



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Assessment of the
Torres Strait
Bêche-de-mer Fishery

JUNE 2011

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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 Bêche-de-mer Fishery4

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

Table 2: Progress in implementation of recommendations and conditions made in the 2008 assessment of the Torres Strait Bêche-de-mer Fishery 10

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 Bêche-de-mer Fishery against the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) related to decisions made under Parts 13 and 13A. 14

Table 3 contains the department’s assessment of the Torres Strait Bêche-de-mer Fishery management arrangements against all the relevant parts of the EPBC Act that the minister must consider before making a decision.

The Department of Sustainability, Environment, Water, Population and Communities final conditions and recommendations to the Australian Fisheries Management Authority for the Torres Strait Bêche-de-mer Fishery ... 25

This section contains the department’s assessment of the Torres Strait Bêche-de-mer Fishery 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 Bêche-de-mer Fishery Assessment – Summary of Issues, Conditions and Recommendations – June 2011 28

Table 4 contains a description of the issues identified by the department with the current management regime for the Torres Strait Bêche-de-mer 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 33

Acronyms 33

Table 1: Summary of the Torres Strait Bêche-de-mer Fishery

<p>Introduction to Torres Strait Fisheries</p>	<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 to be 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 sectors operate within all 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.
<p>Description of the Torres Strait Bêche-de-mer Fishery</p>	<p>The Torres Strait Bêche-de-mer Fishery provides for the harvest of multiple species of sea cucumber, for the production of bêche-de-mer. The terms bêche-de-mer (French) and trepang (Indonesian) are interchangeable. However, "trepang" is usually considered to be the dried body wall, while "bêche-de-mer" is considered to be the cooked body wall of sea cucumber.</p> <p>The fishery is managed on behalf of the PZJA under the <i>Torres Strait Fisheries Act 1984</i> by the Australian Fisheries Management Authority (AFMA).</p> <p>The area of the fishery (Figure 1, page 11) extends from the tip of Cape York to the northern border of Australian jurisdiction in the Torres Strait Protected Zone and includes islands and their territorial waters recognised within the Torres Strait Treaty as being Sovereign Islands of Australia.</p> <p>Historically, sea cucumbers have been harvested in eastern Torres Strait. The western Torres Strait reefs have been documented as having a very low abundance of all sea cucumber species. Since 2005, the majority of sea cucumber harvest has occurred in the central eastern Torres Strait regions comprising of the Great North East Channel, Don Cay and Cumberland regions.</p> <p>There has been little activity in the fishery in recent years owing to the prohibition on harvest of many of the high value species in the fishery including sandfish, black teatfish and surf redfish.</p>

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • <i>Torres Strait Fisheries Act 1984</i> • <i>Torres Strait Fisheries Regulations 1985</i> • <i>Fisheries Management Notice 64 - Prohibition on taking sea cucumber (gear and size restrictions)</i> • <i>Fisheries Management Notice 47 - Torres Strait Fisheries (restrictions on the size of boats)</i> • Strategic and Export Reassessment Report – Torres Strait Bêche-de-mer Fishery – April 2011 • Australian Bureau of Agricultural and Resource Economics – Bureau of Rural Sciences – Fishery Status Reports 2009 • Bureau of Rural Sciences – Australian Bureau of Agricultural and Resource Economics – Fishery Status Reports 2008 • Department of the Environment, Water, Heritage and the Arts – Assessment of the Torres Strait Bêche-de-mer Fishery – June 2008 • Department of the Environment and Heritage – Assessment of the Torres Strait Bêche-de-mer Fishery – June 2005
<p>Target Species</p>	<p>At least 16 species of sea cucumber are known to have been taken commercially in the Torres Strait Bêche-de-mer Fishery including white teatfish, prickly redfish, deepwater redfish and blackfish. Due to observed declines in abundance, take of three species is prohibited in the fishery:</p> <ul style="list-style-type: none"> • sandfish (<i>Holothuria scabra</i>) since 1998; • pacific black teatfish (<i>Actinopyga mauritiana</i>) since 2003; and • surf redfish (<i>Holothuria whitmaei</i>) since 2003. <p>Sea cucumbers are found on coral reefs and adjacent shoals, seagrass beds and sandy and silty benthos in shallow tropical seas. The habitat of sea cucumber species ranges from intertidal and inshore mudflats to inshore reefs and deepwater areas. Sea cucumber stocks generally are considered particularly vulnerable to over exploitation due to limited dispersal, patchy distribution, ease of collection, slow recovery from over fishing and the limited available information on biological and spatial distribution. Wilson <i>et al</i> 2010 conclude that the sessile nature of sea cucumbers and their relatively restricted mobility make them inherently vulnerable to localised depletion.</p> <p>Further information on the biology of the target species can be found in the 2005 assessment of the fishery located on the department’s website at: http://www.environment.gov.au/coasts/fisheries/commonwealth/torres-strait-beche-de-mer/index.html</p>
<p>Byproduct, bycatch and protected species interactions¹</p>	<p>Due to the selected harvest methods (hand-collection only, with the use of self contained underwater breathing apparatus (SCUBA) and hookah gear not permitted) and targeted harvesting, there is no byproduct or bycatch in the fishery, and interactions with protected species are likely to be minimal. No interactions have been reported from the fishery to date.</p>

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.

