



Australian Government

Department of the Environment and Energy

Assessment of the
Torres Strait Trochus Fishery

December 2017

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This report should be attributed as '*Assessment of the Torres Strait Trochus Fishery December 2017*, Commonwealth of Australia 2017'.

Disclaimer

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

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EXECUTIVE SUMMARY OF THE TORRES STRAIT TROCHUS FISHERY ASSESSMENT

On 12 April 2017, the Australian Fisheries Management Authority (AFMA) submitted an application on behalf of the Torres Strait Protected Zone Joint Authority (PZJA), for assessment of the Torres Strait Trochus Fishery under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as a Wildlife Trade Operation (WTO).

The Department of the Environment and Energy assessed this application against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. Public consultation on the application was undertaken between 26 April to 31 May 2017. No comments were received.

The Torres Strait Trochus Fishery targets a single trochus species, *Tectus niloticus*, using hand-collection and diving in the Torres Strait Protected Zone. Historically this fishery has been declared as a WTO. However, there has been no commercial fishing activity in this fishery since 2010. While there is no effort in the fishery, it does not pose any ecological risks.

The Department recommends that the fishery be exempt from the export requirements of the EPBC Act and product derived from the fishery be included on the List of Exempt Native Specimens until 9 October 2026. Should fishing effort increase in the Torres Strait Trochus Fishery, the Department will reassess the fishery.

SECTION 1: ASSESSMENT SUMMARY OF THE TORRES STRAIT TROCHUS FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION), CONSISTENT WITH THE EPBC ACT.

	Meets	Partially meets	Does not meet	Details
Guidelines				
Management regime	4 of 9 & 1 N/A	3 of 9	1 of 9	The management regime is poorly defined but actions are underway to address this. There are no systems to measure the effectiveness of the fishery arrangements and no formal ecological risk assessment or risk management system in place.
Principle 1 (target stocks)	2 of 11 & 2 N/A	3 of 11	4 of 11	Capacity to collect fishery data has been significantly improved but is limited to information on commercial catch volumes. Information on non-commercial catches remains uncertain and fishers are not required to report any information. Understanding of stock dynamics and status, distribution, productivity and fishing capacity is also very limited. Management arrangements are also subject to exceptions which may affect compliance capacity in some instances.
Principle 2 (bycatch and TEPS)	0 of 12 & 8 N/A	2 of 12	2 of 12	This is a hand collection fishery and risk to Part 13-listed species is considered to be low. However there has been no formal assessment and there is no system to facilitate reporting if interactions do occur. It is also unlikely that fishers are aware of their reporting requirements under the EPBC Act.
Principle 2 (ecosystem impacts)	0 of 5	5 of 5	0 of 5	Risk to ecosystem is likely to be relatively low, but there has been no formal assessment.
EPBC requirements				
Part 12				No marine bioregional plans apply to the area of the Torres Strait.
Part 13	Meets			There have been no reported interactions with Part 13 listed species, and risks are likely to be low.
Part 13A	Meets			The Torres Strait Trochus Fishery is consistent with the Objects of Part 13A. Inclusion on the List of Exempt Native Specimens is recommended for nine years, until 9 October 2026.
Part 16	Meets			Given the lack of fishing activity management is considered sufficiently precautionary to prevent serious or irreversible environmental damage being caused by this fishery.

Assessment history:

1st assessment finalised 2005 – WTO with 3 conditions, 6 recommendations.

2nd assessment finalised 2008 – WTO with 3 conditions, 4 recommendations.

3rd assessment finalised 2012 – WTO with 3 conditions, 3 recommendations.

Fishery reporting:

Annual report – No annual reports have been provided to the Department.

Other reports providing information on the fishery include:

- [Combined Torres Strait Protected Zone Joint Authority Annual Report 2011-2012, 2012-2013, 2013-2014](#)
- [AFMA Protected Species Interaction Reports](#)
- [Australian Bureau of Agricultural and Resource Economics Fishery Status Reports](#)

Key links:

Fishery information page on agency website: <http://pzja.gov.au/the-fisheries/torres-strait-trochus-fishery/#.We6nINV96Uk>

There is no formal management plan, harvest strategy, ecological risk assessment, ecological risk mitigation strategy or publically available stock assessment for this fishery. Some arrangements are outlined in [A guide to management arrangements for Torres Strait Fisheries, June 2004.](#)

