



**Australian Government**

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**Department of Agriculture,  
Water and the Environment**

# **Assessment of the Torres Strait Bêche-de-mer Fishery**

**December 2020**

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#### **Disclaimer**

This document is an assessment carried out by the Department of Agriculture, Water and the Environment 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 the Environment 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 the Environment or the Australian Government.

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## **ASSESSMENT SUMMARY**

The Torres Strait Bêche-de-mer Fishery (the fishery) was declared a Wildlife Trade Operation (WTO) for three years on 18 December 2017.

At the 18th CITES Conference of the Parties meeting (17-28 August 2019), a proposal to include three species of sea cucumber, including Black Teatfish (*Holothuria whitmaei*) and White Teatfish (*H. fuscogilva*), in CITES Appendix II was adopted. This listing came into effect on 28 August 2020.

As a party to the Convention, Australia must apply all CITES provisions of the EPBC Act to CITES imports and exports. Specimens being exported from Australia for commercial purposes must come from an approved commercial source, such as a Wildlife Trade Operation approved under the EPBC Act.

As the fishery harvests Black Teatfish and White Teatfish, the Department of Agriculture, Water and the Environment (the department) made an amendment to the WTO declaration to include additional conditions that allowed the export of White Teatfish, as the fishery was closed to the harvest of Black Teatfish. Conditions included total allowable take (TAC) set for the White Teatfish, as well as the requirement for a population survey for both the White Teatfish and Black Teatfish. These conditions were found to be met.

On 9 October 2020, the Australian Fisheries Management Authority (AFMA) applied for export approval and accreditation of its plan of management in relation to interactions with protected species for the fishery. The department has assessed the application under the EPBC Act and the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition*. Public comments were also sought on the application from 14 October 2020 until 13 November 2020. No comments were received.

The fishery harvests various bêche-de-mer species by hand, the use of underwater breathing apparatus is prohibited in this fishery. Some species in this fishery have either been overfished or have uncertain stock status. Overfished bêche-de-mer species are subject to zero catch limits and the 2019 Harvest Strategy for this fishery outlines steps to be taken before fishing for these species can re-commence. The Protected Zone Joint Authority (PZJA) has approved a trial for the take of Black Teatfish in 2021, with a TAC set at 20 tonnes, in line with scientific advice following a fishery-independent population survey.

The management arrangements for this fishery have markedly improved since the last EPBC Act assessment for this fishery, namely the implementation of a harvest strategy and a fish receiver system, have provided a much stronger framework to manage the fishery going forward.

### **Protected species and threatened ecological communities**

There has been no formal Ecological Risk Assessment (ERA) for this fishery. However, the fishing methods employed are highly selective. Due to the non-destructive nature of fishing methods employed in the fishery, interactions with other protected species are low. AFMA requires interactions with Threatened, Endangered or Protected (TEP) species to be recorded. There have been no interactions with TEP species reported in this fishery to date from sunset licence holders. The completion of daily fishing logbooks by the Traditional Inhabitant Boat (TIB) sector, including information on fishing effort, is not mandatory due to provisions in the *Torres Strait Fisheries Act 1984*.

## Conclusion

While some areas requiring further attention are highlighted in this assessment report, particularly in relation to the management of species recently listed under Appendix II of CITES, improving compliance and reducing instances of IUU by both domestic and foreign fishers, the requirement for an ERA and associated risk management strategy, overall, under the current legal framework in which the fishery is managed, this is a well managed fishery, and the fishery is unlikely to have an unsustainable ecological impact during the period of the proposed three-year WTO approval.

The department has proposed conditions in Section 2 of this report, to ensure risks continue to be managed. These proposed conditions include:

- *ensuring that fishery independent estimates of abundance for CITES listed species are undertaken regularly and in-line with best practice and that expert advice is an integral part of the management of the harvest of CITES-listed species*
- *ensuring that the harvest of CITES-listed species remains at a sustainable level*
- *ensuring that compliance measures are effective in supporting the sustainable management of the fishery, and*
- *that an ERA be undertaken, and a risk management strategy be developed.*

The department considers that, subject to the conditions specified in Section 2 of this report, the fishery should be declared an approved WTO for a period of three years, and that product derived from the fishery be included on the List of Exempt Native Specimens while a declaration for an approved wildlife trade operation is in place.

Unless a specific time frame is provided, each condition must be addressed within the period of the approved wildlife trade operation declaration for the fishery.

## SECTION 1: ASSESSMENT SUMMARY

Guidelines assessment	Meets	Partially meets	Does not meet	Details
Management regime (* one additional criterion not applicable)	5/8*	2/8*	1/8*	The fishery management arrangements are generally well developed; however, some aspects remain unclear and contradictory, potentially affecting compliance and enforcement. There has also been no ecological risk assessment or risk mitigation for the fishery.
Principle 1 (target stocks) (* one additional criterion not applicable)	0/10*	10/10*	0/10*	Although there have been significant improvements in fishery data collection, some crucial information still cannot be collected without legislative change. This has capacity to significantly affect the management of the fishery and health of the ecosystem. Further, previously targeted stocks that were subject to overfishing are not recovering despite prohibition of take. This lack of recovery has been linked to IUU fishing.
Principle 2 (bycatch and TEPS) (* eight additional criteria not applicable)	0/4*	1/4*	3/4*	The nature of the fishery means there is no risk of bycatch and likely relatively low risk to protected species. No interactions have been reported in the fishery. There has been no ecological risk assessment and there is no ecological risk mitigation.
Principle 2 (ecosystem impacts)	0/5	1/5	4/5	Bêche-de-mer play an important role in the health of the ecosystem and are prone to localised depletion. There is currently very little capacity to monitor or manage the risk of localised depletion and associated risks to the ecosystem and no assessments of the impact of removing these species from the ecosystem at this rate has been undertaken.
EPBC requirements	Details			
Part 12	<b>Not applicable</b> - There are no marine bioregional plans relevant to the fishery.			
Part 13	<b>Meets</b> - The fishing method employed in the fishery means there is likely relatively low risk to protected species. No interactions have been reported in the fishery since 2012. A condition in Section 2 recommends that the fishery undergoes an ecological risk assessment (ERA). An ecological risk management strategy is expected to be developed, based on the outcomes of the ERA.			
Part 13A	<b>Meets</b> - Although there have been significant improvements in fishery data collection and management, some crucial information still cannot be collected due to provisions under the <i>Torres Strait Fisheries Act 1984</i> , this			

	assessment report recommends declaring the Torres Strait Bêche-de-mer Fishery a Wildlife Trade Operation for three years until 4 December 2023.
Part 16	<b>Partially Meets</b> – Management arrangements specified in the harvest strategy for the fishery are precautionary in nature and total allowable commercial catch limits also reflect a precautionary approach to the uncertainty and risk around target stocks.

## SECTION 2: SUMMARY OF ISSUES AND CONDITIONS

Issue	Condition
<p><b><u>General Management</u></b></p> <p>Export decisions relate to the management arrangements in force at the time of any decision(s) made under the EPBC Act. To ensure that the decision(s) remain valid and export approval continues uninterrupted, the Department of Agriculture, Water and the Environment (the Department) 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(s). This includes operational and legislated amendments that may affect the sustainability of the target species or negatively impact on byproduct, bycatch, EPBC Act protected species or the ecosystem.</p>	<p><b>Condition 1:</b></p> <p>The Protected Zone Joint Authority must ensure that operation of the Torres Strait Bêche-de-mer Fishery is carried out in accordance with management arrangements defined in the <i>Torres Strait Fisheries Act 1984</i>, Torres Strait Fisheries Regulations 1985, Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery), licence conditions and the Torres Strait Bêche-de-mer Fishery Harvest Strategy.</p> <p><b>Condition 2:</b></p> <p>The Protected Zone Joint Authority must inform the Department of Agriculture, Water and the Environment of any intended material changes to the Torres Strait Bêche-de-mer Fishery management arrangements that may affect the assessment against which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are made. This includes changes in fishing methods and the reopening of fishing for species currently closed to fishing.</p> <p><b>Condition 3:</b></p> <p>The Torres Strait Protected Zone Joint Authority must inform the Department of Agriculture, Water and the Environment of any intended changes to fisheries legislation that may affect the legislative instruments relevant to this approval.</p>
<p><b><u>Annual Reporting</u></b></p> <p>It is important that the Australian Fisheries Management Authority produce and present reports to the Department annually in order for the performance of the fishery and progress in implementing the conditions described in this report and other managerial commitments to be monitored and assessed throughout the life of the export approval. Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i> and include a description of the fishery, management</p>	<p><b>Condition 4:</b></p> <p>The Protected Zone Joint Authority must provide reports to the Department of Agriculture, Water and the Environment annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>

Issue	Condition
<p>arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with EPBC Act protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing the Department's conditions described in the previous assessment for the fishery. Electronic copies of the guidelines are available from the Department's website at <a href="http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries">http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries</a>.</p>	
<p><b><u>Ecological risk assessment and risk mitigation</u></b></p> <p>In addition to providing insight into the biomass of species subject to ongoing harvest in the fishery, the 2020 stock survey of sea cucumbers in East Torres Strait was intended to address an essential priority in the fishery's Five Year Research Plan aimed at understanding the stock status of Sandfish at Warrior Reef. However, this segment of the survey was not carried out as a result, the survey do not include Sandfish abundance on Warrior Reef, which has been a longstanding research priority (Protected Zone Joint Authority (PZJA) record of 17th Hand Collectables Working Group meeting) and which would inform the PZJA's objectives for this fishery, namely the development of an appropriate long term management strategy for Sandfish. As discussed above, stock surveys are essential to determine the health of stocks and the supporting environment and ecosystems, particularly in the context of the fishery. Failure to deliver this important research, particularly for stocks that have been overfished, is a significant concern.</p> <p>The 2020 Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Fishery Status report notes that Illegal catch taken by Papua New Guinea nationals has been reported in previous years, but no such reports have been received since the 2017 to 2018 fishing season (ABARES 2020). However, domestic illegal take and trade has not been quantified, there is no Torres Strait specific compliance plan in place and considering the geographical position of the Torres Strait and the challenges it may pose from an international illegal trade perspective, a dedicated</p>	<p><b>Condition 5:</b> The Protected Zone Joint Authority must complete an ecological risk assessment of the Torres Strait Bêche-de-mer Fishery by 1 January 2022 and develop an associated risk management strategy to address any risks identified in this assessment.</p> <p><b>Condition 6:</b> The Torres Strait Protected Zone Joint Authority must ensure that there is a sufficient level of Compliance measures in place to ensure the sustainable management of the Torres Strait Bêche-de-mer Fishery, in accordance with the management arrangements in place for the fishery.</p>

