAC	Total Allowable Catch

Definitions

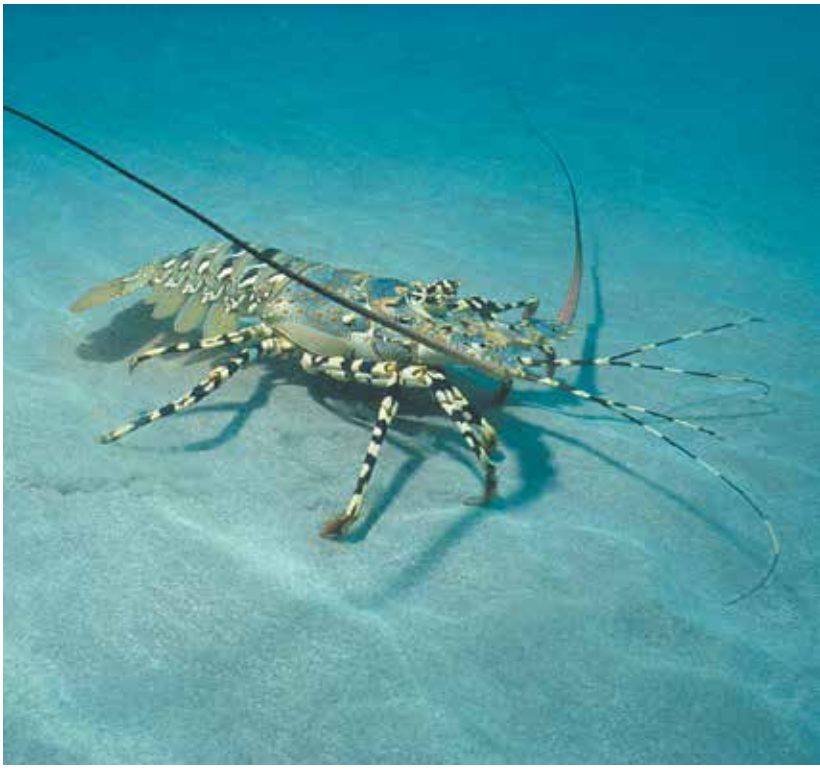
Biomass	Calculated weight of species in a measured area
Abundance surveys	Counts of a species in a survey area
Habitat	The type of environment in which animals like to live e.g. coral reef, seagrass meadows, mangrove forests
Input management	Management regulations that control how you fish e.g. what type of gear you can use, time limits, , boat length, etc
Output management	Management regulations that control how much of a particular animal you can take out of the fishery i.e. Catch limits (TACs)
Beach values	The price paid to a fisher for products
Co-management	Management of fisheries shared between management authorities and communities
Subsistence fishing	Fishermen catch enough just to feed themselves and their family, but not to sell
Population model	Mathematical equations that represent how populations of animals change over time

Kaiar

Rock Lobster Panulirus ornatus

The Torres Strait Tropical Rock Lobster Fishery (TRL Fishery) targets the ornate rock lobster, Panulirus ornatus, with very minor quantities of P.versicolor also taken. In addition to Torres Strait, rock lobster is also fished off the east coast of Queensland and in Papua New Guinea (PNG) (Figure 3). Lobsters are taken by hand, hand spears or nets off reefs and open bottoms by free-diving or assisted air-supply 'hookah'. Nearly all the Torres Strait lobster fishing takes place in Western and Central Torres Strait, with limited catches in eastern Torres Strait.

Lobster catches in Torres Strait have ranged from 121 to 891 tonnes (live weight) since 1978 (Figure 2), depending on lobster density, price and other factors. The TRL Fishery is the most important commercial fishery in Torres Strait.



Tropical Rock Lobster

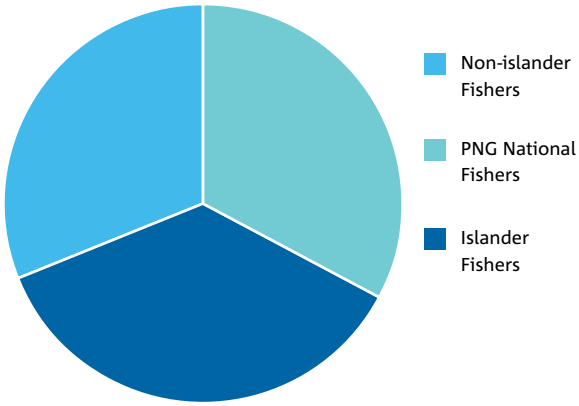


Figure 1 Proportion of rock lobster catch allocated to each sector of the Torres Strait TRL Fishery. Note the TRL fishery is not currently managed through a quota managed system and allocations are not enforced.