Fishery status	<p>The stock status of Torres Strait Bêche-de-mer Fishery sea cucumber stocks is reported in the 2009 fishery status report (Woodhams and Rodgers 2010) as:</p> <ul style="list-style-type: none"> • sandfish - overfished, subject to overfishing; • black teatfish - not overfished, not subject to overfishing; • prickly redfish - not overfished, not subject to overfishing; • white teatfish - not overfished, not subject to overfishing; • surf redfish - uncertain, but not subject to overfishing; and • all other sea cucumber species combined - uncertain, but not subject to overfishing.
Take by other sectors	<p>There is believed to be no history of traditional fishing for sea cucumbers for local consumption. Possession limits apply to traditional fishing. As sea cucumber is not part of the traditional Indigenous diet, recreational catch is assumed by AFMA to be minimal.</p> <p>In 2009, the Papua New Guinea Sea Cucumber Fishery, immediately to the north of the Torres Strait Bêche-de-mer Fishery, was closed for a period of three years.</p> <p>In 2011, two five-year developmental fishing permits were issued by fisheries Queensland to allow for limited annual harvest of a range of sea cucumber species in the Gulf of Carpentaria, to the south west of the Torres Strait Bêche-de-mer Fishery.</p> <p>Illegal fishing by foreign nationals is recognised by AFMA as the most significant compliance risk in the fishery. It is thought that prior to the closure of the Papua New Guinea Sea Cucumber Fishery, considerable exploitation of sea cucumber in the area of the Warrior Reef complex by illegal foreign fishers occurred, focussing on species for which take was prohibited in the Torres Strait Bêche-de-mer Fishery. With the closure of the Papua New Guinea fishery and consequently a lack of buyers in Papua New Guinea, AFMA considers that the risk of illegal fishing has declined markedly since 2009.</p>
Gear	<p>Fishing by operators who hold transferable vessel holder (TVH) or traditional inhabitant boat (TIB) licenses is limited to hand collection from vessels less than seven metres in length. Hand held non mechanical devices may be used.</p> <p>The use of self contained underwater breathing apparatus (SCUBA) and hookah gear is prohibited in the fishery. Collection is restricted to walking on reef tops or free diving to depths estimated to be predominantly less than 10 metres.</p>
Season	Year round (January - December).
Commercial licences issued	<p>There were 76 licences issued in 2008 and 49 licences issued in 2009.</p> <p>Since 2008, there have been only three active fishers, all TIB fishers.</p>

Commercial harvest	<p>Little commercial catch has been reported in the fishery since 2005, which AFMA attributes to low market prices prevailing for the sea cucumber species for which commercial harvest was allowed during that period.</p> <p>A small commercial catch was reported in 2007 and 2010 but for confidentiality reasons the amounts are not reported publicly.</p>
Management arrangements	<p>The Torres Strait Bêche-de-mer Fishery is managed by AFMA under the Torres Strait <i>Fisheries Act 1984</i> and Torres Strait <i>Fisheries Regulations 1985</i>, and legislated through Fisheries Management Notices issued under the Torres Strait <i>Fisheries Act 1984</i> as well as conditions on fishing permits.</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> • entry limited to licensed TIB holders (except for one TVH licensed operator); • maximum vessel size of seven metres; • collection is by hand or non-mechanical hand held devices; and • the use of hookah and SCUBA gear is prohibited. <p><u>Output controls (2010-211)</u></p> <ul style="list-style-type: none"> • minimum size limits on 10 species in the fishery; • zero total allowable catch for sandfish, black teatfish and surf redfish; • competitive annual total allowable catch for white teatfish (15 tonnes) and prickly redfish (20 tonnes); and • combined total allowable catch for remaining sea cucumber species of 80 tonnes. <p><u>Traditional Fishing Controls</u></p> <ul style="list-style-type: none"> • bag limits of three per person or six per boat.
Export	<p>All processed product is for export (primarily to Asia) in dried, frozen, pickled whole or other processed forms.</p>
Ecosystem Impacts	<p>AFMA's 2011 submission indicated that the potential impacts of the operation of the fishery on the ecosystem include:</p> <ul style="list-style-type: none"> • potential over-exploitation of target species; • potential translocation of species via hull and anchor fouling; and • potential impacts of anchoring/mooring and other anthropogenic activities such as trawling on reef top habitat. <p>Due to harvesting methods in the fishery being restricted to hand collection, impacts on the physical ecosystem are likely to be limited.</p> <p>Sea cucumbers are believed to play a role in the nutrient recycling pathways of benthic environments. The setting of total allowable catches in the fishery minimises the potential for unsustainable removal of sea cucumber species.</p>