Issue	Condition
<p>compliance plan is warranted to support the recovery of overfished species and ensure that no new species become overfished.</p> <p>Further, an ecological risk assessment has not been undertaken for the Torres Strait Bêche-de-mer Fishery, although one was expected to have been carried out before the end of the current WTO approval. An ERA is now expected to be completed in 2021. Once completed, the Department considers this ecological risk assessment should be used to further inform data collection, monitoring and management of ecological risk.</p>	
<p><b><u>Data collection and management</u></b></p> <p>Access to reliable data is crucial for assessing, monitoring and managing the impacts of fishing on target and non-target species as well as the health of the ecosystems. The introduction of AFMA’s Fish Receiver Program has significantly improved access to information on catch that is landed and sold, but there is no comprehensive system to collect information on catch that is discarded (e.g. improperly processed or spoiled). There is also no system to collect information on the extent of fishing effort undertaken and the spatial distribution of harvest, which is an important consideration for largely sedentary species known to be susceptible to localised depletion.</p> <p>It is recognised that the nature of the fishery poses challenges for implementation of logbooks for recording catch. As an alternative stock surveys provide insight into species biomass. In June 2019, the Torres Strait Scientific Advisory Committee (TSSAC) endorsed a proposal to undertake a stock survey of Torres Strait Bêche-de-mer species. Prior to this the last surveys on east Torres Strait were undertaken in 2009. To provide a more robust means of determining the ongoing sustainability of harvest, particularly for CITES non-detriment-finding (NDF) purposes in relation to Black Teatfish (<i>Holothuria whitmaei</i>) and White Teatfish (<i>H. fuscogilva</i>), surveys need to be undertaken more frequently and with good coverage of representative fished areas to manage the risk of localised depletion and other impacts in the fishery. It is understood that in order to provide a sound measure of Bêche-</p>	<p><b>Condition 7:</b></p> <p>By 1 November 2023 the Protected Zone Joint Authority must provide the Department with a revised population estimate for Black Teatfish (<i>Holothuria whitmaei</i>) and White Teatfish (<i>H. fuscogilva</i>) in the Torres Strait that is based on new information for the fishery, including catch data and fishery-independent data or scientific expert advice and an assessment of the impact of harvest on the stocks.</p>

Issue	Condition
<p>de-mer populations for management purposes, when revisiting already sampled reefs, the periodicity should be at least once every three years to maintain population trend connectivity with regard to year class strength and stock recruitment considerations (Skewes and Persson 2017). Further, there are a number of existing protocols for survey design based on previous surveys and it is recommended that these be adhered to in designing future surveys, as suggested in the fishery’s harvest strategy so data can be used as an index of relative abundance. In the absence of catch reporting, these improvements are crucial to ensure the impacts of fishing can be assessed, monitored and managed sustainably, and would go much of the way to addressing CITES sustainability information needs, in accordance with Resolution Conf. 16.7 (Rev. CoP17).</p>	
<p><b><u>Total Allowable Catch for Black Teatfish (<i>Holothuria whitmaei</i>) and white teatfish (<i>H. fuscogilva</i>)</u></b></p> <p>The Torres Strait Beche-de-mer Fishery Harvest Strategy outlines decision rules that are used to manage the harvest of Bêche-de-mer stocks to meet the operational objectives of the Harvest Strategy and the Bêche-de-mer Fishery more broadly. The Strategy includes a mix of approaches including effort controls and temporal closures; spatial management; Total Allowable Catches (TACs) to limit total amount caught and complementary minimum size limit to allow animals a chance to breed before being caught.</p> <p>The Harvest Strategy also includes provision for overcatch. Overcatch of the TAC may result in a corresponding reduction from the TAC the following year, a 1 year pause in fishing, or a closure of fishing for the species, depending on the severity of the overcatch. In the case of trial openings for species previously overfished such as Black Teatfish, the Harvest Strategy stipulates that an overtake above 5 per cent will result the fishery automatically pausing (i.e. no fishing allowed) for the following year.</p> <p>In the case of species for which a CITES NDF is being made certainty is required that the amount being taken from the stock is not greater than the</p>	<p><b>Condition 8:</b></p> <p>The Torres Strait Protected Zone Joint Authority must limit the seasonal take of the following species listed under the Convention on the International Trade of Endangered Species (CITES), from the Torres Strait Bêche-de-mer Fishery to no more than:</p> <ol style="list-style-type: none"> <li>1) 15 tonnes of White Teatfish (<i>Holothuria fuscogilva</i>); and</li> <li>2) 20 tonnes of Black Teatfish (<i>Holothuria whitmaei</i>).</li> </ol> <p>The Torres Strait Protected Zone Joint Authority must report the amount of White Teatfish and Black Teatfish harvested by weight and where available, include the number of individuals, their lengths and locations of harvest, as part of the annual reporting referred to in Condition 4.</p> <p><b>Condition 9:</b></p> <p>The Protected Zone Joint Authority must address any overcatch of the Total Allowable Catch for either Black Teatfish (<i>Holothuria whitmaei</i>) or White Teatfish (<i>H. fuscogilva</i>) in one season and ensure that the amount overcaught is properly accounted for in subsequent fishing seasons in line with the provisions in the Torres Strait Bêche-de-mer Harvest Strategy.</p>

Issue	Condition
<p>amount determined to be non-detrimental. In the case of Black Teatfish (<i>Holothuria whitmaei</i>), trial openings resulted in the TAC being overcaught every time, sometimes by more than 50 per cent. As such for Black Teatfish and White Teatfish (<i>H. fuscogilva</i>), the Protected Zone Joint Authority will need to ensure that overcatch provisions are implemented so that any impact from overcatching one season is compensated in the following season.</p>	

**Assessment history:**

1<sup>st</sup> assessment finalised 2005 – 3 conditions and 11 recommendations.

2<sup>nd</sup> assessment finalised 2008 – 3 conditions and 4 recommendations.

3<sup>rd</sup> assessment finalised 2011 – 3 conditions and 4 recommendations.

4<sup>th</sup> assessment finalised 2014 – 3 conditions and 4 recommendations.

5<sup>th</sup> assessment finalised 2017 – 6 conditions.

**Key links:**

Fishery information page on agency website: <https://www.pzja.gov.au/the-fisheries/torres-strait-bêche-de-mer-fishery>

Fishery Status Report Australian Bureau of Agricultural and Resource Economics and Sciences - Torres Strait Bêche-de-mer Fishery – 2020: <https://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status/torres-strait-bêche-de-mer-trochus-fisheries>

There is no formal management plan, but management arrangements are outlined in the following: [Torres Strait Bêche-de-mer Harvest Strategy 2019](#)

Enforcing legislation –

- [Torres Strait Fisheries Act 1984](#)
- [Torres Strait Fisheries Regulations 1985](#)
- [Torres Strait Treaty \(Miscellaneous Amendments\) Act 1984](#)
- [Torres Strait Fisheries Act 1984 - Proclamation \(17/03/1999\)](#)

### SECTION 3: DETAILED ANALYSIS AGAINST THE GUIDELINES

Guidelines criteria	Comment
<b>THE MANAGEMENT REGIME</b>	
The management regime does not have to be a formal statutory fishery management plan as such and may include non-statutory management arrangements or management policies and programs. The regime should:	
Be documented, publicly available and transparent.	<p><b>Partially meets</b> – Documented but some arrangements are unclear and contradictory.</p> <p>The Torres Strait Beche-de-mer Fishery’s (the fishery)’s management arrangements are documented in the <a href="#">Torres Strait Fisheries Act 1984</a>, <a href="#">Torres Strait Fisheries Regulations 1985</a>, <a href="#">Torres Strait Fisheries Management Instrument No. 15 (Torres Strait Sea Cucumber Fishery)</a>, <a href="#">Torres Strait Bêche-de-mer Fishery Harvest Strategy</a> and in permit conditions.</p> <p>Total allowable catch limits are specified in two separate tables within the permit conditions. Some total allowable catch limits conflict within the conditions and with information published on the Protected Zone Joint Authority (PZJA) website (<a href="#">PZJA, 2020</a>).</p> <p>Minimum legal size limits are specified for some species in the <a href="#">Torres Strait Fisheries Management Instrument No. 15 (Torres Strait Sea Cucumber Fishery)</a>, but differ to those published on the PZJA website (<a href="#">PZJA, 2020</a>).</p> <p>The PZJA agreed to revised size limits when it agreed to the Harvest Strategy in November 2019, but AFMA has advised that changes to the <a href="#">Torres Strait Fisheries Management Instrument No. 15 (Torres Strait Sea Cucumber Fishery)</a> are not expected to be undertaken until 2021. AFMA reported at the most recent Hand Collectables Working Group meeting that “New TACs [total allowable catch limits] for individual and basket species and the conversion ratios were implemented through licence conditions but the old minimum size limits are still in place pending the review of the Fisheries Management Instrument 15 which is currently underway and due to be completed in time for the 2021 fishing season” (<a href="#">PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting</a>).</p> <p>Outcomes of key management meetings are also published on the Torres Strait Protected Zone Joint Authority (PZJA) website. These meetings include <a href="#">PZJA, Hand Collectables Working Group (HCWG)</a> and the <a href="#">Torres Strait Scientific Advisory Committee (TSSAC)</a> meetings.</p>

Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public.