Enforcing legislation:

- [Torres Strait Fisheries Act 1984](#)
- [Torres Strait Fisheries Regulations 1985](#)
- [Torres Strait Treaty \(Miscellaneous Amendments\) Act 1984](#)
- [Torres Strait Fisheries Management Instrument No. 13](#)
- [Fisheries Management Notice No. 47 – Torres Strait Fisheries \(restriction on size of boats\)](#)
- [Community Fishing Notice No. 1](#) (pdf copy on PZJA website but not found on legislation.gov.au)
- [Torres Strait Fisheries Act 1984 - Proclamation \(17/03/1999\)](#)

SECTION 2: DETAILED ANALYSIS OF THE TORRES STRAIT TROCHUS FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines for the Ecologically Sustainable Management of Fisheries (2nd edition)	Comment
THE MANAGEMENT REGIME	
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	Partially meets While some information is available on the PZJA's website, important information is unavailable, inaccurate, inconsistent or difficult to locate. This makes it difficult to determine what arrangements apply to the fishery and could affect fisher's capacity to understand and comply with the arrangements. A website review is currently underway and expected to be completed by July 2018. Records of various management-related meetings are included on the PZJA website .
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public	Meets The management regime is developed through a consultative process. The PZJA established advisory bodies in 2003, and meeting records are published on the PZJA website . Agendas for these meetings are also published on the PZJA website in advance of the meetings, and members of the public are provided the opportunity to attend as observers. The PZJA consults Australian traditional inhabitant fishers (commercial and traditional fishing), non-traditional inhabitant commercial fishers, Australian and Queensland government officials, and other technical experts. Significant management changes are typically subject to a public consultation process.
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	Meets Consultative groups include relevant expertise and community interest. The policy guiding membership, operation, administration and key decision making processes of the advisory bodies (other than the Torres Strait Protected Zone Joint Authority Standing Committee) is documented in Fisheries Management Paper No. 1 on the PZJA website.
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured	Does not meet Catch is assessed against the total allowable catch limit each year by the Hand Collectables Working Group but there is no harvest strategy or strategic plan for the management or assessment of the fishery. The CSIRO recommended various harvest strategies for the fishery to manage the risk of overexploitation (Murphy et al. 2010), but given the lack of fishing since that time, these have not been adopted. Harvest strategies are scheduled to be developed for other Torres Strait Fisheries during 2017–2020, but are not scheduled for the Torres Strait Trochus Fishery. If fishing resumes these sorts of strategies will be important to manage the risk of overexploitation.

Be capable of controlling the level of harvest in the fishery using input and/or output controls	<p>Meets</p> <p>A variety of input and output controls are used in the fishery. These include size limits, total allowable catch limits, boat size limits, gear restrictions and restriction of commercial fishing to licenced traditional inhabitants. Although there are no restrictions on the number of licenses available, all fishers are required to unload their catch to a licensed fish receiver who is then required to report this to AFMA within three days. In this way AFMA can monitor and manage catches.</p>
Contain the means of enforcing critical aspects of the management arrangements	<p>Meets</p> <p>The <i>Torres Strait Fisheries Act 1984</i> outlines penalties for non-compliance with management arrangements and the Queensland Boating and Fisheries Patrol currently enforces these arrangements for Australian fishers in the Torres Strait.</p> <p>AFMA in co-operation with the Papua New Guinean National Fisheries Authority and Australian Border Force - Maritime Border Command maintain a compliance presence in the Torres Strait to minimise the risk of incursions by foreign fishing vessels.</p> <p>AFMA and the Queensland Boating and Fisheries Patrol undertake an annual compliance risk assessment for the Torres Strait. The Queensland Boating and Fisheries Patrol has not identified any compliance priorities for the fishery (PZJA 2015).</p> <p>There were no reported breaches of regulations in the fishery in 2015, but enforcement is difficult as much of the fishing occurs in remote areas, amongst many boats spread over a vast area. The current compliance program is restricted by the costs of implementing a program in these circumstances.</p> <p>Some catch by illegal foreign fishers has been recorded in the past, but illegal foreign fishing is not considered a risk for the fishery due to the low market value of trochus product.</p>
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	<p>Partially meets</p> <p>There do not appear to be any performance reviews built into the management arrangements; however the Australian Government Bureau of Agricultural and Resource Economics and Sciences undertake annual assessments of this and other Commonwealth managed fisheries, using available information.</p> <p>Following the last (2009) survey of trochus in eastern Torres Strait, the CSIRO raised concern regarding the appropriateness of the trochus total allowable catch limit. It recommended introducing a trigger catch level of 100 tonnes (whole weight) with agreed management actions if this level was reached. This was to mitigate the risk of overfishing (Murphy et al. 2010). These recommendations have not been adopted and the total allowable catch limit remains unchanged.</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>Partially meets</p> <p>Although there has been no formal risk assessment AFMA has suggested that ecosystem impacts may be associated with exploitation of target species; translocation of species via hull and anchor fouling; and anchoring/mooring and other anthropogenic activities such as treading on reef top habitat. There are no risk mitigation measures in place at this time, but the risks are likely to be relatively low.</p> <p>Undertaking an assessment would however provide greater confidence and allow any issues to be monitored and responded to as necessary.</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>Not applicable</p> <p>There are no threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch 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