<p>Impacts on the World Heritage Values of the Great Barrier Reef World Heritage Area and the Great Barrier Reef Marine Park</p>	<p>The assessment also considered the possible impacts on the World Heritage values of the Great Barrier Reef World Heritage Area and the Great Barrier Reef Marine Park, which are in close proximity to the Torres Strait Bêche-de-mer Fishery. Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), a person may not take an action that has, will have or is likely to have a significant impact on the World Heritage values of a declared World Heritage property or the Great Barrier Reef Marine Park.</p> <p>As the area of the fishery does not include the Great Barrier Reef World Heritage Area or the Great Barrier Reef Marine Park, and there are measures in place in the fishery to control the take of sea cucumbers, the department considers that an action taken by an individual fisher, acting in accordance with the management regime for the Torres Strait Bêche-de-mer Fishery, would not be expected to have a significant impact on the Great Barrier Reef Marine Park or the World Heritage values of the Great Barrier Reef World Heritage Area.</p>
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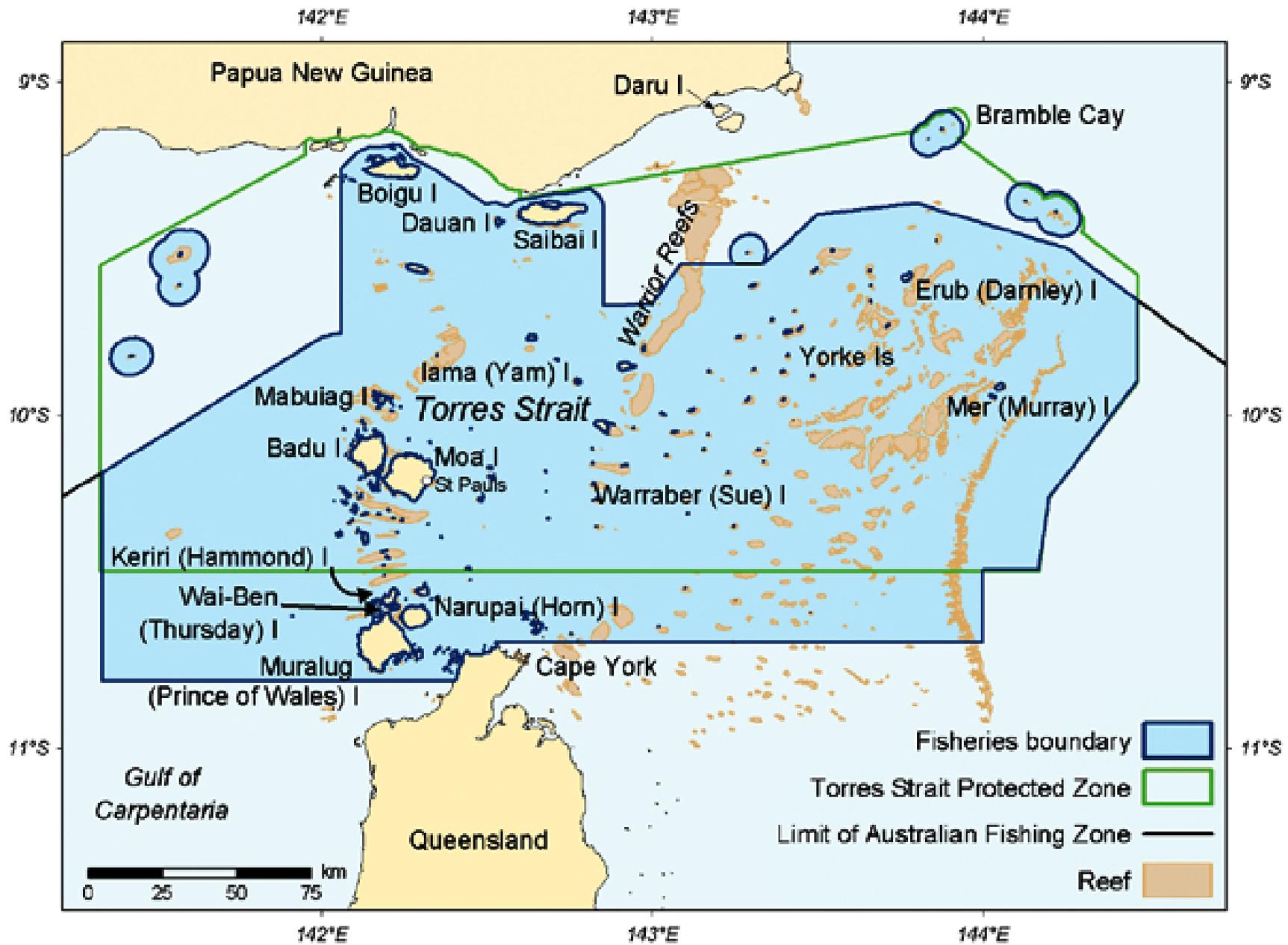


Figure 1: Area of the Torres Strait Bêche-de-mer Fishery

Table 2: Progress in implementation of recommendations and conditions made in the 2008 assessment of the Torres Strait Bêche-de-mer Fishery

Condition	Progress	Recommended Action
<p>1. Operation of the fishery will be carried out in accordance with the TSBDMF management regime in force under the TSF Act and TSF Regulations.</p>	<p>The Australian Fisheries Management Authority (AFMA) has advised that the Torres Strait Bêche-de-mer Fishery continues to be managed in accordance with the management regime made under the Torres Strait <i>Fisheries Act 1984</i> and the Torres Strait <i>Fisheries Regulations 1985</i>.</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 Bêche-de-mer Fishery specify this condition (see Condition 1, Table 4).</p>
<p>2. The PZJA to inform DEWHA of any intended amendments to the management arrangements that may affect the assessment of the TSBDMF against the criteria on which EPBC Act² decisions are based.</p>	<p>AFMA has advised that no relevant changes to the management arrangements have occurred 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 Bêche-de-mer 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 to the Guidelines.</p>	<p>AFMA has provided annual fishery status reports to the department.</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 Bêche-de-mer Fishery specify this condition (see Condition 3, Table 4).</p>

² Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Recommendation	Progress	Recommended Action
<p>1. The PZJA to develop and finalise the harvest strategy for the TSBDMF with objectives, performance indicators and performance measures appropriate to the fishery by 30 June 2010. The harvest strategy should also implement measures to prevent localised depletion and incorporate a rebuilding strategy for overfished species.</p> <p>In the interim, the PZJA to closely monitor catch levels in the TSBDMF until the harvest strategy is formally implemented. The PZJA to take immediate action if the total catch is likely to be higher than the TAC for any target species.</p>	<p><i>Objectives, performance indicators and performance measures appropriate to the fishery</i></p> <p>A recommendation of both the 2004 and 2008 Australian Government assessments of the Torres Strait Bêche-de-mer Fishery was 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, AFMA indicated that development of a harvest strategy for the fishery would address the need for objectives, measures and indicators.</p> <p>AFMA has advised that draft community based harvest strategies have been developed for sea cucumber for two communities (Erub and Warraber) and that further development of the harvest strategies will be investigated with the participating communities in 2011.</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 understands that trigger limits, initiating species reviews, have been recommended for some sea cucumber species.</p> <p><i>Catch Monitoring</i></p> <p>Reporting of catch is voluntary, through the Torres Strait seafood buyers and processors docket books, in the traditional inhabitant boat sector of the fishery (the sole non-traditional licence holder in the fishery has not been active since 2001). As a consequence, close monitoring of actual catch levels is not possible.</p> <p>The department understands that due to the fact that a zero total allowable catch applies to the high value sea cucumber species found in the Torres Strait, there has been little fishing activity since the recommendation was made in the 2008 assessment. However the department considers it essential that AFMA and the Protected Zone Joint Authority progress the development and implementation of reliable catch monitoring prior to reopening the fishery to harvest higher value species.</p>	<p>The department considers that this recommendation has not been met.</p> <p>While recognising the lack of activity in the fishery over many years and the current focus on the development of community based harvest strategies, the department considers that the formalisation of performance indicators and performance measures for target species and public reporting against the performance measures will be important in demonstrating the sustainability of management measures associated with any increase in fishing (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 PZJA should give priority to the introduction of systems which can deliver more accurate estimates of catch in the Torres Strait Bêche-de-mer Fishery, such as the planned compulsory reporting by fish receivers. (see Recommendation 1, Table 4).</p>

Recommendation	Progress	Recommended Action
<p data-bbox="109 148 629 379">2. The PZJA to undertake appropriate research on target species in the TSBDMF 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 data-bbox="159 403 629 619" style="list-style-type: none"> <li data-bbox="159 403 629 499">• address key gaps in the understanding of the biology and ecology of bêche-de-mer; and <li data-bbox="159 523 629 619">• provide an assessment of the ecosystem impacts of the fishery in the Torres Strait. 	<p data-bbox="674 148 1473 244">Research since this recommendation was made in 2008 has focussed on surveys of sea cucumber abundance and the refinement of recommended total allowable catches.</p> <p data-bbox="674 268 1473 363">The department understands that there has been no additional research addressing the understanding of the biology and ecology of sea cucumber or the ecosystem impacts of the fishery.</p>	<p data-bbox="1503 148 2132 212">The department considers this recommendation to be ongoing.</p> <p data-bbox="1503 236 2132 427">The department supports the priority given to the collection of information to support the setting of appropriate catch levels but notes that a lack of information surrounding the biology and ecology of target species, identified in previous assessments, still remains.</p> <p data-bbox="1503 451 2132 715">The department recommends that the PZJA pursue opportunities to undertake appropriate research on target species in the Torres Strait Bêche-de-mer Fishery, including complementary and/or collaborative research with other jurisdictions responsible for managing Australia's tropical sea cucumber resources (see Recommendation 3, Table 4).</p>
<p data-bbox="109 750 629 981">3. The PZJA to develop and implement measures to address compliance risks in the TSBDMF. This should include improvements in domestic compliance and reliable recording of catch from all sectors (commercial, recreational, indigenous and illegal).</p>	<p data-bbox="674 750 1473 909">In its submission AFMA reports that domestic compliance programs are developed on a risk assessment basis and that as a result of the low level of activity in the fishery compliance activity has been focussed on education, communicating legislative requirements to Torres Strait Communities.</p> <p data-bbox="674 933 1473 1093">AFMA has advised that it expects that the introduction of community based management will address some domestic compliance risks. Incorporating traditional fisheries practices into future management arrangements is seen as a means of encouraging stakeholder involvement in compliance issues.</p> <p data-bbox="674 1117 1473 1244">AFMA has also indicated plans to make reporting of all commercial catches in Torres Strait fisheries mandatory by way of the introduction of fish receiver licences and mandatory reporting by receivers, including buyers of traditional inhabitant boat catch.</p>	<p data-bbox="1503 750 2132 845">The department recognises the compliance benefits to be gained from the involvement of local communities in the management of the fishery.</p> <p data-bbox="1503 869 2132 1061">However, the department considers this recommendation to be ongoing. As discussed above, the department considers the introduction of systems which can deliver more accurate harvest estimates in the Torres Strait Bêche-de-mer Fishery to be a priority (see Recommendation 1, Table 4).</p>

Recommendation	Progress	Recommended Action
<p>4. The PZJA to continue to cooperate with other relevant jurisdictions to pursue complementary management and research of shared stocks for all target species, which may be affected by cross-jurisdictional issues.</p>	<p>In their submission, AFMA reports that it continues to engage with Papua New Guinea on issues related to the management of sea cucumber stocks, in particular in relation to illegal fishing of stocks on Warrior Reef.</p> <p>AFMA has stated there has been no collaborative research since the 2008 assessment, but that Australia has offered assistance in conducting surveys of bêche-de-mer stocks in the Papua New Guinea area of Warrior Reef to assist Papua New Guinea in monitoring the impact of the closure of the Papua New Guinea Sea Cucumber Fishery. The Papua New Guinea Sea Cucumber Fishery was closed for three years in October 2009.</p>	<p>The department considers this recommendation to be ongoing (see Recommendation 3, Table 4).</p>

Table 3: The Department of Sustainability, Environment, Water, Population and Communities assessment of the Torres Strait Bêche-de-mer Fishery against the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) related to decisions made under Part 13 and Part 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

<p>Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes</p>	<p>The department’s assessment of the Torres Strait Bêche-de-mer Fishery</p>
<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 Bêche-de-mer 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 Bêche-de-mer Fishery was first accredited in June 2008. The management arrangements for the Torres Strait Bêche-de-mer Fishery have not changed since that accreditation.</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 Bêche-de-mer Fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species.</p>

Part 13 (cont.)