**Meets** – management arrangements are developed through consultative processes.

The PZJA manages commercial fishing in areas of Australian jurisdiction of the Torres Strait Protected Zone (TSPZ), as well as designated adjacent waters. The PZJA consists of the Commonwealth Minister administering the *Torres Strait Fisheries Act 1984*; the Queensland Minister administering the laws of Queensland relating to marine fishing in the Protected Zone; and the Chairperson of the Torres Strait Regional Authority (TSRA), which is the Commonwealth agency that represents the interests of Torres Strait Islanders.

The PZJA has regard to the rights and obligations conferred on Australia by the *Treaty between Australia and the Independent State of Papua New Guinea concerning sovereignty and maritime boundaries in the area between the two countries, including the area known as the Torres Strait, and related matters* ([the Treaty](#)).

The PZJA is supported by four government agencies: the Australian Fisheries Management Authority (AFMA), the Commonwealth Department of Agriculture, Water and the Environment (DAWE), the Queensland Department of Agriculture and Fisheries (QDAF) and the Torres Strait Regional Authority (TSRA).

AFMA is responsible for providing day to day fisheries management services for the PZJA including compliance and licencing. Decision records of the PZJA are available on the [PZJA website](#).

Agreements between PNG and Australia on catch sharing arrangements and related matters usually take place at annual fishery bilateral meetings and meetings of the Torres Strait Joint Advisory Council but may also occur intersessional as required by the two Parties.

The Hand Collectables Working Group (HCWG) is an expertise-based advisory committee that provides information and advice to the PZJA on scientific, economic and technical matters related to the Torres Strait Bêche-de-mer Fishery. The HCWG is comprised of five Traditional Inhabitant members, two fisheries scientists, and QDAF, TSRA and AFMA members. Government officials from the Papua New Guinea National Fisheries Authority, and a representative of the Malu Lamar Registered Native Title Body Corporate (RNTBC) are also invited participants for all meetings of the HCWG. Casual industry observers attend meetings from time to time as approved by the Chair. Meeting papers, and records from HCWG meetings are available on the [PZJA website](#).

The Torres Strait Scientific Advisory Committee (TSSAC) also advises the PZJA on the strategic direction, priorities and funding distribution for research undertaken across all Protected Zone commercial fisheries. Meeting papers, and records from TSSAC meetings are available on the [PZJA website](#).

Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process.

**Meets** – A range of expertise and public interests are involved in the management of the fishery

The HCWG is an expertise-based advisory committee that provides information and advice to the PZJA on scientific, economic and technical matters related to the Torres Strait Bêche-de-mer Fishery. The HCWG is comprised of five Traditional Inhabitant members, two fisheries scientists, QDAF, TSRA and AFMA members. Government officials from the Papua New Guinea National Fisheries Authority, and a representative of the RNTBC are invited participants for all meetings of the HCWG. Casual industry observers also occasionally attend meetings, as approved by the Chair.

The TSSAC also advises the PZJA on the strategic direction, priorities and funding distribution for research undertaken across all Protected Zone commercial fisheries.

Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured.

**Meets** - Has strategic objectives and performance measures in place

The [Torres Strait Bêche-de-mer Fishery Harvest Strategy](#) (harvest strategy) has been implemented in the fishery since January 2020. It provides a framework for making evidence-based, precautionary and transparent decisions about the amount of sea cucumber that can be caught in a fishing season. It also sets out the objectives for the fishery, how the fishery is monitored, and what data should be collected to determine sustainable catch limits for sea cucumber species caught in the fishery.

The harvest strategy uses a tiered approach that applies increased levels of precaution with increasing levels of uncertainty about the stock. It caters for different amounts of data available for the different species groups and types of assessments to guide the levels of catch limits that can be set without compromising the sustainability of the stock, allowing for higher catch limits to be set if there are more, better quality data available.

A study of risk management tools for the fishery under a changing climate was undertaken in 2012. The study reported that if future patterns of catches were similar to current (in terms of total TACs, spatial distribution of fishing effort and choice of species), there were substantial declines predicted in some species (half the species falling below target levels), risk of overall and local depletion, significant changes in species composition and local population crashes. Similar results were obtained when assuming future fishing location choices were based on drivers such as profit maximisation and distance from communities, without adaptively modifying harvest strategies to account for climate change ([Plaganyi et al. 2012](#)).

The three simple strategies with no monitoring (spatial rotation, closed areas, multi-species composition) were all successful in reducing these risks, but with substantial decreases in the average profit. Higher profits (for the same risk levels) could only be achieved with strategies that included monitoring and hence adaptive management. Spatial management approaches based on adaptive feedback performed best overall ([Plaganyi et al. 2012](#)).

The harvest strategy uses a risk/cost/catch approach to assess the performance of the fishery each year and managing the sustainable growth of the fishery. It allows for the use of a range of indicators to assess the fishery including independent scientific survey data, total catch and catch per unit effort depending on the harvest strategy 'tier level' that is being applied.

Be capable of controlling the level of harvest in the fishery using input and/or output controls.

**Partially meets** – Input and output controls have some capacity to limit harvest.

Harvest is controlled by total allowable catch limits (TACs), minimum legal-size limits, and restrictions on fishing gear and methods (no underwater breathing apparatus and only boats less than seven meters long can be used).

Access to the fishery is also reserved for traditional inhabitants who hold a Traditional Inhabitant Boat (TIB) licence, with an endorsement for Bêche-de-mer. There are no limits to the number of TIB licences or Bêche-de-mer endorsements available, and the number of these concessions are increasing.

Persons receiving commercial catch from the fishery are required to hold a Torres Strait Fish Receiver licence and to report all catches they receive. This allows total allowable catch limits to be monitored and enforced.

Some management arrangements may however make enforcement difficult. For example, under the *Torres Strait Fisheries Act 1984*, persons are prohibited from taking, processing or carrying Bêche-de-mer unless they hold a licence; do so in the course of traditional fishing; or do so for private purposes with the use of an Australian boat. Commercial-licenced fishing boats can be used for traditional fishing, including during commercial fishing operations. While traditional fishing is subject to bag limits, the size limits used in the commercial fishery do not apply. Recreational fishing is also allowed, subject to recreational rules and regulations. As a result, it is likely to be difficult to determine what catch is commercial and what is traditional, recreational or for private purposes.

Total allowable catch limits (TACs) are also specified in two separate tables within the permit conditions and conflict within the conditions and with information published on the PZJA website ([PZJA, 2020](#)).

Also significantly, the minimum legal size limits specified for some species in the [Torres Strait Fisheries Management Instrument No. 15 \(Torres Strait Sea Cucumber Fishery\)](#) differ to those published on the PZJA website ([PZJA, 2020](#)).

The PZJA agreed to revised size limits when it agreed to the Harvest Strategy in November 2019, but AFMA has advised that changes to the [Torres Strait Fisheries Management Instrument No. 15 \(Torres Strait Sea Cucumber Fishery\)](#) are not expected to be undertaken until 2021. AFMA reported at the most recent Hand Collectables Working Group meeting that “New TACs for individual and basket species and the conversion ratios were implemented through licence conditions but the old minimum size limits are still in place pending the review of the Fisheries Management Instrument 15 which is currently underway and due to be completed in time for the 2021 fishing season” ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)). Conflicting information makes it difficult to comply with and enforce management arrangements.

Most species within the 'other species' management unit have been included in Torres Strait Bêche-de-mer surveys, the results of which have been used to estimate maximum sustainable yields (MSYs) and TACs ([Butler and Steven, 2020](#)).

For species considered to be 'unexploited', where there has been little or no fishing currently or in the recent past, the recommended TAC was equal to the estimate of MSY. This includes Lollyfish (*Holothuria atra*) and Curryfish species. For species currently or previously fished, but showing no evidence of severe depletion, the recommended TAC was half of MSY. This includes Trunkfish (*H. fuscopunctata*), Golden Sandfish (*H. lessoni*), Greenfish (*Stichopus chloronotus*) and Leopardfish (*Bohadschia argus*). Finally, for species considered 'overexploited', where the population is severely depleted and densities are several times lower than unfished biomass levels, or where the MSY estimates were less than 10 tonnes, the recommended TAC was zero. This includes Hairy Blackfish (*Actinopyga miliaris*) and Deepwater Redfish (*H. echinites*) ([Butler and Steven, 2020](#)).

The department notes that the catch limits currently in place for Hairy Blackfish and Deepwater Redfish are five tonnes, not zero ([PZJA, 2020](#)). It is unclear if the catches since 2019 when the TACs were calculated have impeded effective recruitment and recovery of Deepwater Redfish or Hairy Blackfish species ([Butler and Steven, 2020](#)).

The combined catch limit set for species in the 'basket species' management unit, and possibly also the Curryfish management unit (which includes three species) is also not biologically meaningful at the individual species level ([Butler and Steven, 2020](#)) and unable to effectively prevent overfishing for species in the group.

Catch figures for the fishery reported by [Butler and Steven \(2020\)](#) differ from those provided in AFMA's application for assessment. For example, Butler and Steven reported 23.7 tonnes of catch in the 'basket species' management unit, while AFMA reported 22.686 tonnes. Butler and Steven also reported 14.5 tonnes of Curryfish species, while AFMA reported 13.52 tonnes. AFMA has not been able to explain these discrepancies.

AFMA has advised that if fishing for Black Teatfish resumes in 2021, it will collate catch data and provide daily reports to operators via SMS, email and the PZJA website, on how catches are tracking against the TAC ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)). This will be extremely important given the large number of fishing licences in the fishery, the relatively small TAC for Black Teatfish and the history TAC breaches in previous trail re-openings, the most recent of which, in 2015 exceeded the TAC in only eight days.

Given the harvest strategy requires the fishery to be closed in the following year if catches exceed the TAC by five per cent, there is a high risk that fishers may dump dead and or processed product once the TAC is reached. It is unclear how AFMA will manage this risk with limited resources across the fishery area.

Contain the means of enforcing critical aspects of the management arrangements.

**Partially Meets** – Effective enforcement capability

All commercial fishers are required to land their product to a licenced fish receiver. The fish receiver is then required to accurately weigh and record data about the landed product. These 'catch disposal records' are signed by both the licenced fisher and the licenced fish receiver and then submitted to AFMA.

