



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Assessment of the
Torres Strait Trochus Fishery

October, 2012

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Assistant Secretary
Marine Biodiversity and Biosecurity Branch
Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601

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This document is an assessment carried out by the Department of Sustainability, Environment, Water, Population and Communities of a commercial fishery against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. It forms part of the advice provided to the Minister for Sustainability, Environment, Water, Population and Communities on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for Sustainability, Environment, Water, Population and Communities or the Australian Government.

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Contents

Table 1: Summary of the Torres Strait Trochus Fishery 2

Table 1 contains a brief overview of the operation of the fishery including: the gear used, species targeted, byproduct species, bycatch species, annual catch, management regime and ecosystem impacts.

Table 2: Progress in implementation of recommendations and conditions made in the 2008 reassessment of the Torres Strait Trochus Fishery. 7

Table 2 contains an update on the progress that has been made by the fishery's management agency in implementing the conditions and recommendations that formed part of the fishery's previous approved wildlife trade operation declaration.

Table 3: The Department of Sustainability, Environment, Water, Population and Communities' assessment of the Torres Strait Trochus Fishery against the requirements of the EPBC Act related to decisions made under the relevant Parts. 11

Table 3 contains the department's assessment of the Torres Strait Trochus Fishery's management arrangements against all the relevant parts of the *Environment Protection and Biodiversity Conservation Act 1999* that the minister must consider before making a decision.

The Department of Sustainability, Environment, Water, Population and Communities' final conditions and recommendations to the Protected Zone Joint Authority for the Torres Strait Trochus Fishery 24

This section contains the department's assessment of the Torres Strait Trochus Fishery's performance against the Australian Government's 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' and outlines the reasons the department recommends that the fishery be declared an approved wildlife trade operation.

Table 4: Torres Strait Trochus Fishery assessment - Summary of issues, conditions and recommendations - October 2012 25

Table 4 contains a description of the issues identified by the department with the current management regime for the Torres Strait Trochus Fishery and outlines the proposed conditions and recommendations that would form part of the minister's decision to declare the fishery an approved wildlife trade operation.

References 29

Acronyms 29

Table 1: Summary of the Torres Strait Trochus Fishery

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| Introduction to Torres Strait Fisheries | <p>The Torres Strait Treaty between Australia and Papua New Guinea (PNG) was ratified in 1985. It requires that the two countries conserve and achieve optimal utilisation of the Torres Strait fisheries and maximise the opportunities for the traditional inhabitants of both countries to participate in the fisheries.</p> <p>The treaty describes the boundaries between Australia and PNG and how the shared sea resources are managed. The treaty established the Torres Strait Protected Zone and the rights of Australia and PNG to share the commercial fisheries of the protected zone.</p> <p>The enacting legislation for the treaty in the area under Australian jurisdiction is the <i>Torres Strait Fisheries Act 1984</i>, which establishes the Protected Zone Joint Authority (PZJA). Membership of the PZJA comprises the Australian Government and Queensland Government ministers responsible for fisheries and the chair of the Torres Strait Regional Authority.</p> <p>The <i>Torres Strait Fisheries Act 1984</i> provides for the PZJA to make plans or policies for the management of fisheries in the Torres Strait.</p> <p>Two licence categories operate within Torres Strait commercial fisheries:</p> <ul style="list-style-type: none">• Traditional Inhabitant Boat (TIB) licences are available to traditional inhabitant fishers only, and• Transferable Vessel Holder (TVH) licences are available to other commercial fishers. |
| Description of the Torres Strait Trochus Fishery | <p>The Torres Strait Trochus Fishery is a small, single species commercial and subsistence fishery providing for the harvest of trochus.</p> <p>The Torres Strait Trochus Fishery operates in tidal waters within the Torres Strait Protected Zone (TSPZ) and the area declared under the <i>Torres Strait Fisheries Act 1984</i> to be 'outside but near' the TSPZ (Figure 1, page 6). Data collected in 2005 showed that the majority of catch comes from the central eastern Torres Strait regions, but there has been little data since this time to allow for any further comment on the spatial distribution of catch.</p> <p>Entry to the Torres Strait Trochus Fishery is limited to traditional inhabitants. Traditional inhabitants can enter the fishery by obtaining a Traditional Inhabitant Boat (TIB) fishing licence with a trochus (TR) endorsement.</p> <p>In contrast to other Torres Strait fisheries, the Torres Strait Trochus Fishery is not managed in conjunction with Papua New Guinea, as it is classified as a non article 22 fishery, and there are no catch sharing provisions in place.</p> <p>There has been little activity in the Torres Strait Trochus Fishery since 2006, linked to the declining international market price for 'mother of pearl' obtained from trochus shell.</p> |