Division 2 Migratory species Section 222A Minister may accredit plans or regimes	The department's assessment of the Torres Strait Bêche-de-mer 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 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 Bêche-de-mer 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 Bêche-de-mer Fishery was first accredited in June 2008. The management arrangements for the Torres Strait Bêche-de-mer Fishery have not changed since that accreditation.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with migratory species is very low. Therefore, the department considers the current operation of the Torres Strait Bêche-de-mer Fishery is not likely to adversely affect the conservation status of any listed migratory species or a population of that species.</p>

Part 13 (cont.)

Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	The department's assessment of the Torres Strait Bêche-de-mer 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 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 cetacean or a population of that species.</p>	<p>The Torres Strait Bêche-de-mer 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 Bêche-de-mer Fishery was first accredited in June 2008. The management arrangements for the Torres Strait Bêche-de-mer Fishery have not changed since that accreditation.</p> <p>Due to the selective nature of the fishing method (hand collection), the likelihood of interactions with cetaceans is very low. Therefore, the department considers the current operation of the Torres Strait Bêche-de-mer Fishery is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>

Part 13 (cont.)

Division 4 Listed marine species Section 265 Minister may accredit plans or regimes	The department's assessment of the Torres Strait Bêche-de-mer 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 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 Bêche-de-mer 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 Bêche-de-mer Fishery was first accredited in June 2008. The management arrangements for the Torres Strait Bêche-de-mer Fishery have not changed since that accreditation.</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 Bêche-de-mer Fishery is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>

Part 13 (cont.)

Section 303AA Conditions relating to accreditation of plans, regimes and policies	The department's assessment of the Torres Strait Bêche-de-mer Fishery
(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 Bêche-de-mer Fishery be accredited under sections 208A, 222A, 245 and 265.
(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: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	No condition has been imposed on the accreditation of the Torres Strait Bêche-de-mer Fishery to satisfy sections 208A, 222A, 245 or 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 CITES ³ 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
(g)	to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

Section 303FN Approved wildlife trade operation	The department’s assessment of the Torres Strait Bêche-de-mer Fishery
(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.	
(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that: <ul style="list-style-type: none"> (a) the operation is consistent with the objects of Part 13A of the Act; and 	<p>The Torres Strait Bêche-de-mer Fishery is consistent with objects of Part 13A (listed above) 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 fishery is unlikely to be unsustainable and threaten biodiversity within the next three years; and ▪ the <i>Environment Protection and Biodiversity Conservation Regulations 2000</i> do not specify fish as a class of animal in relation to the welfare of live specimens.

³ 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 Bêche-de-mer Fishery
<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 Bêche-de-mer Fishery will not be detrimental to the survival or conservation status of a taxon to which it relates within the next three years, given the management measures currently in place, which include:</p> <ul style="list-style-type: none"> ▪ competitive total allowable catch, based on stock surveys, on all target species in the fishery including a zero tonne total allowable catch on overfished species; ▪ a prohibition on the use of hookah and self contained underwater breathing apparatus (SCUBA) equipment providing protection to target species inhabiting deepwater habitats; ▪ size limits on all high value, medium value and two low value species; and ▪ harvest limited to hand collection or hand held non-mechanical device. <p>The department considers that the Torres Strait Bêche-de-mer Fishery will not threaten any relevant ecosystem within the next three years, given the management measures currently in place, which include:</p> <ul style="list-style-type: none"> ▪ dinghies operating in the fishery must be less than seven metres in length; ▪ harvesting is by hand or hand held non-mechanical device only; and ▪ the use of hookah or SCUBA underwater breathing equipment is not permitted, providing protection for deepwater habitat and species. <p>The <i>Environment Protection and Biodiversity Conservation Regulations 2000</i> 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 <i>Environment Protection and Biodiversity Conservation Regulations 2000</i>.</p>

Section 303FN Approved wildlife trade operation	The department's assessment of the Torres Strait Bêche-de-mer Fishery
<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 Bêche-de-mer 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> <ul style="list-style-type: none"> ▪ dinghies operating in the fishery must be less than seven metres in length; ▪ harvesting is by hand or hand held non-mechanical device only; ▪ competitive total allowable catch, based on stock surveys, on all target species in the fishery including a zero tonne total allowable catch on overfished species; ▪ size limits on all high value, medium value and two low value species; ▪ the use of hookah or SCUBA underwater breathing equipment is not permitted, providing protection for deepwater habitat and species. <p>The management arrangements that will be employed for the Torres Strait Bêche-de-mer Fishery are likely to be effective. These management arrangements include:</p> <ul style="list-style-type: none"> ▪ competitive total allowable catch on all target species in the fishery including a zero tonne total allowable catch on overfished species; ▪ size limits on all high value, medium value and two low value species; ▪ the use of hookah and SCUBA equipment in the fishery is prohibited which limits the harvest to shallow water habitats; and ▪ collection is limited to hand or hand held non-mechanical devices.