A Torres Strait Bêche-de-mer species identification guide ([Murphy et al 2019](#)) has been developed to help fishers and managers identify bêche-de-mer species caught in the fishery. This helps improve reported catch data and compliance with fishery regulations, including species-specific catch and size limits.

AFMA also meets with stakeholders to increase education and awareness of compliance related issues and foster voluntary compliance with fisheries regulations.

AFMA fisheries officers, with the support of the Australian Border Force, Royal Australian Navy, Queensland Water Police and the Torres Strait Regional Authority Rangers deliver a [domestic compliance program](#) within the Torres Strait Protected Zone (TSPZ) and adjacent 'outside but near' area.

To ensure AFMA's compliance efforts are targeted in the right areas an intelligence driven risk based approach will be applied under its [National Compliance and Enforcement Program](#).

Illegal, unreported and unregulated fishing has significantly declined in the last 15 years. Numerous incursions by IUU fishers from Papua New Guinea have been observed, mostly walking the reefs at low tide. The bulk of the illegal catch was Sandfish (*H. scabra*) which is currently overfished and closed to fishing. The last sighting and apprehension of IUU boats was in 2016. However, in 2019 AFMA confiscated 229 kilograms of White Teatfish, 27 kilograms of Prickly Redfish and 6 kilograms of Deepwater Blackfish that was either harvested by unlicensed fishers or was not landed to a licensed fish receiver ([Butler and Steven, 2020](#)).

Commercial fishers at the most recent Hand Collectables Working Group meeting raised concern that 'reef walkers' may not be adhering to the minimum size limits and may be depleting local resources ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)).

AFMA participates in annual meetings at the bilateral and regional level, working with partner agencies in Papua New Guinea, Timor Leste and Indonesia to foster a united approach to combatting illegal fishing in the region.

Australia's Maritime Border Command also works closely with AFMA's Foreign Compliance Operations and fishery stakeholders, detect, intercept and disrupt illegal maritime activity in the TSPZ. The Maritime Border Command also conducts regional surveillance in the wider region and has information sharing

arrangements in force to allow identification of Flag States where foreign fishing boats are in areas in which they are not legally entitled to be. International incidents can be referred to Regional Fisheries Management Organisations and Flag State for action.

Although there have been significant improvements in the management arrangements for the fishery in recent years, some arrangements still appear to be inconsistently described within and between sources. This includes total allowable catch and size limits for various species. This affects AFMA's capacity to monitor and manage the fishery and has potential to affect compliance and enforcement within the fishery.

Some examples include the Total allowable catch limits (TACs) that are specified in two separate tables within the permit conditions and conflict within the conditions and with information published on the PZJA website (PZJA, 2020). Also, importantly, the minimum legal-size limits specified for some species in the Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery) differ to those published on the PZJA website (PZJA, 2020). The PZJA agreed to revised size limits when it agreed to the Harvest Strategy in November 2019, but AFMA has advised that changes to the Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery) are not expected to be undertaken until 2021. AFMA reported at the most recent Hand Collectables Working Group meeting that "New TACs for individual and basket species and the conversion ratios were implemented through licence conditions but the old minimum size limits are still in place pending the review of the Fisheries Management Instrument 15 which is currently underway and due to be completed in time for the 2021 fishing season" (PZJA record of 17th Hand Collectables Working Group meeting). Conflicting information makes it difficult to comply with and enforce management arrangements.

Two previously targeted species in this fishery remain classified as overfished even though fishing for this species has been prohibited since the 1990's. The 2020 ABARES Fishery Status report notes that Illegal catch taken by Papua New Guinea nationals has been reported in previous years, but no such reports have been received since the 2017 to 2018 fishing season (ABARES 2020). However, domestic illegal take and trade has not been quantified and there is no Torres Strait specific compliance plan in place and considering the geographical position of the Torres Strait and the challenges it may pose from an international illegal trade perspective, a dedicated compliance plan is warranted to support the recovery of overfished species and ensure that no new species become overfished.

<p>Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria.</p>	<p><b>Meets</b> – Regular performance reviews built into management</p> <p>The Hand Collectables Working Group meets at least annually to review all available catch and primary indicator data. It advises AFMA on any further analyses, future monitoring needs or revisions to the harvest strategy that may be required. The status of the fishery and its performance against the harvest strategy is also reported annually to the PZJA. The harvest strategy may be amended if new information substantially changes the status of the fishery; drivers external to management of the fishery increase the risk to bêche-de-mer stocks; the strategy is not working effectively; or alternative techniques are developed for assessing the fishery.</p> <p>The status of bêche-de-mer stocks is assessed annually by ABARES (<a href="#">Butler and Steven, 2020</a>).</p>
<p>Be capable of assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives, and the fishery operates.</p>	<p><b>Does not meet</b> – there is no assessment, monitoring or direct management of ecological risks in the fishery.</p> <p>An ecological risk assessment (ERA) has not been undertaken for the fishery but is expected to be completed in 2021. Once completed, the department considers this ERA should be used to further inform data collection, monitoring and management of ecological risk.</p> <p>In June 2019, the Torres Strait Scientific Advisory Committee (TSSAC) endorsed a proposal to undertake a stock survey of Torres Strait bêche-de-mer species. The last surveys on east Torres Strait was undertaken in 2009. The project addresses an essential priority in the fishery’s Five-Year Research Plan, aimed at understanding the stock status of Sandfish at Warrior Reef. However, due to objections raised by Traditional Owners of Iama and Tudu, this segment of the survey was not carried out and survey effort was reallocated to eastern areas of the survey. As such, the survey results do not address Sandfish abundance on Warrior Reef which has been a longstanding research priority (<a href="#">PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting</a>). Stock surveys are essential to determine the health of stocks and the supporting environment and ecosystems. Failure to deliver this important research, particularly for stocks that have been overfished, is a significant concern.</p>
<p>Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy.</p>	<p><b>Not applicable – Due</b> to the method of fishing, there are no relevant threat abatement plans, recovery plans or bycatch policies or action strategies applicable to this fishery.</p>

**PRINCIPLE 1** - A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover.

**Objective 1** - The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability.

***Information requirements***

**1.1.1** There is a reliable information collection system in place appropriate to the scale of the fishery. The level of data collection should be based upon an appropriate mix of fishery independent and dependent research and monitoring.

**Partially meets** – There is some fishery dependent and fishery independent data collection, but very limited capacity to monitor fishing effort or fishing location.

Catch figures for the fishery reported by [Butler and Steven \(2020\)](#) differ from those provided in AFMA's application for assessment. For example, Butler and Steven reported 23.7 tonnes of catch in the 'basket species' management unit, while AFMA reported 22.686 tonnes. Butler and Steven also reported 14.5 tonnes of Curryfish species, while AFMA reported 13.52 tonnes. **AFMA has not been able to explain these discrepancies.**

#### ***Fishery dependent data***

Commercial fishers are required to complete daily fishing logbooks. The completion of daily fishing logbooks by the TIB sector, including information on fishing effort, is not mandatory due to provisions in the *Torres Strait Fisheries Act 1984*. AFMA is seeking legislative amendments to make daily catch and effort reporting mandatory. AFMA has advised this may take several years.

All commercial fishers are required to land their product to a licenced fish receiver. The fish receiver is then required to accurately weigh and record data about the landed product in a Catch Disposal Record book (TDB02). These records capture the total weight of the species landed in their processed form and are signed by both the licenced fisher and the licenced fish receiver before being submitted to AFMA.

The catch disposal records for the TIB sector include a voluntary section which seeks information on fishing effort including where the product was caught, the number of days fished and by how many fishers, and the fishing methods that they used.

A species identification guide ([Murphy et al 2019](#)) is available to assist fishers to correctly identify the bêche-de-mer species caught in the fishery. Correct species identification improves data quality and compliance with fishery regulations such as total allowable catch limits and minimum legal-size limits.

#### ***Fishery independent data***

There is no observer program for the fishery and no requirement for vessels to operate Vessel Monitoring Systems to monitor their location or activity.

Five multispecies scientific stock surveys were undertaken for the fishery between 1995 and 2020. These provide a time series of data that has been used to inform the management of the fishery. Two additional scientific surveys were also undertaken on Sandfish (*H. scabra*) at Warrior Reef in 2010 and 2012. The harvest strategy allows for fishery independent data, when available, to guide the setting of catch limits.

	<p>The TSSAC considers research proposals for inclusion in its rolling five-year research plan for the fishery. The plan is used to create an annual research statement and the five-year research plan is updated annually to maintain a rolling five-year projection for research in the fishery.</p> <p>In June 2019, the TSSAC endorsed a proposal to undertake a stock survey of bêche-de-mer species in the Torres Strait. The last surveys on east Torres Strait was undertaken in 2009. The project addresses an essential priority in the fishery's Five-Year Research Plan, aimed at understanding the stock status of Sandfish at Warrior Reef. However, due to objections raised by Traditional Owners of Iama and Tudu against a particular CSIRO scientist participating in the Sandfish Warrior Reef survey, this segment of the survey was not carried out and survey effort was reallocated to eastern areas of the survey. As such, the survey results do not address Sandfish abundance on Warrior Reef which has been a longstanding research priority (<a href="#">PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting</a>). Stock surveys are essential to determine the health of stocks and the supporting environment and ecosystems. Failure to deliver this important research, particularly for stocks that have been overfished, is a significant concern.</p>
<p><b>Assessment</b></p>	
<p><b>1.1.2</b> There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected. Assessment should include a process to identify any reduction in biological diversity and /or reproductive capacity. Review should take place at regular intervals but at least every three years.</p>	<p><b>Partially meets</b> – Stock assessments and surveys have been undertaken but are irregular.</p> <p>The TSSAC considers research proposals for inclusion in its rolling five-year research plan for the fishery. The plan is used to create an annual research statement and the five-year research plan is updated annually to maintain a rolling five-year projection for research in the fishery.</p> <p>The Hand Collectable Working Group meets annually to review all available fishing and scientific data to advise on analyses and monitoring needs.</p> <p>Five multispecies scientific stock surveys undertaken between 1995 and 2020 provide a time series of data that has been used to inform the management of the fishery. Two additional scientific surveys were also undertaken on Sandfish (<i>H. scabra</i>) at Warrior Reef in 2010 and 2012. The harvest strategy allows for fishery independent data, when available, to guide the setting of catch limits.</p> <p>The most recent (2020) Australian Bureau of Agricultural and Resource Economics and Sciences Fishery Status Report found all bêche-de-mer species other than Black Teatfish, White Teatfish, Sandfish and Prickly Redfish had an uncertain stock status (<a href="#">Butler and Steven, 2020</a>).</p>

**1.1.3** The distribution and spatial structure of the stock(s) has been established and factored into management responses.