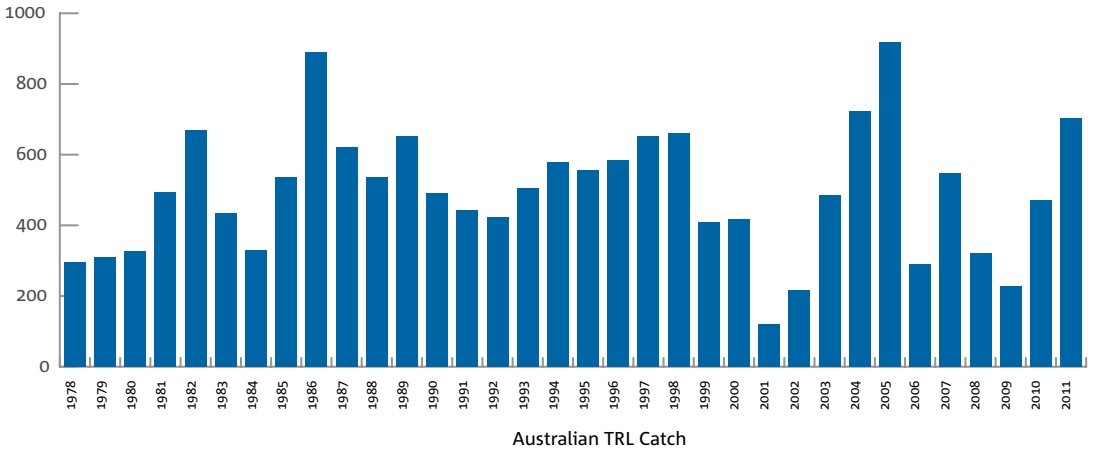


Figure 2 Lobster catches taken by the Australian TRL Fishery during 1989-2011

Research

CSIRO has carried out research on the TRL Fishery since the early 1980s. These studies have been important for providing information to support decision making by the Protected Zone Joint Authority (PZJA) to protect both the lobster population from overfishing and the livelihoods of the fishers who depend on the resource.

An important aspect of CSIROs work has been the annual abundance surveys that have been carried out each year for over two decades (Eastern Torres Strait is not included in these surveys as the catch levels are low). The mid-year population surveys have been conducted since 1989 providing scientists and fishers with two important data-sets:

1. Number of lobsters that are within the fishing grounds – not of legal fishing size, but will be available in the following year

2. Number of legal-catch size lobster available to the fishery, this group will migrate out of Torres Strait and breed. Producing larvae that will support new recruitment to the fishery in two years.

The study area can be seen in Figure 4 which also shows the abundance of lobsters across all study sites since 1989.

The abundance data are then used in a population model developed by CSIRO that estimates the number of lobsters that can be fished before the population is negatively impacted. This analysis shows the TRL population is at a reasonable level when compared to the long-term average and that current fishery catches are sustainable. Scientists at CSIRO have estimated the abundance of breeding aged lobsters (2nd dataset) seen in Figure 5. In 2005 and 2008 the levels fell below the long-term average however, since then, numbers have recovered well.

The information on the breeding population is useful to enable prediction of likely recruitment and following stock abundance in 2 years time. These predictions are then compared with actual survey numbers to determine the model's accuracy.

Beach Value

2012 Estimates

$34.80/kg – live*

$36.00/kg – frozen tails*

Prices are likely to be lower on the outer islands to compensate for transport costs. Lobster prices generally increase around the Chinese New Year.

*Prices may vary

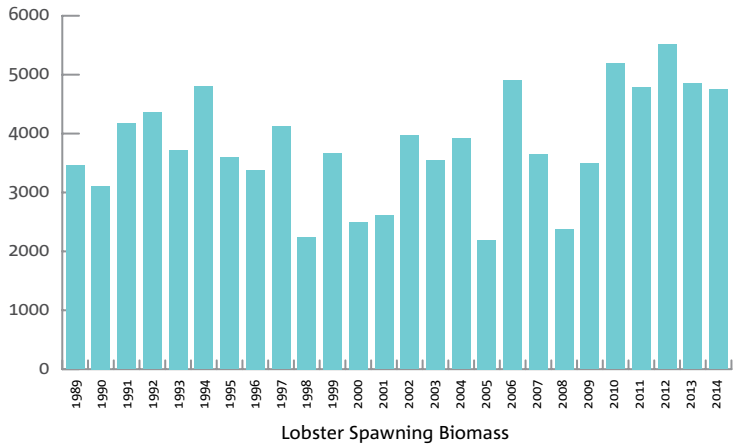


Figure 5 Estimated spawning biomass of lobsters in Torres Strait 1989-2012, and model forcasts of spawning for 2013-2014

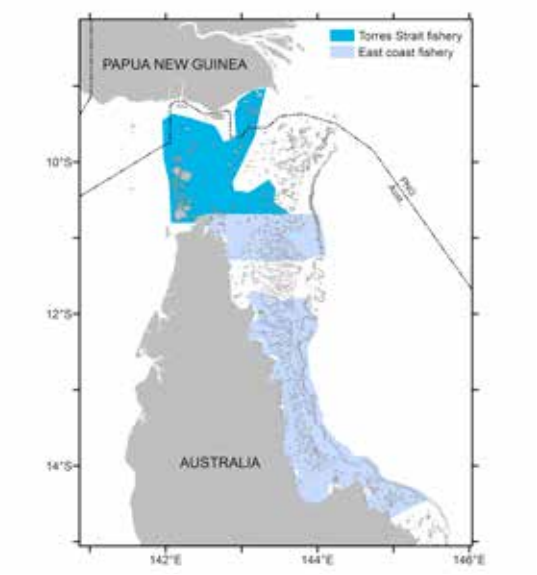


Figure 3 Map of Torres Strait and Queensland east coast showing the international border and boundaries of TRL Fishery jurisdictions

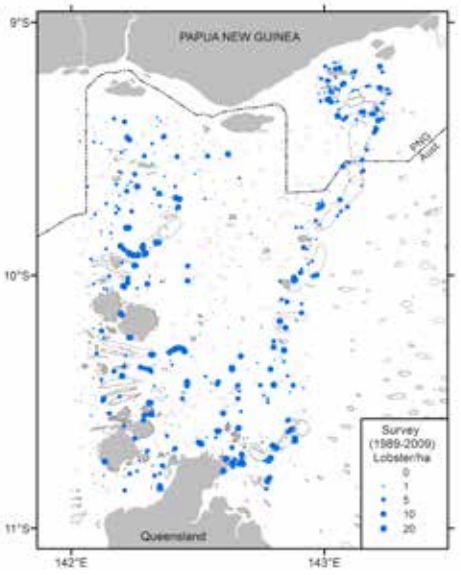


Figure 4 Map of Torres Strait showing the average abundance of rock lobsters recorded at sample sites during population surveys from 1989-2009

Management

To manage the levels of lobsters available to continue the fishery AFMA enforce a number of regulations (Table 1). In July 2005 the PZJA decided to move the TRL Fishery to a quota management system (QMS) from the current input controlled system (detailed below). At the time of printing the QMS system was not yet in place. In order to ensure the QMS can be implemented CSIRO and AFMA have been monitoring the fishery to estimate a sustainable Total Allowable Catch (TAC) for each season.