Section 303FN Approved wildlife trade operation	The department's assessment of the Torres Strait Bêche-de-mer Fishery
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <ul style="list-style-type: none"> (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 (b) whether the legislation applies throughout the State or Territory concerned; and (c) whether, in the opinion of the Minister, the legislation is effective. 	<p>The Torres Strait Bêche-de-mer Fishery will be managed under the Torres Strait <i>Fisheries Act 1984</i> and the Torres Strait <i>Fisheries Regulations 1985</i>.</p> <p>The Torres Strait <i>Fisheries Act 1984</i> applies throughout Torres Strait 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> <ul style="list-style-type: none"> (d) the operation is a commercial fishery. 	<p>The Torres Strait Bêche-de-mer 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 impact of actions under the policy for the Torres Strait Bêche-de-mer Fishery formulated under the Torres Strait <i>Fisheries Act 1984</i> were assessed under Part 10 of the EPBC Act in June 2005. That assessment concluded that actions taken in the Torres Strait Bêche-de-mer 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>	

Part 13A (cont.)

Section 303FR Public consultation	The department's assessment of the Torres Strait Bêche-de-mer Fishery
<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 	<p>The department considers that the consultation requirements of the EPBC Act for declaring a wildlife trade operation have been met. A public notice, which set out the proposal to declare the Torres Strait Bêche-de-mer Fishery an approved wildlife trade operation and included the submission, was released for public comment which closed on 26 May 2011. No public comments were</p>

(c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.	received.
(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.	A public notice, which set out the proposal to declare the Torres Strait Bêche-de-mer Fishery an approved wildlife trade operation and included the submission was released for public comment on 27 April 2011 and closed on 26 May 2011, a total of 22 business days.
(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.	No public comments about the proposal were received.

Part 13A (cont.)

Section 303FT Additional provisions relating to declarations	The department's assessment of the Torres Strait Bêche-de-mer Fishery
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the Torres Strait Bêche-de-mer Fishery will be made under section 303FN.
(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: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of declaration is to specify the period, circumstances or condition.	The standard conditions applied to commercial fishery wildlife trade operations include: <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 <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition</i>. The wildlife trade operation instrument of declaration for the Torres Strait Bêche-de-mer Fishery specifies the standard and any additional conditions applied.
(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 Bêche-de-mer 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 Bêche-de-mer Fishery
(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 when making a decision to declare the Torres Strait Bêche-de-mer Fishery an approved wildlife trade operation.
(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 recommendations to the Australian Fisheries Management Authority for the Torres Strait Bêche-de-mer Fishery

The Torres Strait Bêche-de-mer Fishery is a hand collection fishery targeting several species of sea cucumber. Although of low value compared to other Torres Strait fisheries, the fishery has in the past provided an important source of income for traditional inhabitants.

There has been little activity in the fishery in recent years owing to the prohibition on harvest of many of the high value species in the fishery including sandfish, black teatfish and surf redfish. Total allowable catches of these species have been set at zero tonnes since 1998 for sandfish and for black teatfish and surf redfish since 2003, due to marked declines in abundances as a result of fishing activities. Resource surveys undertaken in 2009 (Skewes *et al* 2010) and 2010 (Murphy *et al* 2010) provide an indication that stocks are recovering. Draft community based harvest strategies for two Torres Strait communities have been developed in consultation with the Hand Collectable Working Group and the traditional inhabitants of those communities.

The material submitted by the Australian Fisheries Management Authority on behalf of the Torres Strait Protected Zone Joint Authority in April 2011 demonstrates that the management arrangements for the Torres Strait Bêche-de-mer Fishery continue to 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 regime for the Torres Strait Bêche-de-mer Fishery aims to ensure that fishing is conducted in a manner that does not lead to over-fishing. Management arrangements in the fishery include input and output controls in force under the Torres Strait *Fisheries Act 1984* and Torres Strait *Fisheries Regulations 1985*, and legislated through Fisheries Management Notices issued under the Torres Strait *Fisheries Act 1984* as well as conditions on fishing licences.

Sea cucumbers are harvested by divers working from dinghies less than seven metres in length, by hand or with hand held non-mechanical devices. The use of hookah or self contained underwater breathing apparatus (SCUBA) equipment is not permitted. Competitive total allowable catches are set for all main target species in the fishery (four species have individual total allowable catches and 12 species have a combined total allowable catch of 80t) as well as minimum size limits on all high and medium value species and two low value species, based on size at reproductive maturity.

Sandfish recovery

Sandfish have traditionally been a primary target species in the Torres Strait with the majority of the fishing for this species taking place on the Warrior Reef complex. Past fishing pressure led to a marked decline in the stock, and a zero total allowable catch was introduced for this species in 1998.

Sandfish stocks were classified as overfished and subject to overfishing in 2009 (Woodhams and Rodgers 2010). A zero tonne total allowable catch for this species in the fishery allows for recovery of the stock. In its 2011 submission, AFMA stated that due to the closure of the Papua New Guinea Sea Cucumber Fishery in October 2009, there has been less illegal fishing by Papua New Guinea fishers in Australian waters, hence reducing the risk of overfishing of sandfish.

Ecosystem Impacts

Taking into account management measures for the fishery, including:

- vessel length limits;
- gear restrictions (hand harvesting only, with restrictions on the number of divers operating);
- species-specific minimum size limits based on approximate size at reproductive maturity; and
- competitive total allowable catch for target species

the department considers that the management regime for the Torres Strait Bêche-de-mer Fishery provides for fishing operations to be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

However, the department considers that a number of previously identified risks and uncertainties remain, which must be managed to ensure that impacts are minimised, including:

- the inherent vulnerability of sea cucumber species in general to over-exploitation;
- the lack of robust data collection in the fishery owing to the voluntary nature of fishery dependant data collection (docket books);
- the lack of information on the biology of key target species;
- remaining uncertainty regarding the stock status of several target species; and
- the need for continued collaborative management with other jurisdictions exploiting similar species and/or joint stocks of sea cucumbers.