All fishers must unload their catch to licenced fish receivers, who must then report this information to AFMA within three days. While this gives reliable information about catch volumes, fishers cannot be required to report any information on their fishing activity without legislative change. This significantly reduces AFMA's capacity to collect important fishery data.

Fishery independent surveys are undertaken periodically, and usually in association with survey of other Torres Strait fishery resources. The last survey was in 2009 and the commercial fishery has been inactive since that time.

The amount of non-commercial, including traditional harvest, is unknown, but trochus meat is often consumed by the community and is recognised as an important food source ([Crowe et al. 2002](#); [PZJA 2015](#); [AFMA 2017](#)).

Torres Strait Islanders have one of the highest recorded per capita seafood consumption rates in the world (Harris et al. 1994 and [Skewes et al. 2004](#) in [Murphy et al. 2010](#)) and also use trochus shell for arts and crafts ([Crowe et al. 2002](#) and [AFMA 2008](#) in [Murphy et al. 2010](#)).

Assessment

1.1.2 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.

Does not meet

Torres Strait Trochus stocks have never been properly assessed at the regional level ([D'Silva 2001](#) and [Wilson et al. 2009](#) in [Murphy et al. 2010](#)), and there is no published abundance estimate for the Torres Strait ([Skewes 2010](#)).

Stock surveys were undertaken when the fishery was commercially active, but not since 2009. Estimates of density and standing stock from these surveys are considered unreliable, with density estimates having very low precision and little capacity to detect even large changes in trochus density ([Murphy et al. 2010](#)).

The total allowable catch limit (150 tonnes) is not scientifically based and may not be sustainable ([Murphy et al. 2010](#)). There is also no mechanism to assess the suitability of the limit or the sustainability of historical catches ([Murphy et al. 2010](#)). The reported annual catch of trochus over the last 10 years that the fishery was active (4–82 tonnes) was well below the total allowable catch limit of 150 tonnes ([Murphy et al. 2010](#)).

Trochus are highly vulnerable to any form of intensive exploitation ([David 2006](#) in [Murphy et al. 2010](#)) and highly susceptible to overfishing ([Castell 1997](#) and [Wright & Hill 1993](#) in [Murphy et al. 2010](#)). The fishery operates in a boom and bust fashion with activity closely linked to international demand and price for trochus, and overfishing may occur if prices remain high for an extended period ([AFMA 2008](#) in [Murphy et al. 2010](#)).

There has been a pattern of rapid declines shortly after commencement of commercial fishing for trochus in Torres Strait, with the fishery being overfished within the first four years of commencing in 1912 ([Wright & Hill 1993](#) in [Murphy et al. 2010](#)). ABARES ([Patterson et al. 2017](#)) has been unable to determine whether the stock is currently overfished, but given the current lack of commercial fishing, considers that overfishing is not occurring.

Populations experiencing declining densities from overfishing can suddenly collapse and be unable to recover ([Foale & Day 1997](#); [Foale 1998](#); in [Murphy et al. 2010](#)), and the short planktonic duration of larvae before settlement limits the dispersal range of the species ([Foale & Day 1997](#) in [Murphy et al. 2010](#)).