Threats

Overfishing

There is still a risk that the sustainable TAC could be exceeded if the demand for lobster product dramatically rises.

Climate Change

There are varying scenarios that might occur as an outcome of climate change.

- A high probability is that projected sea temperature rise in Torres Strait could increase lobster growth rate
- A medium probability is that sea temperature rise could negatively influence larval survival, juvenile mortality and habitat change

COMMERCIAL	
Method	Hand collection, hand held spears/scoop nets
Closures	Complete closure Oct-Nov (inclusive)
	Hookah closure Dec-Jan (inclusive)
Size Restrictions	Min Tail size 115mm
	Min Carapace length 90mm
Meat Restrictions	No carrying meat removed from lobster shells on any boat
TRADITIONAL & RECREATIONAL	
Bag Limits	3 lobsters per person or
	6 lobsters per dinghy if more than 1 person on board
Meat Restrictions	No carrying meat removed from lobster shells on any boat
Closures	Hookah closure Dec-Jan (inclusive)
Method	Hand collection, hand held spears/scoop nets

Table 1 Current (2013) input management regulations for the Torres Strait TRL Fishery

How this might affect Torres Strait Communities

The TRL Fishery is in the process of moving to a new management system through the development of a comprehensive management plan (although it is not in place as yet); your input and comments can inform the CSIRO Management Strategy Evaluation (MSE) Project that is looking at the advantages and disadvantages of different management strategies (Please see key contacts on page 24). As many Torres Strait Islanders are involved in the TRL Fishery it is important for you to be given the same information as management authorities so you can help make decisions about your sea country.

Sea Cucumbers

Beche-de-mer, Trepang

Sea Cucumbers are sold to the Asian food market, mainly overseas where they are eaten in a variety of dishes. Although there are many commercial species in Torres Strait, the main species fished are Sandfish, Redfish (which probably cover several species) and Black Teatfish (Figure 6).

Sea cucumbers have been a historically important fishery in Torres Strait until the end of World War II. The fishery was quiet until it was revived in the early 1980s.

This fishery is a valuable source of income for locals, especially those living in the Eastern Torres Strait where the Tropical Rock Lobster fishery is less active.

Sea cucumbers are classified into low, medium and high valued species (see table 2&3). The high valued species are harvested more regularly than the medium-low valued species, putting them at risk of over-fishing.

Sea cucumbers are important species for reef health as they turn over the sediments.

Sea cucumbers

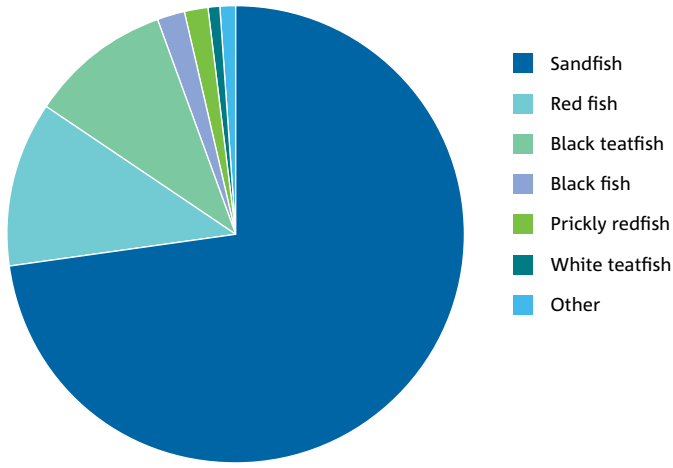


Figure 6 Percentage of sea cucumber catch split amongst species

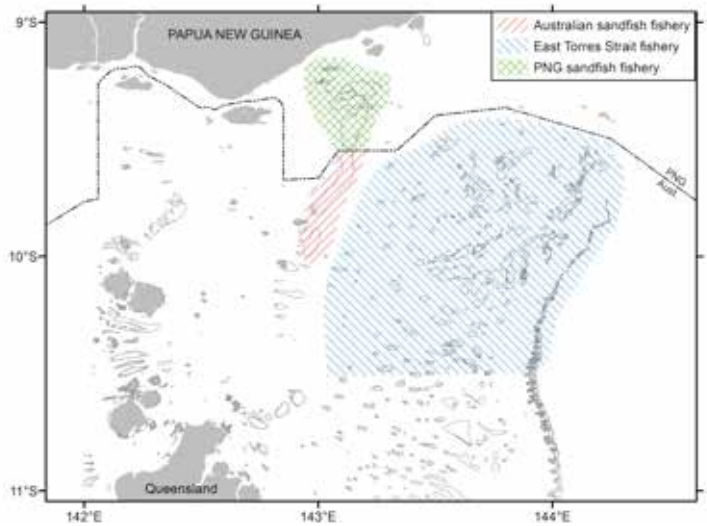


Figure 7 Area of Torres Strait & PNG BDM Fisheries

Curryfish

Sandfish

Holothuria scabra

Sandfish (*Holothuria scabra*) are a high value sea cucumber species and are mostly found on Warrior Reef. Warrior Reef itself has two separate Sandfish Fisheries the Australian fishery (south of Moon Passage) and the PNG fishery north of Moon Passage) (Figure 7).

