

Torres Strait Fisheries Act 1984 (Commonwealth)



ANNUAL REPORT FOR THE FINANCIAL YEARS

1 JULY 2016 TO 30 JUNE 2017 1 JULY 2017 TO 30 JUNE 2018 1 JULY 2018 TO 30 JUNE 2019

PRESENTED TO PARLIAMENT PURSUANT TO SECTION 41 OF THE ACT

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ACKNOWLEDGMENTS

The Protected Zone Joint Authority gratefully acknowledges the late Lindsay Wilson for permission to use drawings of traditional Torres Strait artefacts and other objects in this Annual Report series from the publications "Thathilgaw emeret lu, a handbook of traditional Torres Strait Islands material culture" and "Kerkar lu: contemporary artefacts of the Torres Strait Islanders".

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ISSN 0819-1050 (Print) ISSN 1835-7261 (Online)

PZJA annual reports are available at: www.pzja.gov.au/resources/publications/annual-reports

Published by the Australian Fisheries Management Authority on behalf of the Protected Zone Joint Authority

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Annual Report for the Financial Years 2016–17, 2017–18 and 2018–19 🎮

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1 INTRODUCTION

This, the twenty-ninth annual report of the Protected Zone Joint Authority (PZJA) describes PZJA activities and the condition of the fisheries in the Torres Strait Protected Zone (Figure 1) during the three financial years ending 30 June 2017, 30 June 2018 and 30 June 2019.

The PZJA is responsible for management of commercial and traditional fishing in the Australian area of the Protected Zone and designated adjacent Torres Strait waters.



Figure 1: Area of the Torres Strait Protected Zone

PROTECTED ZONE JOINT AUTHORITY

2 BACKGROUND

THE TORRES STRAIT

The Torres Strait is located between the tip of Cape York Peninsula and Papua New Guinea. It consists of over one hundred islands and reefs which have evolved from four major origins: volcanic, alluvial, coral cays and flooded land bridges which were once part of the Great Dividing Range. Geographically, the islands are divided into inner, eastern, central, western, and top-western island groups. There are 18 communities located across 17 of the islands; all other islands are uninhabited.

THE TORRES STRAIT TREATY

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 Torres Strait Treaty) was signed by both countries at Sydney, New South Wales, on 18 December 1978. It was ratified by Australia on 15 February 1985.

The Torres Strait Treaty establishes the Torres Strait Protected Zone and aims to protect the traditional way of life and livelihood of the traditional inhabitants of the Torres Strait and adjacent coastal areas of the two countries. Australia and Papua New Guinea are obligated to cooperate in the conservation, management and utilisation of the Protected Zone fisheries and both countries enjoy sovereign rights within the Protected Zone. This includes the right to a share of the commercial harvest of swimming fish and sedentary species on the respective sides of the agreed fisheries and seabed jurisdiction lines (see Figure 1).

TORRES STRAIT FISHERIES LEGISLATION

Management of Protected Zone fisheries in the Australian jurisdiction is subject to the *Torres Strait Fisheries Act 1984* (the Act). The Act came into force on the same day as the Torres Strait Treaty was ratified, 15 February 1985. The Act gives effect, in Australian law, to the fisheries elements of the Torres Strait Treaty. Section 8 of the Act specifies the objectives to be pursued in the management of Torres Strait fisheries, which states:

"In the administration of this Act, regard shall be had to the rights and obligations conferred on Australia by the Torres Strait Treaty."



The Act also establishes the PZJA which consists of the Australian Government Minister responsible for fisheries, the Queensland Minister responsible for fisheries and the Chair of the Torres Strait Regional Authority. The members for the reporting period are outlined in Section 3 of this report on page 4.

In addition to the Act, Protected Zone fisheries are subject to assessment under three parts of the *Environment Protection and Biodiversity Conservation Act 1999* for fisheries where:

- a formal management plan or regime is to be determined (part 10)
- there are interactions with listed threatened species and ecological communities (part 13)
- fisheries product is to be exported (part 13A).