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| Publicly available information relevant to the fishery | <ul style="list-style-type: none"> • <i>Torres Strait Fisheries Act 1984</i> • Torres Strait Fishing Regulations 1985 • Fisheries Management Notice No. 76 - Prohibitions Relating To The Taking, Processing And Carrying Of Trochus (Gear And Size Restrictions) • Fisheries Management Notice No. 47 - Torres Strait Fisheries (Restrictions On The Size Of Boats) • Australian Bureau of Agricultural and Resource Economics – Fishery Status Reports 2010, Status of Fish Stocks and Fisheries Managed by the Australian Government • Australian Bureau of Agricultural and Resource Economics – Fishery Status Reports 2009, Status of Fish Stocks and Fisheries Managed by the Australian Government • Australian Bureau of Agricultural and Resource Economics – Fishery Status Reports 2008, Status of Fish Stocks and Fisheries Managed by the Australian Government • Australian Fisheries Management Authority – Annual Status Report – Torres Strait Trochus Fishery Export Accreditation – August 2011 • Department of the Environment, Water, Heritage and the Arts – Assessment of the Torres Strait Trochus Fishery – November 2008 • Department of the Environment and Heritage – Assessment of the Torres Strait Trochus Fishery – November 2005 |
| Target Species | <p>The topshell, <i>Trochus niloticus</i> is the only species targeted in this fishery. <i>T. niloticus</i> is a tropical species of shellfish with an average life span of 15 to 20 years, attaining maximum basal shell diameters in excess of 150 millimetres. Sexual maturity is reached in approximately two years at a shell diameter between 50 and 65 millimetres. <i>T. niloticus</i> are dioecious (separate sexes) broadcast spawners, generally releasing sperm and eggs into the water column within one to two nights of a full or new moon. Planktonic larvae settle onto the substrate after three to five days. The species inhabits coral rubble reef flats, with juveniles occupying intertidal areas, while adults tend to move into deeper water on the reef slopes. Adult <i>T. niloticus</i> are largely non-selective herbivorous grazers occupying the intertidal and shallow subtidal zones (down to 10 metres).</p> |
| Byproduct Species | <p>Due to the selective harvest method (hand-collection only, excluding the use of self contained underwater breathing apparatus (SCUBA) and hookah systems) there is no byproduct or bycatch in the fishery, and interactions with protected species are considered unlikely. No protected species interactions have been reported from the fishery to date.</p> |
| Bycatch | <p>There is no bycatch within the Torres Strait Trochus Fishery due to the low impact harvesting method (hand collection).</p> |

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| Interaction with Protected Species¹ | There have been no recorded interactions with protected species. Because the fishery is restricted to hand collection methods only, protected species interactions are not considered likely to occur in this fishery. |
| Ecosystem Impacts | <p>Due to the small size of the Torres Strait Trochus Fishery, an Ecological Risk Assessment has not been conducted. The fishery has very low effort resulting from low gross value of production.</p> <p>It is envisaged that impacts of the fishery on the ecosystem are restricted to:</p> <ul style="list-style-type: none"> • flow on effects of exploitation levels of trochus • translocation of native and introduced species via hull and anchor fouling, and • anthropogenic and boating impacts (eg. trampling and anchoring) upon reef habitat while harvesting. <p>These impacts are likely to remain at low levels especially whilst effort in the fishery remains low.</p> |
| Fishery status | <p>The most recent broad-scale survey of the Torres Strait trochus stock was conducted in 2009 (Murphy et al., 2010). Comparing the results of a 1995 survey with the 2009 survey, the authors concluded that densities of Torres Strait trochus in 'trochus habitats' are similar to those of healthy populations outside of Australian waters.</p> <p>The 2010 ABARES fishery status report classified trochus stocks as not subject to overfishing given the low level of catch in 2010. However, trochus in the Torres Strait were assessed as uncertain if overfished (Woodhams et al. 2011) due to a lack of stock information prior to the first survey in 1995 and low precision in the 2009 survey results (Murphy et al. 2010).</p> |
| Gear | The taking of trochus in the Torres Strait Trochus Fishery is limited to harvesting individuals by hand or hand held non-mechanical implements. The use of underwater breathing apparatus (SCUBA and hookah) is not permitted. |
| Season | Unrestricted. |
| Commercial harvest 2010 | Reported catch of trochus for the 2010 season was less than one tonne, attributed to low international demand for trochus shell. |
| Value of commercial harvest | Unknown. |
| Take by other sectors | Subsistence harvest by traditional inhabitants is unknown, but is likely to be low. Recreational harvesting of the species is illegal, and is assumed to be minimal given the low value of 'mother of pearl' (nacre). |
| Commercial licences issued | As of January 2011, there were 67 Traditional Inhabitant Boat (TIB) fishing licenses with a trochus endorsement. |

¹ 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and threatened, marine and migratory species.

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| Management arrangements | <p>The Torres Strait Trochus Fishery is managed under the <i>Torres Strait Fisheries Act 1984</i>, the Torres Strait Fisheries Regulations 1985 and Fisheries Management Notices.</p> <p>The Torres Strait Trochus Fishery uses a variety of management arrangements including:</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> • entry limited to Traditional Inhabitant Boat (TIB) licence holders • maximum vessel size of 20 metres • collection is by hand or non-mechanical hand held devices, and • use of underwater breathing apparatus is prohibited <p><u>Output controls</u></p> <ul style="list-style-type: none"> • Size restrictions (implemented by way of licence conditions) <ul style="list-style-type: none"> ○ minimum size limit of 80 millimetres ○ maximum size limit of 125 millimetres (basal shell length) • competitive total allowable catch of 150 tonnes |
| Export | <p>The Torres Strait Trochus Fishery export is largely based on mother of pearl (nacre) which is used in making buttons and jewellery and can be ground down for use in floor tiles, metallic paints and shampoo. The majority of commercial product is exported to Asia and Europe.</p> |