PNG started to harvest sandfish in the mid 1980's and it wasn't until the mid 1990's that the Australian fishery boomed, with 1200-1400 tonnes being fished from Warrior Reef in 1995.

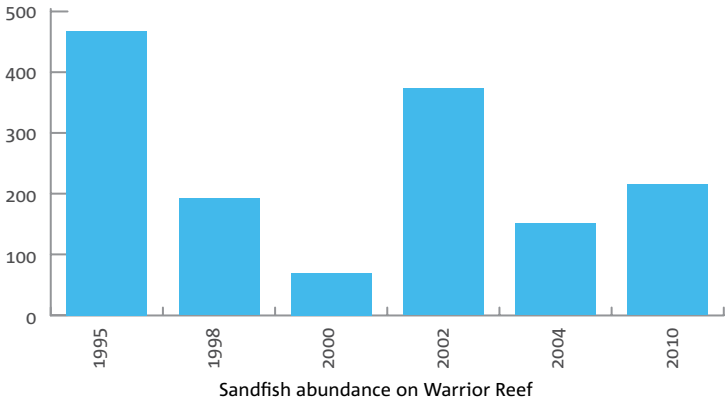


Figure 8 Estimated Stock on Warrior Reef (Australian side only) from surveys

Research

After the boom in 1995, a survey conducted by CSIRO in 1998 found a clear depletion of sandfish stock and concern for the future of the fishery was raised. The abundance of sandfish on Warrior Reef between 1995/96 and 1998 showed an 80% decrease in individuals. The fishery was closed in 1998 upon recommendation to management authorities, to allow stock to recover.

A follow up survey in 2010 showed the sandfish stock on Warrior Reef to be still at a low level and the fishery remains closed. It would be counterproductive to allow fishing if stock was not comparable to the 1995 levels.

In 2012, CSIRO and a limited number of Islander fishers carried out a small "experimental fishing" survey exercise. Catch rates during 5 days fishing were estimated to be half that for 1995. This shows that the population has not rebounded to earlier levels, but is still encouraging as a larger than previous number of sandfish were seen.

Sandfish

Other species

East Torres Strait Fishery

CSIRO have conducted four surveys in the East Torres Strait Sea Cucumber Fishery in 1995/96, 2002, 2005 and 2009.

After the 2002 survey, CSIRO recommended that the fishery close, due to small numbers of certain species. Management authorities banned fishing for Black Teatfish and Surf Redfish in 2003.

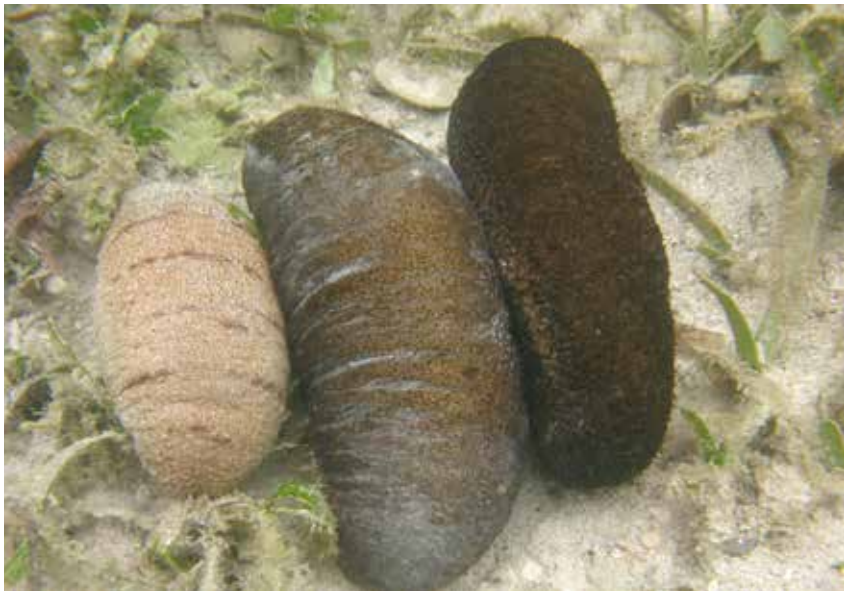
Since 2002 survey Black Teatfish stock has recovered significantly, and the average size of individuals has also increased.

Surf Redfish continue to be uncommon in surveys. It is likely that Surf Redfish which were reported in catches were actually a combination of Deepwater Redfish and Blackfish.

All other species within the fishery are at a status where they can be harvested, (either stable or at increased densities). However stocks will need to be continually monitored to make sure stocks remain at a sustainable level.

Management

Sea cucumbers are a part of the Torres Strait Hand Collectables Fisheries. Fishing is limited to Torres Strait Islanders, collection by hand and no breathing equipment.



Sandfish on Warrior Reef

Competitive TACs and size limits are also used to manage the fishery.

Regular stock assessments are hard to fund due to the small gross value of the fisheries. Also the open access rights for Torres Strait Islanders and the nature of the fishery makes it difficult to regulate. High value species could be exploited again very quickly. For these reasons, there has been interest in 'Community Based Management' by current management authorities. This would incorporate western management strategies and traditional fishing practices with local decision making, to try and achieve the best management practice for the fisheries.