NATIVE TITLE

In August 2013, the High Court of Australia ruled that native title holders maintained the right to access and take resources for any purpose in the waters of the Torres Strait where Native Title has been found to exist. The High Court noted that the native title right to access to resources is non-exclusive, and that although there is legislation in place that regulates access to the fishery, regulation of the fishery is not inconsistent with the continued existence of native title rights where the legislation adequately provides for the exercise of those rights.

The Australian Fisheries Management Authority, on behalf of the PZJA, consults with registered native title body corporates (RNTBC), registered native title claimants and any representative Aboriginal and Torres Strait Islander bodies in accordance with section 24HA(7) of the *Native Title Act 1993.* Section 24HA(7) sets out when, and for what processes, a formal Future Act Notification and Native Title Notification must be undertaken. In addition, Australian Fisheries Management Authority engages with RNTBCs, registered claimants and representative bodies through formal consultation and as invited participants on the PZJA consultative forums.

Future Act Notifications that have been undertaken by Australian Fisheries Management Authority, including information on each consultation process are published online at https://www.pzja.gov.au/native-title-notifications.



3 THE PROTECTED ZONE JOINT AUTHORITY

The PZJA is responsible for the management of PZJA fisheries. Its members comprise the Australian Government and Queensland ministers responsible for fisheries, and the Chairperson of the Torres Strait Regional Authority.

Originally, the PZJA comprised the Australian Government and Queensland ministers; in November 2002 the Chairperson of the Torres Strait Regional Authority also became a member. This was acknowledged as a significant step in recognising the unique relationship between the Indigenous community and the region's fisheries resources.

During the reporting period the members of the PZJA were:

- Senator the Hon. Anne Ruston, Australian Government Assistant Minister to the Deputy Prime Minister and Minister for Agriculture and Water Resources (to August 2018)
- Senator the Hon. Richard Colbeck, Australian Government Parliamentary Secretary to the Minister for Agriculture (from August 2018 to May 2019)
- Senator the Hon. Jonathon Duniam, Australian Government Assistant to the Minister for Agriculture, Drought and Emergency Management (from May 2019)
- The Hon. Leanne Donaldson MP, Queensland Government Minister for Agriculture and Fisheries (to November 2016)
- The Hon. Bill Byrne MP, Queensland Government Minister for Agriculture and Fisheries and Minister for Sport and Racing (from November 2016 to October 2017)
- The Hon Mark Furner MP, Queensland Minister for Agricultural Industry Development and Fisheries (from December 2017)
- Mr Napau Pedro Stephen AM, Chairperson of the Torres Strait Regional Authority.

The Australian Government Minister is the presiding member of the PZJA.

PZJA decisions are published online at www.pzja.gov.au/pzja-and-committees/pzja-meeting-papers-and-records.



The PZJA member agencies are the:

- Australian Fisheries Management Authority
- Fisheries Queensland
- Torres Strait Regional Authority and
- Australian Government Department of Agriculture, Water and the Environment

The PZJA can delegate certain powers and functions to these agencies. Currently the Australian Fisheries Management Authority and Fisheries Queensland have been provided with delegation.

ROLES AND RESPONSIBILITIES

The PZJA is responsible for monitoring the condition of the designated fisheries and for the formulation of policies and plans for their management. The PZJA has regard to the rights and obligations conferred on Australia by the Torres Strait Treaty, in particular the protection of the traditional way of life and livelihood of the traditional inhabitants, including the capacity to engage in traditional fishing.

Prior to 1999, the PZJA managed the following designated fisheries in accordance with Commonwealth law in the Australian component of the Protected Zone:

- traditional fishing
- those fisheries which Australia and Papua New Guinea have agreed to jointly manage in the Protected Zone under Article 22 of the Torres Strait Treaty including prawn, Spanish mackerel, pearl shell, tropical rock lobster, dugong and turtle
- the barramundi fishery in the territorial waters adjacent to the six Australian islands near the Papua New Guinea coastline: Saibai, Boigu, Moimi, Kaumag, Aubusi and Dauan.

In October 1996 the PZJA agreed that all commercial fishing in Torres Strait would come under PZJA management. Arrangements were introduced on 1 April 1999 and included the former Queensland managed commercial fisheries:

- finfish (including barramundi)
- crab
- trochus
- Bêche-de-mer (sea cucumber).



Details on the management arrangements for each of the fisheries are provided in Section 5 on page 13 of this report.