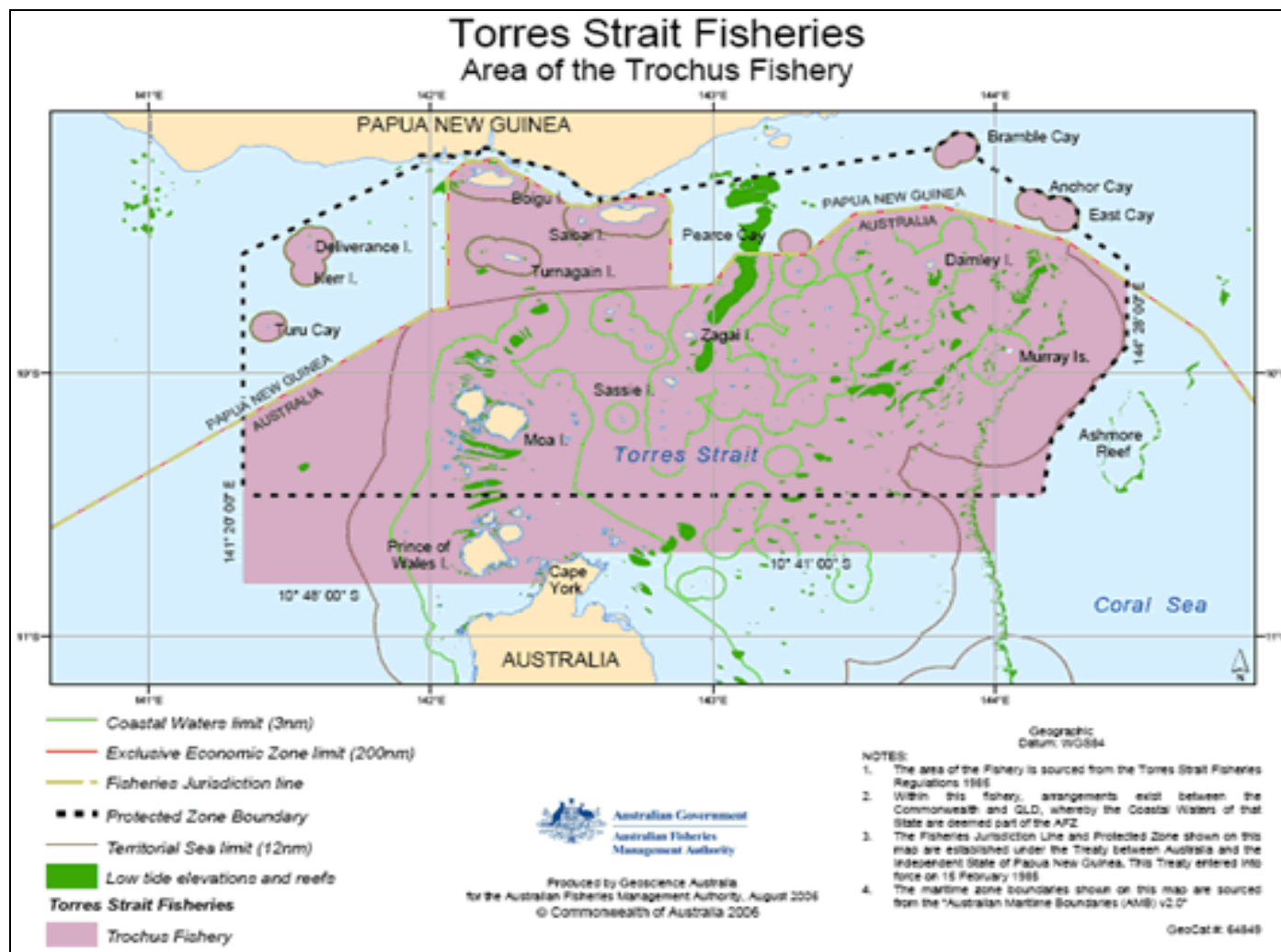


Figure 1: Torres Strait Trochus Fishery area of operation.

Table 2: Progress in implementation of recommendations and conditions made in the 2008 reassessment of the Torres Strait Trochus Fishery.

| Condition | Progress | Recommended Action |
|---|---|---|
| <p>1. Operation of the fishery will be carried out in accordance with the management regime in force under the Commonwealth <i>Torres Strait Fisheries Act 1984</i> and Torres Strait Fisheries Regulations 1985.</p> | <p>The Australian Fisheries Management Authority has advised that the Torres Strait Trochus Fishery continues to be managed in accordance with the management regime made under the <i>Torres Strait Fisheries Act 1984</i> and the Torres Strait Fisheries Regulations 1985.</p> | <p>The department considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Torres Strait Trochus Fishery specify this condition (see Condition 1, Table 4).</p> |
| <p>2. The Protected Zone joint Authority (PZJA) to inform the Department of the Environment, Water, Heritage and the Arts (DEWHA) of any intended amendment to the management arrangements that may affect the assessment of the TSTF against the criteria on which the EPBC Act decisions are based.</p> | <p>The Australian Fisheries Management Authority has advised there have been no amendments to the management regime for the fishery since the last assessment.</p> | <p>The department considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Torres Strait Trochus Fishery specify this condition (see Condition 2, Table 4).</p> |
| <p>3. The PZJA to produce and present reports to DEWHA annually as per Appendix B of the Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition.</p> | <p>Annual status reports for the Torres Strait Trochus Fishery are included in the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Fishery Status Reports. The ABARES Fishery Status Reports are published annually.</p> | <p>The department considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Torres Strait Trochus Fishery specify this condition (see Condition 3, Table 4).</p> |