The key challenges for this fishery will be:

- achieving reliable estimates of commercial (community) catch;
- implementing the existing draft community based harvest strategies to include meaningful performance indicators, performance measures and responses;
- identifying and pursuing opportunities for research into the biology of key target species; and
- continuing collaborative research and management with other jurisdictions exploiting similar species.

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 Bêche-de-mer Fishery as an approved wildlife trade operation for three years, until 20 June 2014, is appropriate. The department considers that the declaration should be subject to the conditions listed in Table 4. To contain and minimise the risks in the longer term the recommendations outlined in Table 4 have been made.

Unless a specific time frame is provided, each condition and recommendation must be addressed within the term of the declaration.

Table 4: Torres Strait Bêche-de-mer Fishery Assessment - Summary of Issues, Conditions and Recommendations - June 2011

Issue	Condition
<p>General Management</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 sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p>	<p>Condition 1: Operation of the 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 <i>Fisheries Regulations 1985</i>.</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 Bêche-de-mer Fishery 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>Annual Reporting</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 recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. 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 recommendations resulting from the previous assessment of the fishery (for a complete description of annual reporting requirements see Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i> 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 <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>

Issue	Recommendation
<p>Harvest levels and catch reporting</p> <p>The primary source of catch and effort monitoring relevant to the Torres Strait Bêche-de-mer Fishery is the voluntary buyers and processors Docket Book System. This system applies to Traditional Inhabitant Boat (TIB) community fishing. The Docket Book System is a voluntary system introduced in 2003-04 that depends on the cooperation of the buyers and sellers to record the catches sold and ancillary information about the fishing operation. In their submission, the Australian Fisheries Management Authority (AFMA) indicated that it plans to make reporting of all catches in Torres Strait fisheries mandatory by way of introduction of fish receiver licences and compulsory reporting by those receivers, including buyers of TIB catch.</p> <p>The future assessment needs identified in the 2009 fishery status report include understanding sea cucumber catch (Woodhams and Rodgers 2010).</p> <p>The department considers that developing accurate catch estimates should be an integral part of the finalisation of the draft community based harvest strategies that have been developed. The accurate estimation of all removals takes on added importance given proposals to allow renewed harvest of the high value black teatfish.</p> <p>While acknowledging the inherent difficulties in estimating levels of illegal, unreported and unregulated fishing, and that the risk of illegal fishing in the Torres Strait Bêche-de-mer Fishery has decreased with the closure of the Papua New Guinea Sea Cucumber Fishery in 2009, the department considers that there is an ongoing need to continue to improve estimates of all removals from sea cucumber stocks to ensure that total allowable catch recommendations are based on the best possible information.</p>	<p>Recommendation 1:</p> <p>The Protected Zone Joint Authority to:</p> <ul style="list-style-type: none"> a) implement strategies to improve estimates of commercial (community) harvest from the Torres Strait Bêche-de-mer Fishery; and b) develop and implement appropriate strategies to obtain improved estimates of all removals from sea cucumber stocks.

Issue	Recommendation
<p>Sustainable harvest of sea cucumber species</p> <p>The Torres Strait Bêche-de-mer Fishery is currently managed through the use of fishery management notices. Management measures include limited entry, gear restrictions, vessel length limits, species-specific size limits based on estimates of size at reproductive maturity and total allowable catch limits.</p> <p>A recommendation of the first EPBC Act assessment of the fishery in 2005 was for the Protected Zone Joint Authority to develop fishery specific objectives, performance measures and performance indicators for the fishery relating to target species and ecosystem impacts within two years.</p> <p>In the 2008 submission for reassessment of the fishery, the Protected Zone Joint Authority indicated that objectives, measures and indicators would be delivered through a harvest strategy for Torres Strait hand collectable fisheries. In the 2008 assessment of the fishery, a further recommendation was made for the Protected Zone Joint Authority to develop and finalise the harvest strategy for the fishery with objectives, performance indicators and performance measures appropriate to the fishery.</p> <p>In the 2011 submission for reassessment of the fishery, AFMA advised that draft community based harvest strategies for sea cucumber species have been developed by CSIRO for two communities, Erub and Warraber. AFMA has advised that the draft community harvest strategies include:</p> <ul style="list-style-type: none"> • area based total allowable catches; • size limits; • bans on the use of hookah apparatus; • rotational harvest; and • reef closures to help rebuild stocks and develop nursery areas. <p>The department supports the move towards managing the fishery at a community scale and considers the development of community based harvest strategies a key step in addressing issues in the Torres Strait Bêche-de-mer Fishery, raised in the 2005 and 2008 assessments of the fishery.</p> <p>The department considers that the harvest strategies should incorporate documented recovery strategies with:</p> <ul style="list-style-type: none"> • measurable reference points; • management responses; and • timeframes for implementation of those responses. <p>The department remains concerned that the community based harvest strategies cover only a small area of the fishery. The department notes that trigger limits, which initiate a species review, have been recommended for those species with a combined group total allowable catch. The department recommends that the Protected Zone Joint Authority consider the implementation of and reporting against formal performance indicators and performance measures across the fishery, including measures to prevent localised depletion and recovery strategies for species assessed by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) as being overfished.</p>	<p>Recommendation 2:</p> <p>The Protected Zone Joint Authority to:</p> <ol style="list-style-type: none"> a) develop strategies for implementing the 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 Torres Strait Bêche-de-mer Fishery as appropriate; and c) consider formalising performance indicators, performance measures and responses for those areas of the fishery not covered by community based harvest strategies.