**Partially meets** – Some spatial information is collected but is yet to be applied to the management of the fishery.

Five multispecies scientific stock surveys undertaken between 1995 and 2020 provide some information on the distribution and spatial structure of most bêche-de-mer species harvested in the fishery. However life history information remains sparse for all species.

The [Torres Strait Bêche-de-mer \(sea cucumber\) species ID guide](#) (Murphy et al. 2019) provides some high level information on the distribution, identification and spawning seasons of bêche-de-mer species in the Torres Strait region that are of commercial value.

A study of risk management tools for the fishery under a changing climate was undertaken in 2012. The study reported that if future patterns of catches were similar to current (in terms of total TACs, spatial distribution of fishing effort and choice of species), there were substantial declines predicted in some species and local crashes of populations. Similar results were obtained when assuming future fishing location choices were based on drivers such as profit maximisation and distance from communities, without adaptively modifying harvest strategies to account for climate change ([Plaganyi et al. 2012](#)).

The harvest strategy uses a risk/cost/catch approach to assess the performance of the fishery each year and managing the sustainable growth of the fishery. It allows for the use of a range of indicators to assess the fishery including independent scientific survey data, total catch and catch per unit effort depending on the harvest strategy 'tier level' that is being applied.

**1.1.4** There are reliable estimates of all removals, including commercial (landings and discards), recreational and indigenous, from the fished stock. These estimates have been factored into stock assessments and target species catch levels.

**Partially meets** – catch information is available and considered in stock assessments, however there are discrepancies in the reported catch data and no reliable data collection on discards.

Estimates of landed catch are obtained from catch disposal records, and periodic stock surveys also provide information on stock abundance.

Research designed to determine weight conversion ratios for Curryfish species (*S. hermanni* and *S. vastus*) has been proposed but it is unclear whether this research has been completed or its findings adopted into management of the fishery. Only 10 per cent of Curryfish are reported to species level, with the remainder reported as 'mixed curryfish' ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)).

The data from fish receivers has continued to improve through 2019 as a result AFMA's efforts to improve the quality and timeliness of reporting. In 2019, AFMA confiscated illegal catch of sea cucumber (229 kilograms of White Teatfish, 27 kilograms of Prickly Redfish and 6 kilograms of Deepwater Blackfish) from unlicensed fishers or because the fish did not go through licensed receivers. In addition, approximately one tonne of Curryfish had spoiled and was rejected by receivers. Both of these sources of mortality were considered in the stock status assessments undertaken by [Butler and Steven \(2020\)](#). The reliance on fish receiver records (of purchased catch rather than landed catch) highlights the risks associated with the current data collection system.

There is very limited capacity to collect information on fishing location or fishing effort, though AFMA is seeking to address this through legislative change.

Catch data is used to assess the status of bêche-de-mer stocks annually, but the catch figures for the fishery reported by [Butler and Steven \(2020\)](#) differ from those provided in AFMA's application for assessment. The reason for these discrepancies is unclear, but accurate information is crucial for monitoring and managing harvest levels and ensuring the sustainability of the fishery.

Recreational and traditional harvest of bêche-de-mer is considered to be negligible. Black Teatfish and White Teatfish are prohibited species for the recreational sector which is managed by the Queensland Government.

**1.1.5** There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.

**Partially meets** – Productivity is currently being estimated.

Five multispecies scientific stock surveys undertaken between 1995 and 2020 provide some information on the distribution and spatial structure of most bêche-de-mer species in the fishery, but life history information remains patchy for all species.

Maximum sustainable yields have been estimated based on available information and precautionary catch limits are established through the harvest strategy for the fishery. Some catch limits exceed those recommended in the assessments however (for example Hairy Blackfish – *A. miliaris* and Deepwater Redfish – *H. echinites*).

**Management responses**

**1.1.6** There are reference points (target and/or limit), that trigger management actions including a biological bottom line and/or a catch or effort upper limit beyond which the stock should not be taken.

**Partially meets** – Precautionary reference points are in place, but some catch limits exceed recommended levels.

The [harvest strategy](#) for the fishery provides a transparent framework for making evidence-based, precautionary decisions on the amount of bêche-de-mer that can be caught each year. It sets out how the fishery should be monitored and what data should be collected to determine sustainable catch limits.

The harvest strategy uses a tiered approach that applies increased levels of precaution with increasing levels of uncertainty about the stock. Specific decision rules apply at each tier level and to the different species categories in the harvest strategy, to control effort, total allowable catch limits (TACs) and minimum size limits (though there are discrepancies in the size limits AFMA has published for this fishery). The strategy also includes clear rules to guide the recommencement of fishing for closed species and mechanisms for the TAC-setting process to account for any overcatch that may have occurred in preceding fishing seasons.

Starting TACs and trigger limits are based on a series of stock surveys carried out between 1995 and 2011 and estimates of fishery harvests up to 2018. The starting TACs have been set at less than ten per cent of the estimated population biomass and trigger limits also apply to species with a high uncertainty in population estimates and/or biological parameters, allowing for potential increase if more information on species stock status becomes available. The harvest strategy applies a conservative proxy value of 40 per cent of virgin biomass as the limit below which fishing for those species must stop. The TACs are set conservatively in recognition of the lack of scientific certainty.

Some TACs however have been set above the levels recommended by stock surveys. For example, Hairy Blackfish (*A. miliaris*) and Deepwater Redfish (*H. echinites*) and trial openings for the take of Black Teatfish. The use of 'basket' TACs rather than individual TACs also poses some risk of overfishing to those species. It is unclear if the catches since 2019 when the TACs were calculated have impeded effective recruitment and recovery of Deepwater Redfish or Hairy Blackfish species ([Butler and Steven, 2020](#)).

**1.1.7** There are management strategies in place capable of controlling the level of take.

**Partially meets** – Controls have some capacity to limit harvest but needs improvement.

The fishery is managed using various input and output controls. Input controls include limiting participation in the fishery to TIB licence holders, limiting fishers to using vessels no longer than seven meters and restricting harvest to hand fishing without the use of hookah and scuba gear. There is currently no limit on the number of TIB licences that can be issued. Output controls include minimum legal-size limits and total allowable catch limits. Minimum legal size limits are specified for some species in the [Torres Strait Fisheries Management Instrument No.15 \(Torres Strait Sea Cucumber Fishery\)](#), but differ to those published on the PZJA website ([PZJA, 2020](#)).

The [harvest strategy](#) applies a tiered approach with different harvest control rules depending on the type and quality of information available ([Butler and Steven, 2020](#)).

Persons receiving commercial catch from the fishery are required to hold a Torres Strait Fish Receiver licence and to report all catches they receive. This allows total allowable catch limits to be monitored and enforced.

Some management arrangements may however make enforcement difficult. For example, under the *Torres Strait Fisheries Act 1984*, persons are prohibited from taking, processing or carrying bêche-de-mer unless they hold a licence; do so in the course of traditional fishing; or do so for private purposes with the use of an Australian boat. Commercial-licensed fishing boats can be used for traditional fishing, including during commercial fishing operations. While traditional fishing is subject to bag limits, the size limits used in the commercial fishery do not apply. Recreational fishing is also allowed, subject to recreational rules and regulations. As a result, it is likely to be difficult to manage what catch is commercial and what is traditional, recreational or for private purposes.

The use of combined (multispecies) catch limits is also not biologically meaningful at the individual species level ([Butler and Steven, 2020](#)) and unable to effectively prevent overfishing for species in these groups.

Catch figures for the fishery reported by [Butler and Steven \(2020\)](#) differ from those provided in AFMA's application for assessment. For example, Butler and Steven reported 23.7 tonnes of catch in the 'basket species' management unit, while AFMA reported 22.686 tonnes. Butler and Steven also reported 14.5 tonnes of Curryfish species, while AFMA reported 13.52 tonnes. The reason for these discrepancies is unclear, but accurate data is crucial for managing catch limits and the sustainability of the fishery.

**1.1.8** Fishing is conducted in a manner that does not threaten stocks of byproduct species.

**Not applicable** – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.

(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct species to an appropriate level)

**1.1.9** The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.

**Partially meets** – The fishery is likely to be conducted at catch levels that maintain ecologically viable stock levels, when catch is kept below the agreed TAC.

**If overfished, go to Objective 2: If not overfished, go to PRINCIPLE 2:**

**Objective 2** - Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes.

***Management responses***

**1.2.1** A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers and should aim for recovery within a specific time period appropriate to the biology of the stock.

**Partially meets** – The take of species is outlined the fishery’s harvest strategy, but certain elements in the strategy needs further development.

The fishery’s [harvest strategy](#) seeks to ensure precautionary measures are in place so that overfishing does not occur, or the stock does not become overfished. A specific ‘re-opening decision rule’ is included in the harvest strategy for species that have been closed to fishing due to concerns of overfishing or stock depletion, significantly exceeding catch limits, or in the absence of reported catches.

Sandfish (*H. scabra*) is currently overfished but has a zero-TAC and is not currently subject to overfishing ([Butler and Steven, 2020](#)).

It is uncertain whether the 18 species in the ‘basket species’ management unit are overfished or subject to overfishing, though the zero-TAC for Hairy Blackfish (*A. miliaris*) and Deepwater Redfish (*H. echinites*) that was recommended by stock scientists has not been implemented and may be contributing to overfishing. Black Teatfish (*H. whitmaei*), White Teatfish (*H. fuscogilva*) and Prickly Redfish (*T. ananas*) are not overfished or subject to overfishing ([Butler and Steven, 2020](#)).