	Common Name	Scientific Name	Commercial value	Min. size limits (mm)*	Total Allowable Catch (TAC)
	Sandfish	*Holothuria scabra*	High	180	Closed
	Surf Redfish	*Actintopyga mauritiana*	High	220	Closed
	Black Teatfish	*Holothuria whitmaei*	High	250	Closed
	White Teatfish	*Holothuria fuscogilva*	High	320	15
	Prickly Redfish	*Thelenota ananas*	Medium	300	20

Table 2 Management regulations for sea cucumber species with species specific Total Allowable Catches (TAC)

	Common Name	Scientific Name	Commercial value	Minimum size limits (mm)*	Total Allowable Catch (TAC)
	Hairy Blackfish	*Actinopyga miliaris*	Medium	220	Part of 80t limit
	Curryfish	*Stichopus herrmanni*	Medium	270	Part of 80t limit
	Elephant Trunkfish	*Holothuria fuscopunctata*	Low	240	Part of 80t limit
	Lollyfish	*Holothuria atra*	Low	150	Part of 80t limit
	Deepwater Redfish	*Actinopyga echinites*	Medium	120	Part of 80t limit

Table 3 Management regulations for all other species of sea cucumbers with a combined TAC of 80 tonnes

Beach value

Beach price varies widely depending on species, size and quality. Approximate 2012 prices for salted, gutted animals were:

High value species (e.g. Sandfish, Black Teatfish, White Teatfish) – $8-$25/kg

Medium value species (e.g. Prickly Redfish, Blackfish) - $5-$10/kg

Low value species (e.g. Lollyfish) – less than $5/kg

Threats

Overfishing

The threat of overfishing sea cucumbers particularly sandfish on Warrior Reef is of concern as stock is shared with PNG. There needs to be cooperation between the Australian fishery and the PNG fishery to maintain healthy stock abundance.

There is a risk that when the high-value species are reopened for fishing they will be overexploited quickly without community based management in place.

Climate change

With predicted changes in sea temperature, there could be a large impact on the growth and mortality of sea cucumbers. Ocean acidification, seagrass loss, phytoplankton productivity and an increase in storms and cyclone events are expected to have a small impact upon the sea cucumber fishery. A change in sea level is considered a medium risk for sea cucumbers in the Torres Strait.

How this affects you

The Torres Strait Sea Cucumber Fisheries are a good source of income for communities in areas where lobsters are less abundant, such as East Torres Strait.

Fishers need to comply with the bans that are currently in place to allow these species to recover from previous exploitation of harvesting.

Having an understanding of the science results that influence current management arrangements can help supplement local knowledge when making future decisions in regards to fisheries management if co-management strategies are brought into place in Torres Strait.

Trochus

Tectus niloticus

The Torres Strait Trochus Fishery is a boom and bust fishery, with harvest depending on market price for trochus and demand.

The fishery consists of a single species Tectus niloticus and like sea cucumbers, they are valuable source of income for Eastern Torres Strait Islanders where the lobster fishery is less active.

Trochus have been fished in Torres Strait traditionally for centuries. With a commercial fishery started in 1912.

Between 1912 and 1917 approximately 500 tonnes of Trochus were harvested each year, resulting in localised depletion in Torres Strait. Fishers subsequently travelled as far south as Mackay, QLD in search of Trochus and in 1952, 1400 tonnes of Trochus were exported from QLD. There has been little activity in the fishery since 2006.

Trochus are unlikely to be at risk from illegal fishing as sea cucumbers, lobsters and shark fins are of higher value.

Recent catches

2005 – 81 946kg harvested
2006 – 35 043kg harvested
2007 & 2008 – reasonable demand however prices were lower than production costs and fishers reduced their efforts.

Trochus

Research

The status of the trochus fishery is unknown. A full stock assessment has not been conducted due to the difficulty in carrying out surveys for trochus, limited fishing and limited funding opportunities. Trochus are difficult to see in their natural environment (Figure 9), they appear to be very specific in their distribution based on habitat type.

In 1995, 2002 and 2005 trochus were surveyed within a sea cucumber survey. In 2009 CSIRO conducted a trochus specific survey. The survey included over 100 sites from the previous three surveys and some additional 11 sites that were selected due to their specific habitat type. The estimated average density at all survey sites was 24.9/Ha, but within known trochus habitat it was 203.2/Ha. The stock estimate for four logbook zones (Cumberland, Darnley, Don Cay and Great North East Channel) was 634tonnes. Trochus numbers from the survey were most likely underestimated due to the patchiness of their distribution.

“The value of trochus shells varies widely with demand for fashion accessories and other products”

Comparison to previous survey data shows that stock levels are quite stable in Torres Strait, and are comparable to unfished stocks from other Pacific Island countries including Cook Islands, Vanuatu and Micronesia.

Beach value

The value of trochus shells varies widely with demand for fashion accessories and other products. Currently the market for shell is very low.

The meat can also be sold; however, it is also affected by demand which is low at present.

Threats

Climate Change

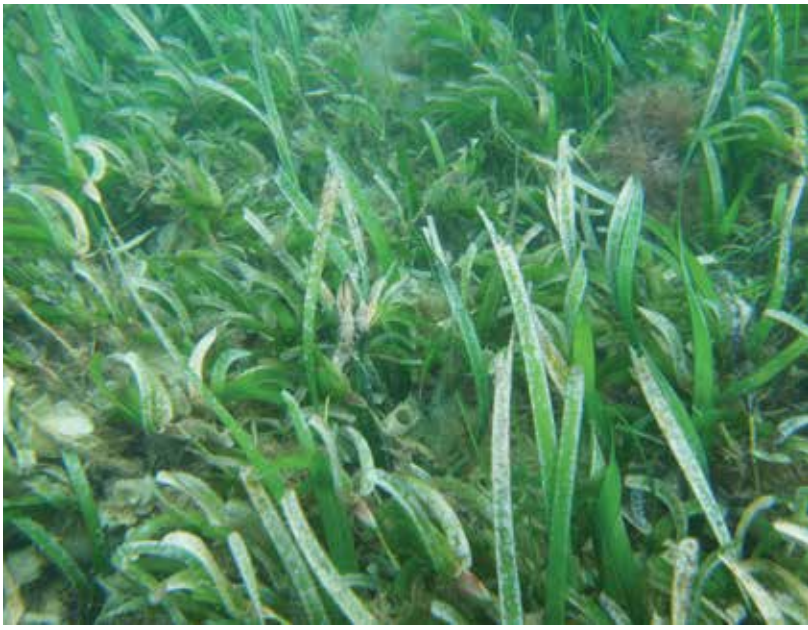
Ocean acidification due to climate change poses a threat to trochus. An increase in carbonate in sea water can influence shell growth, creating a weaker shell leaving trochus (especially juveniles) open to predation.