Trochus are also prone to recruitment overfishing on individual reefs, especially if neighbouring reefs are also overfished. Recruitment is further affected on reefs with relatively little suitable habitat for juveniles ([Foale & Day 1997](#) in [Murphy et al. 2010](#)). Evidence of stock collapse due to recruitment overfishing of trochus has been reported for several reefs on the Great Barrier Reef and in New Caledonia ([Foale & Day 1997](#) in [Murphy et al. 2010](#)), and significant declines have also been reported on reefs north of King Sound in Western Australia (over 135 tonnes per annum in 1980, to only 12 tonnes by 1998; [Crowe et al. 2002](#) in [Murphy et al. 2010](#)). A number of trochus fisheries in the Indo-Pacific region have also been overfished and no longer yield their full potential ([Foale & Day 1997](#); [Clarke et al. 2003](#); [AFMA 2008](#) in [Murphy et al. 2010](#)). Trochus are now protected in Indonesia ([Crowe et al. 2002](#) in [Murphy et al. 2010](#)).

AFMA is pursuing legislative changes to mandate reporting of fishery data by Traditional Inhabitant commercial fishers in the Torres Strait and this should aid in future monitoring and management.

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

Does not meet

The distribution and spatial structure of the stocks does not appear to be considered in managing the fishery. Localised depletion has been identified as a risk ([AFMA 2008](#)) and has been observed in all regions of the fishery (Tawake pers. comm. and [Raudzens 2007](#) in [Murphy et al. 2010](#)).

[Murphy et al. \(2010\)](#) recommended that effort be distributed and a proportion of the breeding stock be protected ([Murphy et al. 2010](#)). AFMA suggested these protections could include, but should not be limited to, closed areas, move on rules or rotational zoning ([AFMA 2017](#)), but these measures are yet to be implemented. AFMA has undertaken to review these requirements if commercial fishing recommences.

<p>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.</p>	<p>Partially meets</p> <p>There have been significant problems collecting fishery data in the past, with no data collected for 10 of the 13 years during 1991–2003, and that which was collected being unreliable (D'Silva 2001 in Murphy et al. 2010). However, from 1 December 2017 all commercial fishers are required to unload their catch to licenced fish receivers, who must then report this information to AFMA within three days. This is expected to greatly improve estimates of commercial removals from the fishery.</p> <p>Trochus meat is also often consumed by the Torres Strait community. While the extent of non-commercial harvest is unknown (PZJA 2015 and AFMA 2017), Torres Strait Islanders are known to have one of the highest recorded per capita seafood consumption rates in the world (Harris et al., 1994; Skewes et al. 2004 in Murphy et al. 2010) and also use trochus shells in arts and crafts (Crowe et al. 2002; AFMA 2008 in Murphy et al. 2010).</p> <p>The risk of illegal fishing for trochus is considered low while trochus are of lower value than other products in the region (e.g. tropical rock lobster and finfish).</p> <p>Estimates of all removals are likely to be important to guide the setting of total allowable catch limits for the commercial sector and should be considered if commercial fishing recommences.</p> <p>The basis for the current 150 tonne total allowable catch limit is unknown and does not appear to be based on estimates of abundance from stock surveys or catch data.</p>
<p>1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.</p>	<p>Does not meet</p> <p>There is no sound estimate of potential productivity or the proportion that can be harvested from the fishery. Stocks have never been properly assessed at the regional level (D'Silva 2001; Wilson et al. 2009 in Murphy et al. 2010) and there are no published abundance estimates for Torres Strait (Skewes 2010).</p> <p>Estimates of density and standing stock from periodic fishery surveys are considered unreliable, the total allowable catch limit is not scientifically based and may not be sustainable and there is no means to assess the sustainability of the total allowable catch limit or historic catches (Murphy et al. 2010).</p> <p>The reported annual catch of trochus over the last 10 years that the fishery was active (4-82 tonnes) was well below the total allowable catch limit of 150 tonnes (Murphy et al. 2010) and there is insufficient information to determine whether the biomass is overfished. However the stock is not thought to be subject to overfishing (Patterson et al. 2017).</p>
<p>Management responses</p>	
<p>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.</p>	<p>Does not meet</p> <p>There are no reference points or management triggers used in the management of the fishery, and given the current lack of commercial activity in the fishery, no harvest strategy is scheduled to be developed which would typically contain these measures.</p> <p>Murphy et al. (2010) raised concerns regarding the appropriateness of the total allowable catch limit, and recommended triggers based on historical information, anecdotal harvest patterns and a 20 per cent exploitation rate of the estimated standing stock. They also recommended that catches above the triggers not occur without further stock assessment to determine sustainability. These recommendations have not been implemented.</p> <p>While a total allowable catch limit is in place, it is not scientifically based and may not be sustainable. Estimates of density and standing stock are also considered unreliable (Murphy et al. 2010).</p>