In December 2005, the then Australian Government Minister for Fisheries, Forestry and Conservation issued a formal direction across all Commonwealth fisheries stating that *decisive action is needed immediately* to halt overfishing and to create the conditions that will give overfished stocks a chance to recover to an acceptable level in the near future. This led to the Australian Government's release of the Commonwealth Fisheries Harvest Strategy Policy and Guidelines in September 2007.

In November 2018, the revised *Commonwealth Fisheries Harvest Strategy Policy* and *Guidelines for the Implementation of the Commonwealth Fisheries Harvest Strategy Policy* were released, which include more direction on meeting environmental and economic objectives in multispecies fisheries and the application of the policy to internationally managed fisheries. Further, byproduct species are now covered within the scope of the policy. The revised policy was subject to public consultation in 2017, for which all PZJA consultative forums participated and provided comment.

In line with the Commonwealth Fisheries Harvest Strategy Policy and Guidelines 2007, the PZJA initially developed, as good practice for the management of fisheries, a harvest strategy for the Torres Strait Prawn Fishery and an interim harvest strategy for the Torres Strait Tropical Rock Lobster Fishery. These contain a range of rules that control the intensity of fishing activity according to the biological conditions of each fishery. Development of harvest strategies for the Torres Strait Tropical Rock Lobster, Beche-de-mer and Finfish fisheries commenced during the reporting period. Harvest control rules for these fisheries will be in line with the revised policy and guidelines for Commonwealth fisheries. Harvest strategies for the Torres Strait Tropical Rock Lobster and Beche-de-mer fisheries are likely to be ready for PZJA consideration in late 2019, for implementation in the 2020 fishing season. The Finfish harvest strategy is likely to be ready for implementation in the 2021–22 fishing season.

Recreational fishing, charter fishing and aquaculture are managed by Queensland under Queensland law. Information on these activities can be obtained from Fisheries Queensland.



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CONSULTATIVE STRUCTURE

Consultation and communication is important for the effective management of the region's fisheries. For this purpose the PZJA has established a consultative structure that includes advisory bodies (Figure 2). The consultative forums include membership comprising the following:

- Australian traditional inhabitant fishers (commercial and traditional fishing)
- non-traditional inhabitant commercial fishers
- Australian and Queensland government officials
- Papua New Guinea government officials
- other technical experts.

The PZJA is advised by several forums on issues associated with Protected Zone fisheries, including:

- the PZJA Standing Committee
- management and scientific advisory committees
- working groups
- resource assessment groups

Whilst these committees and groups are the main avenue for the PZJA to obtain advice and information, the PZJA may also source advice and views from others with relevant expertise or interest. These include PZJA agencies and other government agencies, independent consultants, operators in fisheries more broadly and representatives of the broader community.

Consultation and communication can be difficult across the many island communities of the Torres Strait. Consultative forums are therefore complemented by meetings between fisheries officers and fishers in communities around the Torres Strait.

The PZJA Fisheries Management Paper No. 1 sets out the policy for the membership, operation, administration and key decision-making processes of the advisory bodies (other than the PZJA Standing Committee). This paper can be obtained on the PZJA website at: https://www.pzja.gov.au/sites/default/files/content/uploads/2011/06/fisheries-management-paper-no1.pdf?acsf_files_redirect.

The dates on which the various groups met during the reporting period are set out in Annexe A on page 62.





Figure 2: The consultative structure of the Torres Strait Protected Zone Joint Authority (Solid arrows and thin arrows indicate primary and secondary lines of communication respectively)

The PZJA Standing Committee

The PZJA Standing Committee consists of senior representatives from the PZJA member agencies (Table 1). The committee provides strategic and operational recommendations to the PZJA on the management of the fisheries in accordance with the PZJA's statutory obligations and to oversee the implementation of the PZJA's agreed policy commitments.

Table 1: The Protected Zone Joint Authority Standing Committee

Representation	Member
Australian Fisheries Management Authority (Chair)	Chief Executive Officer
Fisheries Queensland	Deputy Director-General, Fisheries
Torres Strait Regional Authority	Chief Executive Officer
Department of Agriculture, Water and the Environment	Assistant Secretary

Management advisory committees

Management advisory committees are an important source of advice on fishery-specific management issues which support the PZJA decisionmaking process. In these forums, fishery issues are discussed, problems identified and potential solutions developed. These deliberations are used to form recommendations that will be made to the PZJA.