Hidden trochus

Seagrass

Important Habitat

Torres Strait is home to Australia's largest seagrass meadow which runs across central and western Torres Strait. Seagrass is an important habitat for many different marine species providing food and shelter to species including lobsters, sea cucumbers, dugong and turtles. Seagrasses grow in soft sediments with high turbidity. The rhizomes of seagrasses often provide stability for the surrounding soft sediments.



Seagrass on Warrior Reef

Research

CSIRO included seagrass in a number of surveys and has monitored seagrass levels within survey sites for sea cucumber and lobster survey for a number of years (figure 9)

The surveys have identified 11 seagrass species within Torres Strait. With the majority of seagrass sites mixed species.

Seagrass tends to cover more habitat area in central and western Torres Strait compared to Eastern Torres Strait where seagrass cover is limited. This is consistent with average water depths across the Strait.

• Peak density of seagrasses appears to be between 4-6m.

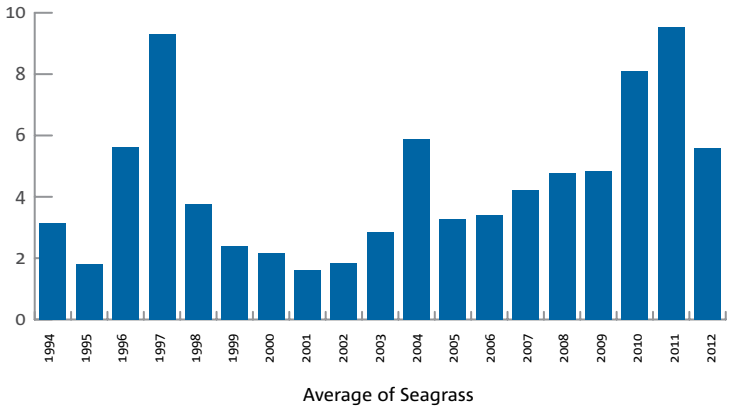


Figure 9 Average density of seagrass on rock lobster grounds between 1994-2012

• The seagrass meadows tend to consist of multi-species

• Turtlegrass (Thalassia hemprichii) is the most common species of seagrass throughout Torres Strait.

“Seagrass is an important environmental indicator for change. Healthy abundant seagrass meadows indicate that the surrounding ecosystem is happy, healthy and thriving”

Threats

There are a number of threats to seagrasses in Torres Strait. They include:

Pollution

Nutrients, herbicides and oil from runoff or ship groundings can all affect seagrass meadows in various ways, from changes in species composition to complete sea grass loss.

Turbidity

Increased turbidity from land runoff or marine disturbance can reduce the amount of light reaching deeper seagrass beds and result in reduced seagrass cover and even the complete disappearance of seagrass over large areas.

Climate change

Sea level rise, increased temperatures, increased storm intensity and ocean acidification, all related to climate change, can alter seagrass communities and generally reduce seagrass cover.

How this affects you

Seagrass is an important environmental indicator for change. Healthy abundant seagrass meadows indicate that the surrounding ecosystem is happy, healthy and thriving. Seagrasses are also important habitat areas for many significant fisheries species such as sandfish.

Chalkfish amongst seagrass on Warrior Reef

Coral Reefs

Important Habitat

Torres Strait has 1 295 individual reefs and 283 reef complexes that range in size from 0.2 ha to 16,500 ha. Surveys show that corals are more abundant and vibrant in the east when compared to the west, due to the clear and saline water preferred by those species. There is a clear shift from seagrass meadows to coral reefs as you travel west to east across Torres Strait.

Giant clam East Torres Strait

Research

Between 2002 and 2009 there was a general decline in coral cover (Figure 10), although this is not statistically significant.

A change in the reefs has also been noticed by locals seeing a change in the vibrancy of the reef.

The reason for the decline in coral cover is unknown. However, could be linked to water quality, climate change, Crown of Thorns Starfish (*Ancanthaster planci,* CoTS) or other factors.