The Scientific member at the most recent Hand Collectables Working Group meeting reported that Prickly Redfish density was the lowest ever observed, was only 63 per cent of the 2005 estimate, and continues a downward trend since 2005. The Scientific member stated that this trend is concerning and will need to be further investigated. Information provided as part of the 2019-2020 stock survey also states that the species “has been heavily targeted in recent years, with a likely overshoot of the TAC” and “anecdotal reports of at least localised depletion” ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)).

The Scientific member also stated that although provisional harvest strategy limits ‘do not seem to have been breached’ for Common Curryfish (*Stichopus hermanni*) the declines in stock density from previous surveys, while not unexpected given the level of fishing effort on them, need to be investigated further to ensure that the stock remains sustainable ([PZJA record of 17<sup>th</sup> Hand Collectables Working Group meeting](#)).

The TAC for ‘basket species’ is not based on individual species’ biology and is unable to control catches of individual species. More species-specific catch limits or trigger limits are required to manage risks to these species ([Haddon 2012](#); [Patterson et al. 2016](#); [Butler and Steven, 2020](#)).

Stock surveys are infrequent which limits capacity to monitor stock recovery. The last Management Strategy Evaluation for the fishery ([Haddon 2012](#)) considered that Sandfish may not recover from their overfished state in the short term, even in the absence of fishing. Haddon ([2012](#)) recommended increases to the size limit for Sandfish, as well as Deepwater Redfish, if fishing was to recommence. The size limits in the Torres Strait fishery are generally lower than those applied on Australia’s east

	<p>coast. The <a href="#">harvest strategy</a> proposed various changes to minimum size limits in the fishery. Some of the recommended changes to size limits appear to have been implemented (e.g. Deepwater Redfish - <i>Actinopyga palauensis</i>), but others have not (e.g. Brown Sandfish - <i>Bohadschia argus</i>, Golden Sandfish - <i>Holothuria lessoni</i> and Leopardfish - <i>Bohadschia argus</i>; <a href="#">PZJA, 2020</a>). In addition, not all catch limits are detailed on the PZJA website, which may lead some fishers to assume that size limits do not apply for those species (<a href="#">PZJA, 2020</a>). Also significantly, the minimum legal size limits specified for some species in the <a href="#">Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery)</a> differ to those published on the PZJA website (<a href="#">PZJA, 2020</a>). This is likely to make compliance difficult for fishers and enforcement difficult for AFMA.</p> <p>It is important that all size limits be set at a level that ensures the species can reproduce before being removed from the fishery, and that published levels are consistent and accurate.</p>
<p><b>1.2.2</b> If the stock is estimated as being at or below the biological and / or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a 'whole of fishery' effort or quota reduction are implemented.</p>	<p><b>Partially meets</b> – Management responses have been implemented but are incomplete.</p> <p>The harvest strategy sets a conservative proxy of 40 per cent of unfished biomass as the limit below which fishing for a species must stop. The starting TACs are set at 10 per cent of the current biomass in recognition of the lack of scientific certainty for species in this fishery. Some TACs have been set above the levels recommended by stock surveys. For example Hairy Blackfish (<i>A. miliaris</i>) and Deepwater Redfish (<i>H. echinites</i>). It is unclear if the catches since 2019 when the TACs were calculated have impeded effective recruitment and recovery of Deepwater Redfish or Hairy Blackfish species (<a href="#">Butler and Steven, 2020</a>).</p> <p>The use of multispecies 'basket' TACs rather than individual TACs also poses some risk of overfishing to those 'basket species'.</p> <p>Black Teatfish, Surf Redfish and Sandfish currently have a zero-TAC to facilitate recovery of these stocks. AFMA plan to run a trial harvest for Black Teatfish in 2021, subject to a 20 tonne TAC.</p> <p>Following a stock survey in 2009 the PZJA endorsed a trial of fishing for Black Teatfish in 2014 and 2015, operating under a conservative 15 tonne TAC. Significant overcatch was recorded in both years and a zero TAC has been in place since that time.</p> <p>CSIRO surveyed several species of bêche-de-mer, including Black Teatfish, between November 2019 and January 2020. Preliminary results indicated that the Black Teatfish stock in the Torres Strait had recovered close to unfished biomass levels following its closure in 2003. Preliminary biomass dynamic modelling analysis was also undertaken as part of the stock survey to test the impact of different harvest levels on the biomass and productivity of the Black Teatfish stock over time (Murphy et al. 2020b). Across all model versions and sensitivity tests undertaken, a constant annual TAC of 20 tonnes was found to be within the range of MSY. This modelling analysis will continue to be developed as more data becomes available for the species over time.</p>

**PRINCIPLE 2** - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

**Objective 1** - The fishery is conducted in a manner that does not threaten bycatch species.

**Information requirements**

<p><b>2.1.1</b> Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
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**Assessment**

<p><b>2.1.2</b> There is a risk analysis of the bycatch with respect to its vulnerability to fishing.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
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**Management responses**

<p><b>2.1.3</b> Measures are in place to avoid capture and mortality of bycatch species unless it is determined that the level of catch is sustainable (except in relation to endangered, threatened or protected species). Steps must be taken to develop suitable technology if none is available.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
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<p><b>2.1.4</b> An indicator group of bycatch species is monitored.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
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<p><b>2.1.5</b> There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
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<p><b>2.1.6</b> The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p><b>Not applicable</b> – The hand-collection methods used are highly targeted, therefore all catch is targeted, not byproduct or bycatch.</p>
<p><b>Objective 2</b> - The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.</p>	
<p><b>Information requirements</b></p>	
<p><b>2.2.1</b> Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.</p>	<p><b>Does not meet</b> – there are no requirement in logbooks to records of interactions with endangered, threatened or protected species and threatened ecological communities for this fishery, however, fishers are encouraged to report any interactions.</p> <p>Although the risks posed by the fishery are likely to be relatively low, there is no means to monitor or respond to any changes should they occur.</p>
<p><b>Assessments</b></p>	
<p><b>2.2.2</b> There is an assessment of the impact of the fishery on endangered, threatened or protected species.</p>	<p><b>Does not meet</b> – No ERA has been conducted for the fishery.</p> <p>No ERA has been completed for this fishery but reports on dugong and turtles in the area provide some insight into potential risks to these species.</p> <p>The fishing methods used (free diving and hand collection with or without the use of a boat) mean that risks to protected species are likely to be relatively low, but may include impacts from things such as boat strikes (due to boat size), anchoring or trampling).</p> <p>A number of endangered, threatened and protected species occur in the region and assessment and risk mitigation is recommended as part of any precautionary management regime. Dugongs and turtles are amongst these species. Dugongs spend much of their time in depths of five to 20 meters so may be less at risk of boat strike than turtles which spend more time around reef habitats in waters less than five meters.</p> <p>During the last assessment of the fishery in 2017, AFMA advised it would complete an ERA for the fishery by July 2019. This did not occur and AFMA has since advised that the ERA for the fishery will be completed in 2021. Condition 5 at Section 2 recommends that the ERA is to be completed by 31 January 2022.</p>

<p><b>2.2.3</b> There is an assessment of the impact of the fishery on threatened ecological communities.</p>	<p><b>Not applicable</b> – No threatened ecological communities have been identified in the area of the fishery.</p>
<p><b>Management responses</b></p>	
<p><b>2.2.4</b> There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.</p>	<p><b>Does not meet</b> – No ERA or risk mitigation measures are in place for the fishery.</p> <p>The risks associated with hand-collection fisheries are likely to be relatively low. However, there has been no formal risk assessment and there is no means to report, monitor, or respond to emerging issues.</p> <p>During the last assessment of the fishery in 2017, AFMA advised it would complete an ERA for the fishery by July 2019. This did not occur and AFMA has since advised that the ERA for the fishery will be completed in 2021. Condition 5 at Section 2 recommends that the ERA is to be completed by 31 January 2022. An ecological risk management strategy is expected to be developed, based on the outcomes of this ecological risk assessment.</p>
<p><b>2.2.5</b> There are measures in place to avoid impact on threatened ecological communities.</p>	<p><b>Not applicable</b> – No threatened ecological communities have been identified in the area of the fishery.</p>
<p><b>2.2.6</b> The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p><b>Partially meets</b> – the fishery is likely to operating in a way that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.</p> <p>The risks associated with hand-collection fisheries are likely to be relatively low and unlikely to have significant impact on endangered, threatened or protected species. However, undertaking an assessment would provide greater confidence and allow any potential issues to be monitored and responded to as necessary.</p> <p>During the last assessment of the fishery in 2017, AFMA advised it would complete an ERA for the fishery by July 2019. This did not occur and AFMA has since advised that the ecological risk assessment for the fishery will be completed in 2021. An ecological risk management strategy is expected to be developed, based on the outcomes of this ERA.</p>
<p><b>Objective 3</b> - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>	
<p><b>Information requirements</b></p>	

**2.3.1** Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fishery's impact on the ecosystem and environment generally.

**Does not meet** – Ecological data is not collected or used for management.

Data on environmental indicators is not collected in the fishery and are not catered for in the harvest strategy.

Although stock surveys have been carried out, they are not frequent and are generally not designed to collect this broader information.

Some environmental data is collected as part of fishery independent surveys in other Torres Strait Fisheries such as the Tropical Rock Lobster Fishery but is not part of the management regime of this fishery.

A study of risk management tools for the fishery under a changing climate was undertaken in 2012. The study reported that if future patterns of catches were similar to current (in terms of total TACs, spatial distribution of fishing effort and choice of species), there were substantial declines predicted in some species (half the species falling below target levels), risk of overall and local depletion, significant changes in species composition and local population crashes. Similar results were obtained when assuming future fishing location choices were based on drivers such as profit maximisation and distance from communities, without adaptively modifying harvest strategies to account for climate change ([Plaganyi et al. 2012](#)).