<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Partially meets</p> <p>A variety of input and output controls are used in the fishery. These include size limits, total allowable catch limits, boat size limits, gear restrictions and restriction of commercial fishing to licenced traditional inhabitants. Although there are no restrictions on the number of licenses available, all fishers are required to unload their catch to a licensed fish receiver who is then required to report this to AFMA within three days. In this way AFMA can monitor and manage catches.</p> <p>However the open access rights and artisanal nature of fishing makes regulatory control difficult (Murphy et al. 2010). Enforcement is likely also made difficult by fishing occurring in remote areas, amongst many boats, spread over a vast area, and exceptions to various rules under the <i>Torres Strait Fisheries Act 1984</i>. These exceptions are outlined below.</p> <p>Persons are prohibited from taking, processing or carrying trochus unless they hold a licence or do so in the course of traditional fishing; or for private purposes with the use of an Australian boat.</p> <p>Minimum and maximum size limits also apply unless the person is engaged in traditional fishing.</p> <p>For those not fishing for private purposes with the use of an Australian boat, the use of boats longer than 20 meters in the fishery is prohibited.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>Meets</p> <p>There is no byproduct associated with hand collection fisheries.</p>
<p>(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct species to an appropriate level)</p>	
<p>1.1.9 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Meets</p> <p>Given the low commercial demand for trochus at this time, the fishery is likely to maintain ecologically viable stock levels. However all removals from the fishery should be accounted for to ensure catches remain sustainable, particularly in periods of high demand.</p>
<p>If overfished, go to Objective 2:</p> <p>If not overfished, go to PRINCIPLE 2:</p>	
<p>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.</p>	
<p>Management responses</p>	
<p>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.</p>	<p>Not applicable</p> <p>Stock status has been classified uncertain. It has not been classified overfished (Patterson et al. 2017) and is therefore not subject to any recovery strategy.</p>
<p>1.2.2 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>Not applicable</p> <p>Stocks are not currently classified as overfished.</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	
2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch. Bycatch is likely to be limited to epifaunal and epifloral organisms living on or within trochus, such as bivalves, boring sponges and snails (Young & Challen 2004 and DEH 2005 in Murphy et al. 2010).
Assessments	
2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch.
Management responses	
2.1.3 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.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch.
2.1.4 An indicator group of bycatch species is monitored.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch.
2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch.
2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Not applicable Hand collection fisheries are highly selective and able to avoid bycatch.

Objective 2 - 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.	
Information requirements	
2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.	<p>Does not meet</p> <p>All persons are required to notify the Secretary of the Department of the Environment and Energy within seven days of an interaction that results in death, injury, trading, taking, keeping or moving a member of a species listed under Part 13 of the EBPC Act. The Department has a memorandum of understanding with AFMA to allow fishers to report via AFMA, but AFMA does not have the legislative capacity to mandate reporting by Traditional Inhabitant fishers.</p> <p>Daily fishing logbooks are available for use in this fishery and these include provision to report protected species interactions, but reporting is voluntary and the logbooks are not used by fishers.</p> <p>AFMA is pursuing legislative changes in order to mandate reporting by Traditional Inhabitant fishers, but this is unlikely to occur in the short term.</p> <p>While there have been no reported interactions with endangered, threatened or protected species and threatened communities in this fishery, and the risks are likely to be relatively low, there is no means to verify this, monitor or respond to any changes. It is also unlikely that fishers are aware of their obligations under the EPBC Act.</p>
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	<p>Does not meet</p> <p>No ecological risk assessment has been completed for this fishery and is unlikely to be undertaken while the fishery remains inactive.</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, anchoring or trampling. Turtles are known to eat trochus, but it is not known in what quantities or how heavily turtles rely on trochus as a food source (DEH 2005). A number of other endangered, threatened and protected species occur in the region and assessment and mitigation is recommended as part of any precautionary management regime.</p>
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	<p>Not applicable</p> <p>There are no threatened ecological communities in the area of the fishery.</p>
Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	<p>Partially meets</p> <p>The risks associated with hand-collection fisheries are likely to be relatively low. However, there has been no risk assessment and there are no specific risk mitigation measures in place.</p>
2.2.5 There are measures in place to avoid impact on threatened ecological communities.	<p>Not applicable</p> <p>There are no threatened ecological communities in the area of the fishery.</p>
2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	<p>Partially meets</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. Undertaking an assessment would provide greater confidence and allow any identified issues to be monitored and responded to as necessary.</p>
Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.	