More specifically the committees advise on matters relating to fishery objectives, harvest strategies, policies and management arrangements in pursuit of PZJA objectives.

There is one management advisory committee; the Torres Strait Prawn Management Advisory Committee. The Torres Strait Prawn Management Advisory Committee met twice during the reporting period.

Working groups

Working groups are established to assist and provide recommendations to all PZJA forums. Ordinarily working groups deal with the fishery specific issues, including input to address research gaps and, operational and compliance issues.

Including representation from traditional inhabitant and non-traditional industry sectors, the research community and PZJA agency staff ensures these groups are an appropriate blend of knowledge, expertise, and are capable of operating in a non-biased manner.

There are three working groups, the:

- Torres Strait Finfish Working Group
- Torres Strait Tropical Rock Lobster Working Group
- Torres Strait Hand Collectables Working Group

The finfish, tropical rock lobster and the hand collectables working groups met a number of times (4, 6 and 4 times, respectively) during the reporting period. Additionally, many issues are considered by these working groups out-of-session.



Resource assessment groups

The main role of resource assessment groups is to provide advice on stock assessment related matters that include biological, economic and social/ cultural factors affecting the fishery. Advising on the status of target fish stocks, sub-stocks, and non-target species and on the impact of fishing on the marine environment is a key role of these groups.

There are two resource assessment groups; Torres Strait Tropical Rock Lobster Resource Assessment Group and the Finfish Resource Assessment Group.

The Torres Strait Tropical Rock Lobster Resource Assessment Group held nine meetings in the reporting period. The Finfish Resource Assessment Group, which was established during the reporting period in April 2017, held five meetings.

The Torres Strait Scientific Advisory Committee

The Torres Strait Scientific Advisory Committee's main role is to advise on the strategic direction, priorities and funding for research undertaken by the Australian Fisheries Management Authority across all PZJA fisheries. This advice gives consideration to meeting knowledge gaps in line with the objectives of the Act.

The committee normally provides a review process for research conducted by research providers to ensure that milestones are met and that the research outcomes represent good value for money. The committee may also be called upon to make its own assessments of fisheries data and comment on stock assessment results. The committee may directly engage with researchers to address knowledge gaps.

The committee met four times during the reporting period.



4 COOPERATION WITH PAPUA NEW GUINEA

In line with the Torres Strait Treaty, Australia and Papua New Guinea are required to cooperate to conserve, manage and optimally utilise Protected Zone commercial fisheries (Article 21) and ensure that the rights of traditional inhabitants to fish traditionally are protected; noting that management measures may be applied to traditional fishing for the purpose of conserving a species if necessary (Article 20).

The Torres Strait Treaty enables either country to specify individual fisheries where common conservation and management arrangements should apply (Article 22). The Torres Strait Treaty also defines catch sharing arrangements for these fisheries (Article 23). The fisheries that are subject to joint management are the:

- Torres Strait Prawn Fishery
- Torres Strait Tropical Rock Lobster Fishery
- Spanish mackerel sector of the Torres Strait Finfish Fishery
- Torres Strait Pearl Shell Fishery
- Torres Strait dugong and turtle traditional subsistence fisheries (for conservation purposes).

The catch-sharing arrangements agreed between Australia and Papua New Guinea during the reporting period were:

- Prawn, Spanish mackerel and pearl shell fisheries—both parties agreed that catch-sharing arrangements were not required.
- Tropical rock lobster fishery:
 - For the 2016–17 and 2017–18 fishing seasons both parties agreed not to seek cross-endorsement.
- For the 2018–19 both parties agreed for Papua New Guinean fishers to access 50 tonnes of their cross-endorsement in the Australian jurisdiction. Under a preferential entitlement arrangement under Article 25 of the Treaty, Australia will then take the remaining proportion of Papua New Guinea's cross-endorsement catch allocation within Australian water. Conversely, Papua New Guinea are entitled to take Australia's cross-endorsement catch allocation in Papua New Guinea's waters.