**Assessment**

**2.3.2** Information is collected and a risk analysis, appropriate to the scale of the fishery and its potential impacts, is conducted into the susceptibility of each of the following ecosystem components to the fishery.

1. Impacts on ecological communities

- Benthic communities
- Ecologically related, associated or dependent species
- Water column communities

2. Impacts on food chains

- Structure
- Productivity/flows

3. Impacts on the physical environment

- Physical habitat
- Water quality

**Does not meet** – Very limited data collection is occurring, and no ERA has been completed.

Information on the fishery’s potential ecological impacts is not collected and there has been no ERA conducted for the fishery.

Impacts from the fishery on the ecosystem may include: over-exploitation of target species; translocation of species via hull and anchor fouling; and impacts of anchoring/mooring and other anthropogenic activities such as treading on reef top habitats.

Hand collection is likely to have a relatively small impact on the physical environment. However, bêche-de-mer are believed to play an important role in the nutrient cycling pathways of benthic environments. Overfishing (including localised depletion) may therefore have an impact on this function. Condition of feeding grounds, for example, algal abundance, and other environmental variables may also be important indicators to monitor.

Undertaking a risk assessment would provide greater confidence in the risks associated with the fishery and allow any identified issues to be monitored and responded to as necessary.

During the last assessment of the fishery in 2017, AFMA advised it would complete an ERA for the fishery by July 2019. This did not occur and AFMA has since advised that the ERA for the fishery will be completed in 2021. Condition 5 at Section 2 recommends that the ERA is completed by 31 January 2022.

An ecological risk management strategy is expected to be developed, based on the outcomes of this ERA.

**Management responses**

**2.3.3** Management actions are in place to ensure significant damage to ecosystems does not arise from the impacts described in 2.3.1.

**Does not meet** – No ERA or targeted risk mitigation is occurring.

During the last assessment of the fishery in 2017, AFMA advised it would complete an ERA for the fishery by July 2019. This did not occur and AFMA has since advised that the ERA for the fishery will be completed in 2021. Condition 5 at Section 2 recommends that the ERA is completed by 31 January 2022.

An ecological risk management strategy is expected to be developed, based on the outcomes of this ERA.

The risks associated with hand-collection fisheries are likely to be relatively low and unlikely to have significant impact on ecosystems, provided stocks are managed sustainably at appropriate spatial scales.

<p><b>2.3.4</b> There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond a predetermined level, or where action is indicated by application of the precautionary approach.</p>	<p><b>Does not meet</b> – There are no decision rules or triggers in the management regime for the fishery. Data on ecological indicators is not collected in the fishery and not currently catered for in the harvest strategy.</p>
<p><b>2.3.5</b> The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p><b>Partially meets</b> – provided bêche-de-mer stocks are managed sustainably at appropriate spatial scales, the impacts of fishing operations on the ecosystem generally are likely to be sustainable. Undertaking a risk assessment would provide greater confidence in this assumption and allow any identified issues to be monitored and responded to as necessary. AFMA intends to complete an ecological risk assessment for this fishery in 2021. Condition 5 at Section 2 recommends that the ERA is completed by 31 January 2022. An ecological risk management strategy is then expected to be developed.</p>

## SECTION 4: ASSESSMENT AGAINST THE EPBC ACT

The table below is not a complete or exact representation of the EPBC Act. It is intended to show that the relevant sections and components of the EPBC Act have been taken into account in the formulation of advice on the Torres Strait Bêche-de-mer Fishery in relation to decisions under Part 13 and Part 13A.

### Part 10 – Strategic assessments

Division 2 Assessment of Commonwealth-managed fisheries Section 153 Minister must make declaration if he/ she endorses plan or policy	The department's assessment of the Torres Strait Bêche-de-mer Fishery
<p>(1) This section applies if:</p> <p>(a) the Minister makes an agreement under section 146 as required by this Division and endorses under the agreement:</p> <p>(i) a plan of management under the Fisheries Management Act 1991 (CTH) for a fishery; or</p> <p>(ii) policies of the Australian Fisheries Management Authority for managing a fishery for which there is not a plan of management under the Fisheries Management Act; or</p> <p>(iii) a plan of management under the <i>Torres Strait Fisheries Act 1984</i> (CTH) for a fishery; or</p> <p>(iii) policies for managing fishing under the Torres Strait Fisheries Act; and</p> <p>(b) the Minister accredits, under subsection 33(3) of this Act, as an accredited arrangement a management plan or regime consisting of the endorsed plan or policies.</p> <p>(2) The Minister must make a declaration under section 33 that actions approved in accordance with the accredited arrangement do not require an approval under Part 9 for the purposes of subsection 23(1), (2) or (3) or subsection 24A(1), (2), (3), (4), (5) or (6).</p>	<p>The <i>Torres Strait Bêche-de-mer Fishery Statement of Management Arrangements 2005</i> was strategically assessed under Part 10 of the EPBC Act on 23 June 2005. A declaration was subsequently made on 11 June 2008 in accordance with the provisions of section 33 of the EPBC Act, so that actions taken in accordance with the management regime do not require approval under Part 9 of the EPBC Act. The management regime has been strengthened since this time, most recently through adoption of a harvest strategy for the Torres Strait Bêche-de-mer Fishery.</p>

### Part 12 – Identifying and monitoring biodiversity and making bioregional plans

Section 176 Bioregional Plans	Comment
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(5) Minister must have regard to relevant bioregional plans	<b>Not applicable</b> - There are no marine bioregional plans relevant to the Torres Strait Bêche-de-mer Fishery.
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### Part 13 – Species and communities

Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)	Comment
<p>s. 208A (1) (a-e) , s.222A (1) (a-e), s.245 (1) (a-e), s.265 (1) (a-e)</p> <p>Does the fishery have an accreditable plan of management, regime or policy?</p>	<p><b>Meets</b></p> <p>Yes, there is an accreditable management regime. The fishery will be managed under the <a href="#">Torres Strait Fisheries Act 1984</a>, <a href="#">Torres Strait Fisheries Regulations 1985</a>, <a href="#">Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery)</a>, as well as in licence conditions and the <a href="#">Torres Strait Bêche-de-mer Fishery Harvest Strategy</a>.</p>
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	Comment
<p>(f) Will the plan, regime or policy require fishers 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?</p>	<p><b>Meets</b></p> <p>Yes, although there is no ecological risk assessment to quantify the risks to protected species, the risks are likely to be very low and limited to boat strikes and disturbance by moving or anchoring boats.</p> <p>There have been no reported interactions with listed threatened species to date.</p> <p>The management regime for the Torres Strait Bêche-de-mer Fishery (the fishery) was accredited in on 18 June 2014.</p> <p>There have been numerous changes to the management regime since that time. The department has assessed the current management regime and determined that the regime requires all reasonable steps to be taken to prevent the killing or injuring of members of listed threatened species.</p>
<p>(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species?</p>	<p><b>Meets</b></p> <p>No, <a href="#">AFMA protected species interaction reports</a> show no interactions reported in the period 1 January 2012 to 30 June 2020. The department has assessed the current management regime and determined that the</p>

	regime is unlikely to affect the survival or recovery in nature of any protected species.
<b>Division 2 Migratory species, Section 222A Minister may accredit plans or regimes</b>	<b>Comment</b>
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing?	<p><b>Meets</b></p> <p>Yes, although there is no ecological risk assessment to quantify the risks to protected species, the risks are likely to be very low and limited to boat strikes and disturbance by moving or anchoring boats.</p> <p>There have been no reported interactions with listed migratory species from 1 January 2012 to 30 June 2020.</p> <p>The management regime for the fishery was accredited in on 18 June 2014.</p> <p>There have been numerous changes to the management regime since that time. The department has assessed the current management regime and determined that the regime requires all reasonable steps to be taken to prevent the killing or injuring of members of listed migratory species.</p>
(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	<p><b>Meets</b></p> <p>No, <a href="#">AFMA protected species interaction reports</a> show no interactions reported in the period 1 January 2012 to 30 June 2020.</p> <p>the department has assessed the current management regime and determined that the regime is unlikely to affect the conservation status of any migratory species.</p>
<b>Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes</b>	<b>Comment</b>
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing?	<p><b>Meets.</b></p> <p>Yes, although there is no ecological risk assessment to quantify the risks to protected species, the risks are likely to be very low and limited to boat strikes and disturbance by moving or anchoring boats.</p> <p>There have been no reported interactions with cetacean species from 1 January 2012 to 30 June 2020.</p> <p>The management regime for the fishery was accredited in on 18 June 2014.</p>

	There have been numerous changes to the management regime since that time., The department has assessed the current management regime and determined that the regime requires all reasonable steps to be taken to prevent the killing or injuring of cetacean species.
(g) And, is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	<b>Meets</b> No, <a href="#">AFMA protected species interaction reports</a> show no interactions reported in the period 1 January 2012 to 30 June 2020. The department has assessed the current management regime and determined that the regime is unlikely to affect the conservation status of any cetacean species.
<b>Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes</b>	<b>Comment</b>
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing?	<b>Meets</b> Yes, although there is no ecological risk assessment to quantify the risks to protected species, the risks are likely to be very low and limited to boat strikes and disturbance by moving or anchoring boats. There have been no reported interactions with listed marine species from 1 January 2012 to 30 June 2020. The management regime for the fishery was accredited in on 18 June 2014. There have been numerous changes to the management regime since that time. The department has assessed the current management regime and determined that the regime requires all reasonable steps to be taken to prevent the killing or injuring of listed marine species.
(g) And, is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	<b>Meets</b> No, <a href="#">AFMA protected species interaction reports</a> show no interactions reported in the period 1 January 2012 to 30 June 2020. The department has assessed the current management regime and determined that the regime is unlikely to affect the conservation status of any listed marine species.
<b>Section 303AA Conditions relating to accreditation of plans, regimes and policies</b>	<b>Comment</b>

<p>(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p><b>Accreditation under sections 208A, 222A, 245 and 265 is recommended.</b></p>
<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"> <li>(a) during a particular period; or</li> <li>(b) while certain circumstances exist; or</li> <li>(c) while a certain condition is complied with.</li> </ul> <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p>	<p>Interactions with protected species are negligible under existing arrangements</p> <p><b>Conditions are not considered necessary to satisfy the requirements of sections 208A, 222A, 245, and 265 of the EPBC Act.</b></p>