| Recommendation | Progress | Recommended Action |
|--|---|--|
| <p>1. The PZJA to develop and finalise the harvest strategy for the TSTF with the objectives, performance indicators and performance measures appropriate to the fishery by 30 June 2011. The harvest strategy should also implement measures to prevent localized depletion.</p> <p>In the interim, the PZJA to closely monitor catch levels in the TSTF until the harvest strategy is formally implemented. The PZJA to take immediate action if the total allowable catch is reached.</p> | <p><u>Objectives, performance indicators and performance measures appropriate to the fishery</u></p> <p>Recommendations of both the 2005 and 2008 Australian Government assessments of the Torres Strait Trochus Fishery were made for the Torres Strait Protected Zone Joint Authority to develop objectives, performance indicators and performance measures for target species in the fishery.</p> <p>At the time of the 2008 assessment, the Australian Fisheries Management Authority indicated that development of a harvest strategy for the fishery would address the need for objectives, measures and indicators.</p> <p>The Australian Fisheries Management Authority has advised that draft community based harvest strategies have been developed for trochus for two communities (Erub and Warraber) and that further development of the harvest strategies will be investigated with the participating communities in 2012/13.</p> <p>Broad management objectives exist for the fishery but the department is not aware of any development of performance indicators and performance measures. The department recognises that the low level of effort in the fishery reduces the necessity to implement further management arrangements at this time.</p> <p><u>Catch Monitoring</u></p> <p>Reporting of catch is voluntary, using the Torres Strait seafood buyers and processors docket books, in the traditional inhabitant boat sector of the fishery.</p> <p>The department recognises that because of the voluntary nature of the data collection, it is difficult to detect trends, especially given the low level of effort in the fishery. However the department considers it essential that the Australian Fisheries Management Authority and the Protected Zone Joint Authority progress the development and implementation of more reliable catch monitoring.</p> | <p>The department considers this recommendation to be ongoing.</p> <p>The department recognises the low level of effort in the fishery over the past few years and the recent focus on the development of community based harvest strategies. Given the low effort currently occurring in the fishery, the department considers that changes to the existing management arrangements will provide sufficient safeguards against external influences on the fishery whilst community harvest strategies are developed (see Recommendation 2, Table 4).</p> <p>The lack of information regarding catch is an issue that applies to all Torres Strait Fisheries. The department considers that the Protected Zone Joint Authority should give priority to the introduction of systems which can deliver more accurate estimates of catch in the Torres Strait Trochus Fishery, such as the planned compulsory reporting by fish receivers. (see Recommendation 1, Table 4).</p> |

| Recommendation | Progress | Recommended Action |
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| <p>2. The PZJA to undertake appropriate research on target species in the TSTF to inform the setting of sustainable catch levels through the harvest strategy. Research should focus on providing reliable biomass estimates of target species and where possible:</p> <ul style="list-style-type: none"> • address key gaps in the understanding of the biology and ecology of trochus; and • provide an assessment of the ecosystem impacts of the fishery in the Torres Strait. | <p>Research conducted by CSIRO (Murphy et al. 2010) in 2009 is the latest survey of trochus in the Torres Strait.</p> <p>It is reported that the trochus population in the Torres Strait appears to be at least stable compared to the historical data on the species. Densities were similar to the 1995 survey data. However, it was recognised that the data had low power to detect even large changes in trochus density, given the highly cryptic nature of the species (Murphy et al. 2010). Murphy et al. (2010) also recommended introducing a trigger catch level of 100 tonnes (whole weight) with agreed management actions to be taken if this level is reached to mitigate the risk of overfishing. The Australian Fisheries Management Authority has stated that this recommendation will need to be considered when developing community based harvest strategies.</p> <p>The 2009 survey undertaken by CSIRO contained a literature review that included the best known information on the biology and ecology of trochus.</p> <p>In addition, the Australian Fisheries Management Authority has advised that, as the harvest of trochus is highly selective, the ecosystem impacts are considered to be minor.</p> | <p>The department considers this recommendation to be ongoing.</p> <p>The department recognises that the current level of fishing activity occurring in the Torres Strait Trochus Fishery is extremely low and unlikely to reach the current or recommended total allowable catch limit. However, due to the low precision of the 2009 CSIRO survey, the department considers that further research into trochus stocks are necessary to provide reliable estimates of stocks on which to base sustainable catch levels.</p> <p>(see Recommendation 1, Table 4)</p> |
| <p>3. The PZJA to continue to cooperate with other relevant jurisdictions to pursue complementary management and research of shared stocks, which may be affected by cross-jurisdictional issues.</p> | <p>In their submission, AFMA reports that it continues to engage with other management agencies. In particular Papua New Guinea and Fisheries Queensland are both members of the Torres Strait Scientific Advisory Committee (TSSAC). The TSSAC considers research needs for the Protected Zone Joint Authority fisheries including trochus.</p> | <p>The department considers this recommendation to be met.</p> |

| Recommendation | Progress | Recommended Action |
|---|--|--|
| <p>4. The PZJA to develop and implement measures to improve compliance within the TSTF with particular focus on improving: Accuracy of commercial catch records; and estimates of removals by recreational, indigenous and illegal fishers.</p> | <p>In its submission AFMA reports that it continues to collect trochus information through the voluntary docket book system. In addition AFMA has stated that recent amendments have been made to the <i>Torres Strait Fisheries Act 1984</i> to allow for the introduction of fish receiver licenses. The implementation of receiver licenses should lead to improvements in the collection of data and enable AFMA and the PZJA to better monitor the fishery.</p> | <p>The department considers this recommendation to be ongoing. (see Recommendation 1, Table 4)</p> |

Table 3: The Department of Sustainability, Environment, Water, Population and Communities' assessment of the Torres Strait Trochus Fishery against the requirements of the EPBC Act related to decisions made under Parts 13 and 13A.

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Parts 13 and 13A. A complete version of the EPBC Act can be found on the department's website.