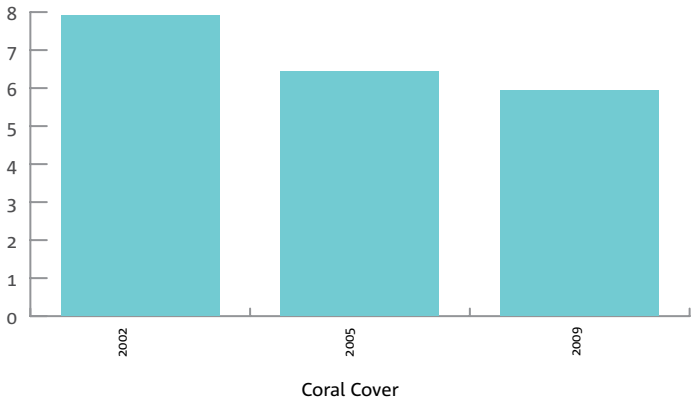


Figure 10 Live coral cover in Torres Strait

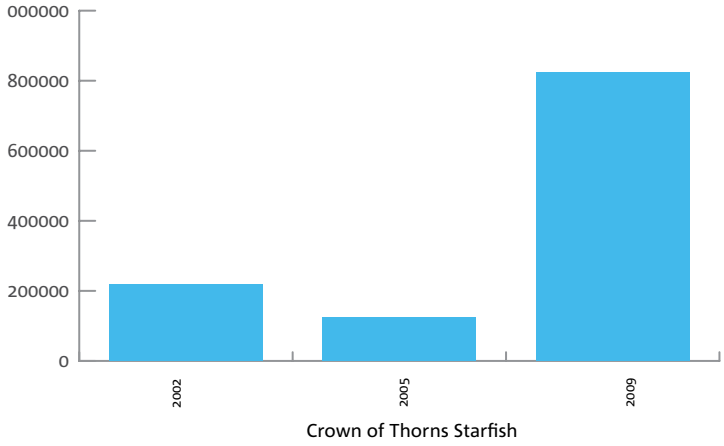
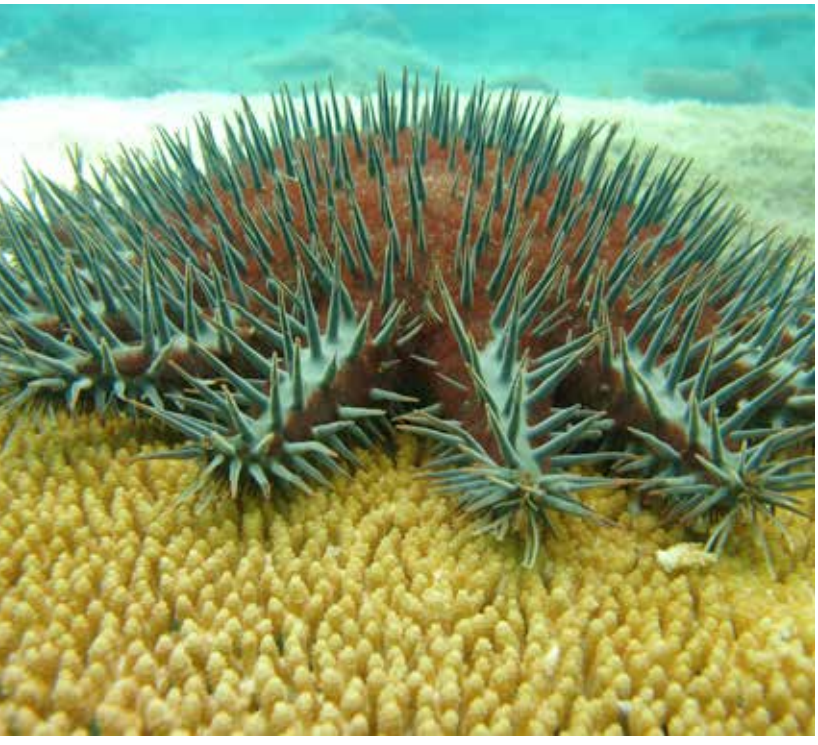


Figure 11 Crown of Thorns Starfish population estimates for Eastern Torres Strait in 2002, 2005 & 2009



Crown of Thorns Starfish East Torres Strait

Crown of Thorns Starfish

There was a small Crown of Thorns Starfish (CoTS) event that occurred in 2009, with approximately 825,060 CoTS in East Torres Strait compared to 2002 and 2005 where there was an average of 171,362 (Figure 11).

CoTS larvae feed on phytoplankton, and phytoplankton blooms often occur from nutrients in terrestrial runoff. There were 2 cyclones during 2006 and a large seagrass dieback in 2007 due to increased terrestrial runoff both of which could be a possible explanation for the increase of CoTS seen during the 2009 survey.

CoTS feed on live corals therefore a large outbreak could see the destruction of a number of reefs in Torres Strait. However they are also important for reefs at low densities as they allow slow growing corals a chance to grow by consuming the fast growing corals as their food of choice.

Threats

There are a number of threats to coral reef health in Torres Strait. They include:

Destructive Species

Crown of Thorns Starfish pose a threat to the health of coral reefs as they feed on live coral. CoTS outbreaks of the magnitude seen on the Great Barrier Reef in previous years would decimate entire reef populations in Torres Strait.

Climate Change

The impacts to corals in the Torres Strait from climate change are great with a number of factors influencing the growth and health of the reef systems. Some of these factors include sea temperature rise, ocean acidification and sea level rise. Sea temperature increase by just a few degrees can influence coral growth and productivity and can lead to coral bleaching (Figure 13).

Ocean acidification occurs when the pH of sea water decreases (becomes more acidic) and the concentration of carbonate in sea water increases. This difference in ocean chemistry interferes with coral growth. Another impact from climate change influencing coral growth in Torres Strait is sea level rise.

Shipping

Torres Strait already contains half of 'the marine environment high risk area' for oil spills in QLD. With the number of exports out of Australia expected to increase there will also be a rise in traffic on the waters. Shipping channels/lanes that are through the Torres Strait will become more crowded, with an increase in the risk of groundings, oil spills and collisions.

Coral bleaching Warrior Reef

Human induced

Overfishing is a real threat to smaller reefs should the health of the reef be impacted from other threats listed above. Sediment logging and mining activities in PNG also may have an influence on the Eastern Torres Strait reefs as the sediment loads come out of the Fly River.

How this affects you

Coral reefs support an abundance of marine resources that are important economically, culturally and ecologically.

Should the health of these reefs degrade it could potentially have a flow on effect which could impact on fisheries and everyday practices.

Subsistence and small scale fisheries will be the most effected as they rely on local reefs. Continued fishing on degraded reefs can result in depletion of localised stocks.