Issue	Recommendation
<p>Biological and Stock Characteristics</p> <p>The Torres Strait Bêche-de-mer Fishery is a multispecies fishery. Individual species of sea cucumbers have different biological and ecological characteristics and as such require species specific management. A lack of information on individual species was identified as an issue in the 2004 assessment of the fishery. In the 2008 assessment, a recommendation was made for the Protected Zone Joint Authority to undertake appropriate research on target species to inform the setting of sustainable catch levels through the harvest strategy, including:</p> <ul style="list-style-type: none"> • research on providing reliable biomass estimates; and • addressing key gaps in the understanding of the biology and ecology of sea cucumber species. <p>The <i>Strategic Research Plan for Torres Strait Fisheries - July 2009</i>⁴ was developed for the period 2009-2014 by the Torres Strait Scientific Advisory Committee to describe how the committee will use research opportunities to improve the Protected Zone Joint Authority's management of the fisheries resources of the Torres Strait. The Plan outlines six research themes of relevance to Torres Strait fisheries. An annual operational plan, the <i>Operational Plan for Torres Strait Fisheries - July 2010</i>⁵, has been developed in conjunction with the strategic plan and describes research areas identified by the Torres Strait Scientific Advisory Committee, through consultation with stakeholders, as priority areas for research.</p> <p>The department acknowledges that lack of fishing effort in, and low overall value of the Torres Strait Bêche-de-mer Fishery means the ability to allocate resources to research is limited. However a better understanding of target species is an important step towards the ecological sustainability of the fishery. The department accepts that the current surveys carried out by CSIRO are an important step into understanding the stocks and where more information will be required to inform the community-based harvest strategies.</p>	<p>Recommendation 3:</p> <p>The Protected Zone Joint Authority to continue to identify and pursue opportunities for research relevant to species harvested in the Torres Strait Bêche-de-mer Fishery.</p>

⁴ http://www.pzja.gov.au/resources/publications/Stratplan_TSF_Jul09.pdf

⁵ http://www.pzja.gov.au/resources/publications/fishery_publications/2010_ts_operational_plan.pdf

Issue	Recommendation
<p>Collaborative approach to management of regional sea cucumber harvest</p> <p>The sea cucumber fisheries of northern Australia generally harvest many of the same species and face many of the same issues. In addition, the 2006 CSIRO project examining the sustainability of Torres Strait sea cucumber stocks concluded that it is likely the Torres Strait and Papua New Guinea sandfish stocks are shared between the two jurisdictions.</p> <p>Submissions from a number of fishery management agencies for initial assessment of sea cucumber fisheries under the EPBC Act indicated that a high level of collaboration and coordination in regard to sea cucumber research existed through the North Australian Fishery Management workshops held during the late 1990's.</p> <p>The operation of the Protected Zone Joint Authority provides a valuable link between sea cucumber fisheries managed by AFMA and those managed by Fisheries Queensland. The department acknowledges the Protected Zone Joint Authority's continued liaison with Papua New Guinea to manage sea cucumber stocks. It is less clear to what extent liaison with the Northern Territory and Western Australia occurs.</p> <p>International trade in sea cucumbers was initially discussed at the 12th Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2002. A technical workshop was held in 2004 to consider and review biological and trade information to assist establishing conservation priorities for sea cucumbers. Subsequently, attention has focussed on the development of recommendations for Parties to improve the conservation of sea cucumber stocks. At the 14th Conference of the Parties in 2007, the Parties adopted a decision to bring the need to increase efforts to address challenges in the sustainable management of sea cucumber fisheries to the specific attention of the Food and Agriculture Organisation of the United Nations (FAO).</p> <p>In November 2007 the FAO held a workshop on Sustainable Use and Management of Sea Cucumber Fisheries (Purcell 2010). A decision of the 15th Conference of the Parties in 2010 was for the Animals Committee of CITES to evaluate the outcomes of the workshop and recommend appropriate follow-up actions at the 16th meetings of the Conference of the Parties (to be held in March 2013).</p> <p>In view of the international interest in ensuring that sea cucumber resources are managed sustainably, the department considers that close co-operation between all jurisdictions responsible for managing Australian and shared sea cucumber resources is necessary.</p>	<p>Recommendation 4:</p> <p>The Protected Zone Joint Authority and the Australian Fisheries Management Authority to continue and encourage further co-operation with other relevant jurisdictions to pursue increased knowledge and complementary management of sea cucumber resources across fisheries and across jurisdictions.</p>

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Acronyms

ABARE	Australian Bureau of Agricultural and Resources Economics
ABARES	Australian Bureau of Agricultural and Resources Economics and Sciences
AFMA	Australian Fisheries Management Authority
BRS	Bureau of Rural Sciences
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEWHA	Department of the Environment, Water, Heritage and the Arts (now the Department of Sustainability, Environment, Water, Population and Communities)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
PNG	Papua New Guinea
PZJA	Protected Zone Joint Authority
SCUBA	Self Contained Underwater Breathing Apparatus
TAC	Total Allowable Catch
TIB	Traditional Inhabitant Boat (licence)
TSBDMF	Torres Strait Bêche-de-mer Fishery
TSF	Torres Strait Fisheries
TVH	Transferable Vessel Holder (licence)