Part 13

| Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes | The department's assessment of the Torres Strait Trochus Fishery |
|---|---|
| <p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(e) a policy formulated by the Protected Zone Joint Authority under paragraph 34(b) of the <i>Torres Strait Fisheries Act 1984</i> for managing a fishery for which a plan of management (within the meaning of section 15A of the <i>Torres Strait Fisheries Act 1984</i>) is not in force;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species.</p> | <p>The Torres Strait Trochus Fishery will be managed under the policy for the fishery formulated under the <i>Torres Strait Fisheries Act 1984</i>.</p> <p>The policy for the Torres Strait Trochus Fishery was first accredited in November 2005. The management arrangements for the Torres Strait Trochus Fishery have not changed since that accreditation and still require persons engaged in fishing to take all reasonable steps to ensure that members of listed threatened species are not killed or injured as a result of the fishery.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with listed threatened species is very low. Therefore, the department considers the current operation of the Torres Strait Trochus Fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species.</p> |

| Division 2 Migratory species Section 222A Minister may accredit plans or regimes | The department's assessment of the Torres Strait Trochus Fishery |
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| <p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(e) a policy formulated by the Protected Zone Joint Authority under paragraph 34(b) of the <i>Torres Strait Fisheries Act 1984</i> for managing a fishery for which a plan of management (within the meaning of section 15A of the <i>Torres Strait Fisheries Act 1984</i>) is not in force;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed migratory species or a population of that species.</p> | <p>The Torres Strait Trochus Fishery will be managed under the policy for the fishery formulated under the <i>Torres Strait Fisheries Act 1984</i>.</p> <p>The policy for the Torres Strait Trochus Fishery was first accredited in November 2005. The management arrangements for the Torres Strait Trochus Fishery have not changed since that accreditation and still require persons engaged in fishing to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishery.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with listed migratory species is very low. Therefore, the department considers the current operation of the Torres Strait Trochus Fishery is not likely to adversely affect the conservation status of a listed migratory species or a population of that species.</p> |

| Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes | The department's assessment of the Torres Strait Trochus Fishery |
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| <p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(e) a policy formulated by the Protected Zone Joint Authority under paragraph 34(b) of the <i>Torres Strait Fisheries Act 1984</i> for managing a fishery for which a plan of management (within the meaning of section 15A of the <i>Torres Strait Fisheries Act 1984</i>) is not in force;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that whales and other cetaceans are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of whale or other cetacean or a population of that species.</p> | <p>The Torres Strait Trochus Fishery will be managed under the policy for the fishery formulated under the <i>Torres Strait Fisheries Act 1984</i>.</p> <p>The policy for the Torres Strait Trochus Fishery was first accredited in November 2005. The management arrangements for the Torres Strait Trochus Fishery have not changed since that accreditation and still require persons engaged in fishing to take all reasonable steps to ensure that whales and other cetaceans are not killed or injured as a result of the fishery.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with whales and other cetaceans is very low. Therefore, the department considers the current operation of the Torres Strait Trochus Fishery is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p> |

| Division 4 Listed marine species Section 265 Minister may accredit plans or regimes | The department's assessment of the Torres Strait Trochus Fishery |
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| <p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(e) a policy formulated by the Protected Zone Joint Authority under paragraph 34(b) of the <i>Torres Strait Fisheries Act 1984</i> for managing a fishery for which a plan of management (within the meaning of section 15A of the <i>Torres Strait Fisheries Act 1984</i>) is not in force;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p> | <p>The Torres Strait Trochus Fishery will be managed under the policy for the fishery formulated under the <i>Torres Strait Fisheries Act 1984</i>.</p> <p>The policy for the Torres Strait Trochus Fishery was first accredited in November 2005. The management arrangements for the Torres Strait Trochus Fishery have not changed since that accreditation and still require persons engaged in fishing to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishery.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with listed marine species is very low. Therefore, the department considers the current operation of the Torres Strait Trochus Fishery is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p> |

| Section 303AA Conditions relating to accreditation of plans, regimes and policies | The department's assessment of the Torres Strait Trochus Fishery |
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| (1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265. | The department recommends that the Torres Strait Trochus Fishery be accredited under sections 208A, 222A, 245 and 265. |
| <p>(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only:</p> <ul style="list-style-type: none"> (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p> | No condition has been imposed on the Torres Strait Trochus Fishery to satisfy section 208A, 222A, 245 and 265 under Part 13. |
| (7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened. | |

Part 13A

Section 303BA Objects of Part 13A

(1) The objects of this Part are as follows:

- (a) to ensure that Australia complies with its obligations under CITES² and the Biodiversity Convention;
- (b) to protect wildlife that may be adversely affected by trade;
- (c) to promote the conservation of biodiversity in Australia and other countries;
- (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;
- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

² Convention on International Trade in Endangered Species of Wild Fauna and Flora

| Section 303FN Approved wildlife trade operation | The department's assessment of the Torres Strait Trochus Fishery |
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| (2) The Minister may, by instrument published in the <i>Gazette</i> , declare that a specified wildlife trade operation is an <i>approved wildlife trade operation</i> for the purposes of this section. | |
| <p>(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that:</p> <p>(a) the operation is consistent with the objects of Part 13A of the Act; and</p> | <p>The Torres Strait Trochus Fishery is consistent with the objects of Part 13A (listed after this table) as:</p> <ul style="list-style-type: none"> ▪ the fishery will not harvest any CITES listed species; ▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1); ▪ the operation of the Torres Strait Trochus Fishery is unlikely to be unsustainable and threaten biodiversity within the next three years; and ▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens. |