### Part 13A – International movement of wildlife specimens

<b>Section 303BA Objects of Part 13A</b>	
<p>(1) The objects of this Part are as follows:</p> <ul style="list-style-type: none"> <li>(a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;</li> <li>(b) to protect wildlife that may be adversely affected by trade;</li> <li>(c) to promote the conservation of biodiversity in Australia and other countries;</li> <li>(d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;</li> <li>(e) to promote the humane treatment of wildlife;</li> <li>(f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and</li> <li>(h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.</li> </ul>	<p>The management arrangements for the Torres Strait Bêche-de-mer Fishery (the fishery) have been assessed and found to be consistent with the general guidance provided in the objects of Part 13A.</p> <p>The fishery’s harvest of species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has been assessed and is considered sustainable and unlikely to have a detrimental impact on the species’ survival in the wild for the duration of the declaration.</p> <p>There are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way. The operation of the fishery is unlikely to be unsustainable and threaten biodiversity within the next 12 months.</p> <p>The Environment Protection and Biodiversity Conservation Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.</p>

Section 303 CG Minister may issue permits (CITES species)	Comment
<p>(3) The Minister must not issue a permit unless the Minister is satisfied that:</p> <p>(a) the action or actions specified in the permit will not be detrimental to, or contribute to trade which is detrimental to:</p> <p>(i) the survival of any taxon to which the specimen belongs; or</p> <p>(ii) the recovery in nature of any taxon to which the specimen belongs; or</p> <p>(iii) any relevant ecosystem (for example, detriment to habitat or biodiversity); and</p>	<p><b>Meets</b></p> <p>The fishery harvests Black Teatfish (<i>Holothuria whitmaei</i>) and White Teatfish (<i>H. fuscogilva</i>) which are both listed in CITES Appendix II. The department's assessment under the EPBC Act has found that the fishery is likely to be sustainable and not threatened the survival of the species in nature, for the period of the proposed approvals. A condition on the WTO declaration for the fishery includes annual reporting requirements, which will allow the department to monitor the status of CITES specimens harvested in the fishery.</p>
Section 303DC Minister may amend list (non-CITES species)	Comment
<p>(1) The Minister may, by legislative instrument, amend the list referred to in section 303DB [list of exempt native specimens] by:</p> <p>(a) doing any of the following:</p> <p>(i) including items in the list;</p> <p>(ii) deleting items from the list;</p> <p>(iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject;</p> <p>(iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or</p> <p>(b) correcting an inaccuracy or updating the name of a species.</p>	<p>The department recommends that specimens that are, or are derived from, fish or invertebrates harvested in the fishery, as defined in the management regime in force under the <a href="#">Torres Strait Fisheries Act 1984</a>, <a href="#">Torres Strait Fisheries Regulations 1985</a>, <a href="#">Torres Strait Fisheries Management Instrument No.15 (Torres Strait Sea Cucumber Fishery)</a>, as well as in <a href="#">licence conditions</a> and the <a href="#">Torres Strait Bêche-de-mer Fishery Harvest Strategy</a>, but not including:</p> <ul style="list-style-type: none"> <li>• specimens that belong to taxa listed under section 209 of the EPBC Act (Australia's list of migratory species), or</li> <li>• specimens that belong to taxa listed under section 248 of the EPBC Act (Australia's list of marine species), or</li> <li>• specimens that belong to eligible listed threatened species, as defined under section 303BC of the EPBC Act, or</li> <li>• specimens that belong to taxa listed under section 303CA of the EPBC Act (Australia's CITES List)</li> </ul> <p>be included in the list of exempt native specimens while the fishery is subject to a declaration as an approved wildlife trade operation. CITES-listed species that are approved to be exported are done so under the associated WTO approval.</p>
<p>(1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes an assessment under Part 10, Divisions 1 or 2</p>	<p><b>Meets</b></p> <p>The <i>Torres Strait Bêche-de-mer Fishery Statement of Management Arrangements 2005</i> was strategically assessed under Part 10 of the</p>

	<p>EPBC Act on 23 June 2005. A declaration was subsequently made on 11 June 2008 in accordance with the provisions of section 33 of the EPBC Act, so that actions taken in accordance with the management regime do not require approval under Part 9 of the EPBC Act.</p> <p>The management regime has been strengthened since this time, most recently through adoption of a harvest strategy for the fishery.</p>
(1C) The above does not limit matters that may be considered when deciding to amend LENS.	<p><b>Meets.</b></p> <p>The department considers that it has taken into account all matters relevant to making an informed decision to amend the list of exempt native specimens to include product taken in this fishery.</p>
(3) Before amending the LENS, the Minister must consult: <ul style="list-style-type: none"> <li>(a) other Minister or Ministers as appropriate; and</li> <li>(b) other Minister or Ministers of each State and self-governing Territory as appropriate; and</li> <li>(c) other persons and organisations as appropriate.</li> </ul>	<p><b>Meets.</b></p> <p>The submission for assessment was available on the department's website from 14 October 2020 until 13 November 2020.</p> <p>No comments were received.</p>
<b>Section 303FN Approved wildlife trade operation</b>	<b>Comment</b>
(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is <b>satisfied</b> that: <ul style="list-style-type: none"> <li>(a) the operation is consistent with the objects of Part 13A of the Act; and</li> <li>(b) the operation will not be detrimental to: <ul style="list-style-type: none"> <li>(i) the survival of a taxon to which the operation relates; or</li> <li>(ii) the conservation status of a taxon to which the operation relates; and</li> </ul> </li> <li>(ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and</li> </ul>	<p><b>Meets.</b></p> <p>The fishery is consistent with Objects of Part 13A of the Act – see above assessment against the Guidelines.</p> <p>Based on the outcomes of the department's assessment, as outlined in this report, and the conditions recommended in Section 2, the fishery will not be detrimental to the survival or conservation status of a taxa or relevant ecosystem to which it relates within the next three years.</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><b>Not applicable.</b></p> <p>The Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) do not specify Echinoderms as a class of animal in relation to the welfare of live specimens.</p>

<p>(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.</p>	<p><b>Not applicable.</b> No other conditions are specified in relation to commercial fisheries in the EPBC Regulations.</p>
<p>(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have <b>regard</b> 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>Meets.</b> The fishery will not have a significant impact on any relevant ecosystem within the next 12 months, given the management measures currently in place and the conditions recommended in Section 2 of this assessment.</p>
<p>(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).</p>	<p><b>Meets.</b> The management arrangements that will be employed for the fishery as outlined in the assessment against the Guidelines (above), are likely to be effective.</p>
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have <b>regard</b> 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><b>Partially meets</b> The fishery will be managed under the <a href="#">Torres Strait Fisheries Act 1984</a>, <a href="#">Torres Strait Fisheries Regulations 1985</a>, <a href="#">Torres Strait Fisheries Management Instrument No. 15 (Torres Strait Sea Cucumber Fishery)</a>, as well as in <a href="#">licence conditions</a> and the <a href="#">Torres Strait Bêche-de-mer Fishery Harvest Strategy</a>.</p> <p>This fishery is managed under the <a href="#">Torres Strait Fisheries Act 1984</a>. This Act precludes the relevant Minister from imposing mandatory reporting on the TIB sector. While voluntary logbooks are available to fishers, participation is low. Nonetheless, all fishers in this fishery must land their catches to licenced fish receivers and fish receivers are required to report catch landed to them.</p> <p>The department considers that the legislation and other supporting management arrangements are likely to be effective, subject to the conditions specified in Section 2 of this report.</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>(a) the operation is a commercial fishery.</p>	<p><b>Meets</b> 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>(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>	<p><b>Meets</b>  The fishery was assessed under Part 10 of the EPBC Act in June 2005 and the management regime most recently accredited pursuant to section 33 of the EPBC Act <a href="#">in June 2014</a>. In conducting this 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>
Section 303FR Public consultation	Comment
<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"> <li>(a) setting out the proposal to make the declaration; and</li> <li>(b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and</li> <li>(c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.</li> </ul> <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>(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><b>Meets.</b>  The consultation requirements have been met.  The application for approval of the fishery under the export provisions of the EPBC Act was made available for public comment from 14 October 2020 until 13 November 2020.  No comments were received.</p>
Section 303FT Additional provisions relating to declarations	Comments
<p>(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.</p>	<p>A declaration for the Torres Strait Bêche-de-mer Fishery will be made under section 303FN.</p>

<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  (b) while certain circumstances exist; or  (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 wildlife trade operations include:</p> <ul style="list-style-type: none"> <li>• operation in accordance with the management regime</li> <li>• notifying the department of changes to the management regime, and</li> <li>• annual reporting in accordance with the requirements of the Australian Government <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition</i>.</li> </ul> <p>The wildlife trade operation instrument for the Torres Strait Bêche-de-mer Fishery specifies the standard and any additional conditions applied.</p>
<p>(8) A condition may relate to reporting or monitoring.</p>	<p>One of the standard conditions relates to reporting.</p>
<p>(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.</p>	
<p>(11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the internet.</p>	<p>The instrument for the Torres Strait Bêche-de-mer Fishery made under sections 303FN and the conditions under section 303FT will be registered as a notifiable instrument and made available through the Department's website.</p>

#### Part 16 – Precautionary principle and other considerations in making decisions

Section 391 Minister must consider precautionary principle in making decisions	Comment
<p>(1) Minister must take account of the precautionary principle in making a decision, to the extent that the decision is consistent with other provisions under this Act.</p> <p>(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.</p>	<p><b>Partially meets</b></p> <p>The department's assessment has identified certain issues that require attention by the PZJA and AFMA.</p> <p>The conditions proposed for inclusion on the proposed Part 13A approval are designed to address these issues and represent a precautionary approach to the management of environmental uncertainty and risk. The management regime, when supported by these conditions is likely to prevent serious or irreversible environmental damage being caused by this fishery.</p>

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