Information requirements	
2.3.1 Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fisheries impact on the ecosystem and environment generally.	Partially meets The risks associated with hand-collection fisheries are likely to be relatively low. However, no ecological risk assessment has been undertaken and there is no system for collecting information on the impact of the fishery on the ecosystem and environment generally. Stock surveys when they are undertaken are not designed for this purpose. Current risk is low as there has been no reported catch since 2010.
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. <ol style="list-style-type: none"> Impacts on ecological communities <ul style="list-style-type: none"> Benthic communities Ecologically related, associated or dependent species Water column communities Impacts on food chains <ul style="list-style-type: none"> Structure Productivity/flows Impacts on the physical environment <ul style="list-style-type: none"> Physical habitat Water quality 	Partially meets Information on potential impacts of the fishery on the ecosystem is not collected and there has been no ecological risk assessment conducted for the Torres Strait Trochus Fishery. Impacts of the fishery on the ecosystem may include: <ul style="list-style-type: none"> over-exploitation of target species translocation of species via hull and anchor fouling impacts of anchoring/mooring and other anthropogenic activities such as treading on reef top habitat. Dugong may also be impacted by the presence of large vessels (mother-ships from which the tender boats operate) anchoring in channels adjacent to dugong feeding grounds (Hagihara et al. 2016). However AFMA has advised that when anchoring does occur it is usually done in a small number of areas that provide shelter and access to fishing areas. It is unknown whether these areas correspond to the channels frequented by dugong. Hand collection is likely to have a relatively small impact on the physical environment and the setting and enforcement of total allowable catch limits based on stock surveys should ensure catches are sustainable and minimise the risk of ecological impact. Undertaking a risk assessment would provide greater confidence in these assumptions and allow any identified issues to be monitored and responded to as necessary; however while the commercial fishery is inactive an assessment is unlikely.
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.	Partially meets 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.
2.3.4 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.	Partially meets While there has been no ecological risk assessment to identify the risk to the ecosystem, the scale and nature of the fishery suggests any impact is likely to be low level. There is no means to monitor interactions, and no plan to manage any current or emerging issues. Undertaking a risk assessment would provide greater confidence in this assumption and allow any identified issues to be monitored and responded to as necessary. The last (2009) stock survey recommended that trigger limits be included to ensure the sustainability of the stock, however no action has been taken since that time due to recent lack of reported fishing activity.
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Partially meets The risks associated with hand-collection fisheries are likely to be relatively low. Undertaking a risk assessment would provide greater confidence in this assumption and allow any identified issues to be monitored and responded to as necessary.

SECTION 3: ASSESSMENT OF THE TORRES STRAIT TROCHUS FISHERY AGAINST THE REQUIREMENTS OF PARTS 12, 13 (13A) AND 16 OF 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 fishery in relation to decisions under Part 13 and Part 13A.

Part 12

Section 176 Bioregional Plans	Comment
(5) Minister must have regard to relevant bioregional plans	Not applicable There is no marine bioregional plan for the Torres Strait.