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| <p>(b) the operation will not be detrimental to:</p> <ul style="list-style-type: none"> i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation relates; and <p>(ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and</p> <p>(c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the regulations, are applicable to the welfare of the specimens are likely to be complied with; and</p> <p>(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.</p> | <p>The department considers that the Torres Strait Trochus Fishery will not be detrimental to the survival or conservation status of a taxon to which it relates, or any relevant ecosystems, within the next three years, given the management measures currently in place, which include:</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> • entry limited to Traditional Inhabitant Boat (TIB) licence holders • maximum vessel size of 20 metres • collection is by hand or non-mechanical hand held devices • use of underwater breathing apparatus is not permitted <p><u>Output controls</u></p> <ul style="list-style-type: none"> • Size restrictions (not applied to traditional subsistence fishing) <ul style="list-style-type: none"> ○ minimum size limit of 80 mm ○ maximum size limit of 125 mm (basal shell length) ○ implemented by way of licence conditions • competitive total allowable catch of 150 tonnes. <p>The Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) do not specify fish as a class of animal in relation to the welfare of live specimens.</p> <p>No other conditions are specified in relation to commercial fisheries in the EPBC Regulations.</p> |
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| <p>(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <p>(a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and</p> <p>(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).</p> | <p>The department considers that the Torres Strait Trochus Fishery will not have a significant impact on any relevant ecosystem within the next three years, given the management measures currently in place, which include:</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> • entry limited to Traditional Inhabitant Boat (TIB) licence holders • maximum vessel size of 20 metres • collection is by hand or non-mechanical hand held devices, and • use of underwater breathing apparatus is not permitted. <p><u>Output controls</u></p> <ul style="list-style-type: none"> • Size restrictions (not applied to traditional subsistence fishing) <ul style="list-style-type: none"> ○ minimum size limit of 80 mm ○ maximum size limit of 125 mm (basal shell length) ○ implemented by way of licence conditions • competitive total allowable catch of 150 tonnes. <p>The management arrangements that will be employed for the Torres Strait Trochus Fishery are likely to be effective. The Protected Zone Joint Authority has set a competitive 150 tonne total allowable catch on the fishery and implemented gear and size restrictions. Entry to the fishery is restricted to traditional inhabitants.</p> |
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| <p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <p>(a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and</p> <p>(b) whether the legislation applies throughout the State or Territory concerned; and</p> <p>(c) whether, in the opinion of the Minister, the legislation is effective.</p> | <p>The Torres Strait Trochus Fishery will be managed under the <i>Torres Strait Fisheries Act 1984</i> and the Torres Strait Fisheries Regulations 1985.</p> <p>The <i>Torres Strait Fisheries Act 1984</i> applies throughout Torres Strait Protected Zone waters.</p> <p>The legislation is likely to be effective.</p> |
| <p>(10) For the purposes of section 303FN, an operation is a wildlife trade operation if, and only if, the operation is an operation for the taking of specimens and:</p> <p>(d) the operation is a commercial fishery.</p> | <p>The Torres Strait Trochus Fishery is a commercial fishery.</p> |
| <p>(10A) In deciding whether to declare that a commercial fishery is an approved wildlife trade operation for the purposes of this section, the Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.</p> | <p>The Torres Strait Trochus Fishery was assessed under Part 10 of the EPBC Act in November 2005. In conducting that assessment, the department considered that actions taken in the fishery would not have an unacceptable or unsustainable impact on the environment in a Commonwealth marine area.</p> |
| <p>(10B) Subsection (10A) does not limit the matters that may be taken into account in deciding whether to declare that a fishery is an approved wildlife trade operation for the purposes of this section.</p> | |

| Section 303FR Public consultation | The department's assessment of the Torres Strait Trochus Fishery |
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| <p>(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <ul style="list-style-type: none"> (a) setting out the proposal to make the declaration; and (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal. | <p>The department considers that the consultation requirements of the EPBC Act for declaring a Wildlife Trade Operation (WTO) have been met. A public notice, which set out the proposal to declare the Torres Strait Trochus fishery a WTO and included the submission and annual report, was released for public comment which closed on 2 December 2011. No public comments were received.</p> |
| <p>(2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.</p> | <p>A public notice, which set out the proposal to declare the Torres Strait Trochus Fishery a WTO and included the submission and annual report was released for public comment on 1 November 2011 and closed on 2 December 2011, a total of 23 business days.</p> |
| <p>(3) In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.</p> | <p>No public comments about the proposal were received.</p> |

| Section 303FT Additional provisions relating to declarations | The department's assessment of the Torres Strait Trochus Fishery |
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| (1) This section applies to a declaration made under section 303FN, 303FO or 303FP. | A declaration for the Torres Strait Trochus Fishery will be made under section 303FN. |
| <p>(4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only:</p> <p>(a) during a particular period; or</p> <p>(b) while certain circumstances exist; or</p> <p>(c) while a certain condition is complied with.</p> <p>In such a case, the instrument of declaration is to specify the period, circumstances or condition.</p> | <p>The standard conditions applied to commercial fishery WTOs include:</p> <ul style="list-style-type: none"> • operation in accordance with the management regime • notifying the department of changes to the management regime, and • annual reporting in accordance with the requirements of the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. <p>The WTO instrument for the Torres Strait Trochus Fishery specifies the standard and any additional conditions applied.</p> |
| (8) A condition may relate to reporting or monitoring. | One of the standard conditions relates to reporting. |
| (9) The Minister must, by instrument published in the <i>Gazette</i> , revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened. | |
| (11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the Internet. | The instrument for the Torres Strait Trochus Fishery made under sections 303FN and the conditions under section 303FT will be gazetted and made available on the department's website. |

Part 16

| Section 391 Minister must consider precautionary principle in making decisions | The department's assessment of the Torres Strait Trochus Fishery |
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| (1) The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act. | The precautionary principle has been considered as part of the department preparing its advice to you in relation to section 303DC and 303FN. |
| (2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage. | |

The Department of Sustainability, Environment, Water, Population and Communities' final conditions and recommendations to the Protected Zone Joint Authority for the Torres Strait Trochus Fishery

The material submitted by the Torres Strait Protected Zone Joint Authority demonstrates that the management arrangements for the Torres Strait Trochus Fishery meet most of the requirements of the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'.