Seashell Warrior Reef

“Coral reefs support an abundance of marine resources that are important economically, culturally and ecologically”

CSIRO researchers with Sabu Tabo (far right)) and Kunu Wailu (second from left) from Mer Island

Further reading/references

Lobster

Skewes, TD, Pitcher, RC and Dennis, DM 1997, 'Growth of ornate rock lobsters, Panulirus ornatus, in Torres Strait, Australia' Marine and Freshwater Research, vol. 48, pp. 497-501.

Plaganyi, E., Dennis, D., Campbell, R., Haywood, M., Pillans, R. & McLeod, I. 2010. Refined Stock Assessment & TAC estimation for the Torres Strait rock lobster (TRL) fishery. Final Report. CSIRO, Cleveland.

Plaganyi, E., Dennis, D., Kienzle, M., Ye, Y., Haywood, M., McLeod, I., Wassenberg, T., Pillans, R., Dell, Q., Coman, G., Tonks, M. & Murphy, N. 2009. TAC estimation & relative lobster abundance surveys 2008/09. Final Report. CSIRO, Cleveland, 80 pp.

Plagyani, E., Kienzle, M., Dennis, D., Venables, W., Tonks, M., Murphy, N. & Wassenberg, T. 2010. Refined Stock Assessment & TAC estimation for TS lobster fishery. Final Report. CSIRO, Cleveland, 84 pp.

Plaganyi, E., Dennis, D., Campbell, R., Haywood, M., Pillands, R. & McLeod, I. 2012. Refined stock assessment & TAC estimation for the Torres Strait rock lobster (TRL) fishery. Milestone Draft Summary Report. CSIRO, Dutton Park, 7 pp.

Plaganyi, E.E., van Putten, I., Hutton, T., Deng, R., Dennis, D., Pascoe, S., Skewes, T. & Campbell, R. 2013. Integrated indigenous livelihood and lifestyle objectives in managing a natural resource. Proceedings of the National Academy of Sciences USA 110 (9): 3639-44

Sea Cucumber & Trochus

Murphy, N.E., Skewes, T.D., Dovers, E. & Leatherbarrow, A. 2012. Assessing stock recovery using experimental fishing for sandfish on Warrior Reef, Torres Strait. Final Report. CSIRO, Dutton Park. 34 pp.

Skewes, T.D & Murphy, N.E. 2009. Torres Strait Hand Collectables: Warrior Reef Sandfish survey. CSIRO, Cleveland. 18 pp.

Skewes, T., Dennis, D. & Burridge, C. 2000. Survey of Holothuria scabra (Sandfish) on Warrior Reef, Torres Strait. Final Report for QFMA. CSIRO, Cleveland.

Skewes, T., Dennis, D., Koutsoukos, A., Haywood, M., Wassenberg, T. & Austin, M. 2004. Stock survey and sustainable harvest strategies for Torres Strait beche-de-mer. Final Report. CSIRO, Cleveland.

Skewes, T.D., Murphy, N.E., McLeod, I., Dovers, E., Burridge, C., Rochester, W. 2010. Torres Strait Hand Collectables, 2009 survey: sea cucumber. CSIRO, Cleveland. 70 pp.

Murphy, N.E., Skewes, T.D., Filewood, F., David, C., Seden, P., Jones, A. 2011. The Recovery of the Holothuria scabra (sandfish) population on Warrior Reef, Torres Strait. CSIRO Wealth from Oceans Flagship. Draft Final Report, CMAR Cleveland. 44 pp.

Murphy, NE., McLeod, I., Skewes, T., Dovers, E., Burridge, C., Rochester, W. 2010. Torres Strait Hand Collectables, 2009 survey: Trochus. CSIRO, Cleveland. 58 pp.

Seagrass & Coral Reefs

Murphy, N.E., Skewes, T., Dovers, E., Rochester, W. & Long, B. 2011. Incipient outbreak of Crown-of-thorns starfish (Ancanthaster planci) in Torres Strait, Australia. Final Report. CSIRO Wealth from Oceans, Dutton Park, 30 pp.

Haywood, M.D.E., Browne, M., Skewes, T., Rochester, W., McLeod, I., Pitcher, R., Dennis, D., Dunn, J., Cheers, S., Wassenberg, T. (2007) Improved knowledge of Torres Strait seabed biota and reef habitats. Marine and Tropical Sciences Research Facility, Cairns (96 pp.).

Pitcher, C.R., Haywood, M., Hooper, J., Coles, R., Bartlett, C., Browne, M., Cannard, T., Carini, G.,Carter, A., Cheers, S., Chetwynd, D., Colefax, A., Cook, S., Davie, P., Ellis, N., Fellegara, I., Forcey,K., Furey, M., Gledhill, D., Hendriks, P., Jacobsen, I., Johnson, J., Jones, M., Last, P., Marks, S.,McLeod, I., Sheils, J., Sheppard, J., Smith, G., Strickland, C., Van der Geest, C., Venables, W.,Wassenberg, T., Yearsley, G. (2007). Mapping and Characterisation of Key Biotic & PhysicalAttributes of the Torres Strait Ecosystem. CSIRO/ QM/QDPI CRC Torres Strait Task Final Report.145 pp.

CSIRO Marine research vessel in Torres Strait

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TORRES STRAIT HAND COLLECTABLE WORKING GROUP (HCWG)	Meeting No. 7 2 October 2013
Other Business **(AFMA)**	**Agenda Item No. 7.1** **FOR NOTING**

PURPOSE

For the HCWG to:

a) note and/or discuss any other business raised during the meeting
b) agree on an appropriate date and venue for the next meeting.

BACKGROUND

N/A

FINANCIAL IMPLICATIONS

Nil.