Part 13

Accreditable plan, regime or policy (Divisions 1, 2, 3 and 4)	Comment
s. 208A (1) (a-e), s.222A (1) (a-e), s.245A (1) (a-e), s.265 (1) (a-e) Does the fishery have an accreditable plan of management, regime or policy?	Yes The "Statement of Management Arrangements 2005" was accredited in 2005 . The management regime for the fishery is described in this assessment and forms the basis for ongoing accreditation..
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	
(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?	Yes Although there has been no formal risk assessment, the risks associated with the fishery are likely to be very low. There have been no reported interactions with listed threatened species to date.
(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species.	No Records show no reported interactions with listed threatened species in the fishery during the period 1 January 2012 to 30 June 2017.
Division 2 Migratory species, Section 222A Minister may accredit plans or regimes	
(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?	Yes Although there has been no formal risk assessment, the risks associated with the fishery are likely to be very low. There have been no reported interactions with listed migratory species to date.
(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	No Records show no reported interactions with listed migratory species in the fishery during the period 1 January 2012 to 30 June 2017.
Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes	
(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?	Yes Although there has been no formal risk assessment, the risks associated with the fishery are likely to be very low. There have been no reported interactions with cetaceans to date.
(g) And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	No Records show no reported interactions with cetaceans in the fishery during the period 1 January 2012 to 30 June 2017.
Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes	
(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?	Yes Although there has been no formal risk assessment, the risks associated with the fishery are likely to be very low. There have been no reported interactions with listed marine species to date.

(g) And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	No Records show no reported interactions with listed marine species in the fishery during the period 1 January 2012 to 30 June 2017.
Section 303AA Conditions relating to accreditation of plans, regimes and policies	
(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	Accreditation is recommended Interactions with protected species are negligible under existing arrangements.
(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	No conditions required
(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	Not applicable

Part 13A

Section 303BA Objects of Part 13A	
(1) The objects of this Part are as follows: (a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention; (b) to protect wildlife that may be adversely affected by trade; (c) to promote the conservation of biodiversity in Australia and other countries; (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way; (e) to promote the humane treatment of wildlife; (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.	
Section 303 CG Minister may issue permits (CITES species)	Comment
(3) The Minister must not issue a permit unless the Minister is satisfied that: (a) the action or actions specified in the permit will not be detrimental to, or contribute to trade which is detrimental to: i the survival of any taxon to which the specimen belongs; or ii. the recovery in nature of any taxon to which the specimen belongs; or iii any relevant ecosystem (for example, detriment to habitat or biodiversity).	Not applicable

Section 303DC Minister may amend list (non CITES species)	
<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 derived from species harvested in the Torres Strait Trochus Fishery, other than specimens that belong to species listed under Part 13 of the EPBC Act, be included in the list of exempt native specimens until 9 October 2026.</p>
<p>(1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes of Part 10, Div 1 or 2 assessment</p>	<p>The Torres Strait Trochus Fishery was assessed under Part 10 of the EPBC Act in November 2005 and the management regime, outlined in the Torres Strait Trochus Fishery Statement of Management Arrangements 2005 was accredited under section 33 of the EPBC Act.</p> <p>There have been no significant changes to the management regime since that time.</p> <p>The Department recommends that the LENS is amended under section 303DC(1)(a) to include product derived from the Torres Strait Trochus Fishery until 9 October 2026.</p>
<p>(1C) The above does not limit matters that may be considered when deciding to amend LENS.</p>	<p>Meets</p> <p>The Torres Strait Trochus Fishery is consistent with the Objects of Part 13A – refer assessment above.</p>
<p>(3) Before amending the LENS, the Minister must consult:</p> <p>(a) other Minister or Ministers as appropriate; and</p> <p>(b) other Minister or Ministers of each State and self-governing Territory as appropriate; and</p> <p>(c) other persons and organisations as appropriate.</p>	<p>Meets</p> <p>The Department considers that the consultation requirements have been met.</p> <p>On 10 August 2004, the then Minister for the Environment and Heritage wrote to all fisheries ministers seeking their views on inclusion of product derived from commercial fisheries in the list of exempt native specimens, while subject to declaration as approved wildlife trade operations. Responses in support of the proposal were received from all state and territory fisheries ministers and the Commonwealth minister.</p> <p>The application from AFMA (on behalf of the Torres Strait Protected Zone Joint Authority) was released for public comment from 26 April 2017 to 31 May 2017.</p> <p>The public comment notice sought comment on:</p> <ul style="list-style-type: none"> the proposal to amend the list of exempt native specimens to include product derived from the Torres Strait Trochus Fishery, and the AFMA/ Protected Zone Joint Authority application for the Torres Strait Trochus Fishery. <p>No comments were received.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	Comment
<p>(1) Minister must take account of precautionary principle</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>Meets</p> <p>The precautionary principle has been considered in preparing the Department's advice about decisions under section 303DC. Given the lack of fishing activity and the conditions proposed in Section 1, management measures are considered sufficiently precautionary to prevent serious or irreversible environmental damage being caused by this fishery.</p>

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