Stock Status and Recovery

The department considers that overall the management arrangements for the Torres Strait Trochus Fishery aim to ensure that fishing is conducted in a manner that does not lead to over-fishing and that stocks are not currently overfished. Management arrangements in the fishery include:

- minimum and maximum size limits
- a total allowable catch limit (150 tonnes whole weight)
- vessel and gear restrictions (prohibition on SCUBA and hookah systems)
- collection by hand or hand held non-mechanical implements only, and
- limited entry.

Ecosystem Impacts

Taking into account the management measures for the target species listed above, particularly the selective nature of the hand collection methods used in the fishery, the department considers that the management regime for the Torres Strait Trochus Fishery enables fishing operations to be managed in a way that minimises their impact on the structure, productivity, function and biological diversity of the ecosystem.

While the fishery is relatively well managed, the department has identified the following risks and uncertainties that must be addressed to ensure that impacts are minimised, including:

- uncertainty in estimates of harvest levels in the fishery which could lead to serial and/or localised depletion of the target species, and
- uncertainty surrounding biomass estimates for the fishery and hence a lack of information for the establishment of harvest strategies.

The department considers that, until it can be demonstrated that these issues have been adequately addressed, declaration of the harvest operations of the Torres Strait Trochus Fishery as an approved wildlife trade operation for three years, until 16 October 2015, is the appropriate course. The department considers that the declaration should be subject to the conditions listed in Table 4 below. To contain and minimise the risks in the longer term, the recommendations outlined in Table 4 have been made.

Table 4: Torres Strait Trochus Fishery assessment - Summary of issues, conditions and recommendations - October 2012

| Issue | Condition |
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| <p><u>General Management</u></p> <p>Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of Sustainability, Environment, Water, Population and Communities needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision. This includes operational and legislated amendments that may affect the sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p> | <p>Condition 1: Operation of the Torres Strait Trochus Fishery will be carried out in accordance with the management regime in force under the Torres Strait <i>Fisheries Act 1984</i> and the Torres Strait Fisheries Regulations 1985.</p> <p>Condition 2: The Protected Zone Joint Authority to inform the Department of Sustainability, Environment, Water, Population and Communities of any intended amendments to the Torres Strait Trochus Fishery's management arrangements that may affect the assessment of the fishery against the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p> |
| <p><u>Annual Reporting</u></p> <p>It is important that reports be produced and presented to the department annually in order for the performance of the fishery and progress in implementing the conditions and recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration.</p> <p>Annual reports should include: a description of the fishery, management arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and information outlining progress in implementing conditions and recommendations resulting from the previous assessment of the fishery (for a complete description of annual reporting requirements, see Appendix B of the 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' available from the department's website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html).</p> | <p>Condition 3: The Protected Zone Joint Authority to produce and present reports to the Department of Sustainability, Environment, Water, Population and Communities annually as per Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'.</p> |

| Issue | Recommendation |
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| <p><u>Robust estimates of harvest levels</u></p> <p>In previous Australian Government assessments of the Torres Strait Trochus Fishery (TSTF) under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), recommendations were made for the Protected Zone Joint Authority (PZJA) to improve the estimates of trochus harvest levels to inform stock assessments and the future management of the fishery. To date, the Australian Fisheries Management Authority (AFMA) advises that the voluntary buyers and processors docket book system has been shown to be the most reliable method of recording catch from Torres Strait fisheries, particularly from Traditional Inhabitant Boat (TIB) licence holders whom make up 100 per cent of the fishery's licence holders.</p> <p>The docket book system is a voluntary system introduced in 2003–04 that relies on the cooperation of buyers and sellers to record the catches sold and ancillary information about the fishing operation. In 2009, the PZJA informed the department of its plans to make the existing voluntary seafood buyers and processors docket book reporting compulsory. In addition, the PZJA has indicated that it plans to make reporting of all catches in Torres Strait fisheries mandatory by way of the introduction of fish receiver licences and compulsory reporting of all receivables by licensed fish receivers. A 2007 amendment to the <i>Torres Strait Fisheries Act 1984</i> provided for the issuing of fish receiver licences. The department notes that compulsory docket book reporting is yet to be implemented.</p> <p>The department is aware that AFMA, on behalf of the PZJA, is currently reviewing the voluntary paper-based docket book system for collecting TIB licence catch data across all Torres Strait fisheries. AFMA anticipates that the results from a Torres Strait Scientific Advisory Committee (TSSAC) funded project will assist AFMA in improving catch data collection and reporting for the TIB sector across all fisheries. Whilst not a direct objective of the project, its completion will provide insight into possible alternatives to monitoring systems and the long-term viability of alternate monitoring initiatives.</p> <p>Other sources of unquantified harvest in the TSTF may include Indigenous (subsistence) harvest, (illegal) recreational or unlicensed commercial take and illegal foreign fishing (IFF). Indigenous take is unknown in the fishery but is thought to be low and there has been no recent reported illegal fishing in the fishery. While market value of mother of pearl remains low, the take from other illegal sources is expected to be low or negligible. The department considers that it is important that the PZJA consider all removals of trochus when addressing the ecological sustainability of the fishery.</p> <p>Accurate catch and effort data is fundamental to informing future management settings, such as appropriately precautionary total allowable catches (TAC) and objectives outlined in proposed draft community harvest strategies. The department considers that obtaining robust catch and effort estimates will be important to the future management of the fishery and recommends that the PZJA continue to work towards implementing systems that will provide improved estimates of harvest levels from the TSTF.</p> | <p>Recommendation 1: The Protected Zone Joint Authority to:</p> <ul style="list-style-type: none"> a) implement strategies to improve estimates of all fishery-related removals from the Torres Strait Trochus Fishery, and b) review fishery dependent data collection processes on a regular basis. |

| Issue | Recommendation |
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| <p><u>Interim management arrangements</u></p> <p>Trochus have relatively low dispersal which can make the species vulnerable to localised depletion³. The department agrees with AFMA that managing the TSTF at the community (local) scale will help support the sustainable management of the fishery.</p> <p>The department recognises that AFMA is currently developing community based harvest strategies for the fifteen Torres Strait communities operating in the TSTF. Two communities, Erub Island and Warraber Island, are presently trialling community based harvest strategies. Other communities may adopt their own harvest strategies pending the outcome of the Erub and Warraber Island community based harvest strategy trials.</p> <p>The current TAC for the TSTF is set at 150 tonnes (whole weight) which is based on 10 tonnes for each of the 15 communities operating in the fishery. In the CSIRO survey report (Murphy et al. 2010), a recommendation was made to reduce the TAC to 100 tonnes based on a 20 per cent exploitation rate of the carrying capacity of available trochus habitat in the fishery. While the Erub and Warraber Island community harvest strategies are being trialled, the department recommends that AFMA adopt the recommendations suggested by Murphy et al. (2010) for the regional management of the fishery including but not limited to:</p> <ul style="list-style-type: none"> • 100 tonne (whole weight) catch trigger to initiate stock assessment and TAC review, • 150 tonne catch to trigger prohibitions on the fishery. <p>The department notes that arrangements are in place to divide the current TAC amongst the fifteen communities operating in the TSTF, helping to reduce the risk to the fishery if the effort was concentrated in a single area.</p> <p>The department recognises the low level of effort currently occurring in the TSTF and considers that the current management arrangements should maintain the ecological sustainability of the fishery under current circumstances. However, as a safeguard against external influences on the fishery (for example increasing market value of mother of pearl), the department considers that the recommendations made by Murphy et al. (2010), are appropriately precautionary and should be implemented.</p> | <p>Recommendation 2:</p> <p>The Protected Zone Joint Authority to review and consider implementing management measures proposed in the CSIRO survey report by Murphy et al. (2010).</p> |

³ Murphy, N.E., Mcleod, I., Skewes, T.D., Dovers, E., Burrridge, C., Rochester, W. 2010. Torres Strait Hand Collectables, 2009 survey: Trochus. CSIRO, Cleveland. 58pp.

| Issue | Recommendation |
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| <p><u>Stock assessment</u></p> <p>In previous assessments of the TSTF under the EPBC Act, recommendations were made for the PZJA to:</p> <ul style="list-style-type: none"> • review stock assessment processes and catch limits to ensure that methods used to estimate potential yield and TAC's are sufficiently precautionary, and • undertake appropriate research on the target species to inform the setting of sustainable catch levels. <p>A joint bêche-de-mer and trochus survey was undertaken in the Torres Strait in 2009. However, due to the cryptic nature and patchy distribution of the species, trochus were only observed at 12 out of the 113 sites surveyed, including 11 sites surveyed specifically for trochus. This low observation rate resulted in low precision in the data relating to trochus and hence low power to detect even large changes in abundance.</p> <p>The department considers that the low precision of the results may affect the ability of the survey to appropriately inform decisions about the management of the target species. Currently, there is a competitive TAC of 150 tonnes (whole weight) for the TSTF, based on 10 tonnes for each of the 15 communities. The department notes the PZJA's proposed move towards community based harvest strategies for the fishery and considers that management measures developed under these community based harvest strategies should be based upon robust scientific data. Therefore, the department recommends that the PZJA consider collecting further information on trochus abundance to inform the development of the community based harvest strategies and appropriate management arrangements and that the PZJA seek to undertake regular review of any stock assessments.</p> | <p>Recommendation 3: The Protected Zone Joint Authority to:</p> <ul style="list-style-type: none"> a) continue to investigate methods to improve the reliability of stock estimates to be used in management decisions, and b) continue to review stock assessments on a regular basis. |

References

AFMA (2011). Annual Status Report – Torres Strait Trochus Fishery Export Accreditation: August 2011. Australian Fisheries Management Authority, Canberra.

Murphy, N. E., I. Mcleod, T. D. Skewes, E. Dovers, C. Burrige and W. Rochester (2010). Torres Strait hand collectables : 2009 survey sea cucumber / Timothy Skewes. Cleveland, Qld., CSIRO Marine and Atmospheric Research.

Woodhams, J., I. Stobutzki, S. Vieira, R. Curtotti and G. A. Begg, Eds. (2011). Fishery status reports 2010: Status of fish stocks and fisheries managed by the Australian Government. Canberra, Australian Bureau of Agricultural and Resource Economics and Sciences.

Acronyms

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| ABARES | Australian Bureau of Agricultural and Resource Economics and Statistics |
| AFMA | Australian Fisheries Management Authority |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| PZJA | Protected Zone Joint Authority |
| SCUBA | Self Contained Underwater Breathing Apparatus |
| TAC | Total Allowable Catch |
| TIB | Traditional Inhabitant Boat (licence) |
| TSPZ | Torres Strait Protected Zone |
| TSSAC | Torres Strait Scientific Advisory Committee |
| TSTF | Torres Strait Trochus Fishery |
| TVH | Transferable Vessel Holder (licence) |
| WTO | Wildlife Trade Operation |