OUTSIDE BUT NEAR AREAS

Fish stocks can extend across jurisdictional boundaries. The Torres Strait Treaty provides for the two countries to agree to management and conservation measures in areas extending beyond the Protected Zone boundaries. Additionally, the *Torres Strait Fisheries Act 1984*, and its Papua New Guinea equivalent—the *Fisheries Management Act 1998*—also allow Australia and Papua New Guinea to extend their Protected Zone management arrangements into "outside but near areas" adjacent to the Protected Zone.

One of the management and conservation measures in place is a prohibition on the incidental taking and carrying of tropical rock lobster by prawn trawlers in the Protected Zone and in certain waters outside but near the Protected Zone. This measure has been in place since 1988.



5 FISHERIES

Sea-based resources are important to Torres Strait Islander and Aboriginal people. Traditional inhabitants of the Torres Strait have always exploited a diverse range of marine animals for subsistence and use in cultural activities including dugong, turtle, tropical rock lobster, finfish, shellfish, crab, and octopus. The relative importance of each group varies between island communities.

The most common subsistence fishing activities undertaken by traditional inhabitants include hand lining for finfish and diving for many species including tropical rock lobster. Other means of obtaining seafood include:

- spearing
- reef gleaning (gathering of benthic macro invertebrates in intertidal areas)
- cast-netting
- traditional hunting for dugong and turtle
- gill netting
- trolling from dinghies
- seining
- jigging for squid
- hand collection for species such as trochus and crabs
- trading with Papua New Guinea.

Commercial fishing is the most important economic activity in the Protected Zone for traditional inhabitants and provides significant opportunities for achieving financial independence. A priority of the PZJA is to enhance opportunities for traditional inhabitants through participation in all sectors of the fishing industry.

Whilst both traditional and non-traditional inhabitants participate in commercial fisheries, expansion in the number of licenced fishers has been reserved for Torres Strait traditional inhabitants.

The PZJA at its 23rd meeting in April 2014 acknowledged and supported the aspirations of 100 per cent ownership of Torres Strait fisheries by Torres Strait Islander and Aboriginal Traditional Owners. The Torres Strait Regional Authority will continue to lead on the development of strategies to increase ownership of and participation in Torres Strait commercial fisheries.

Non-traditional inhabitants can only gain access to a fishery by purchasing or leasing an existing Torres Strait Fishing Licence or leasing a Torres Strait Sunset Fishing Licence.



Further information about licencing for fisheries in the Australian jurisdiction of the Protected Zone by both traditional inhabitants and non-traditional inhabitants is available online at https://www.pzja.gov.au/licences.

The fisheries managed under the Torres Strait Fisheries Act 1984 are:

- Torres Strait Prawn Fishery
- Torres Strait Tropical Rock Lobster Fishery
- Torres Strait Finfish Fishery
- Torres Strait Pearl Shell Fishery
- Torres Strait Crab Fishery
- Torres Strait Trochus Fishery
- Torres Strait Sea Cucumber (Bêche-de-mer) Fishery
- Torres Strait dugong and turtle subsistence fisheries (for conservation purposes)

The condition of both the biological and economic status of fish stocks in the Torres Strait is independently evaluated by the Australian Bureau of Agricultural and Resource Economics and Sciences. *Fishery status reports* outline the results of the evaluations and can be accessed at www.agriculture.gov.au/abares/publications.







TORRES STRAIT PRAWN FISHERY

Figure 3: Area of the Torres Strait Prawn Fishery

Description of the fishery

The Torres Strait Prawn Fishery (Figure 3) is one of the more valuable commercial fisheries in the Torres Strait. The key species of the fishery are brown tiger and blue endeavour prawns. Species that are also taken as by-product include red spot king prawns, Moreton Bay bugs, scallops and squid. This fishery is subject to catch sharing arrangements under the Torres Strait Treaty, although to date, neither party has sought to access cross endorsement under a catch sharing arrangement.

The prawn and bug catch for the fishery in the 2016–2018 seasons is detailed in Table 2. The real value (Gross Value of Product (GVP)) of the fishery increased substantially in 2018–19 rising from \$4.6 million to \$11.2 million (Table 3). Note, the 2018–19 financial year GVP reported in Table 3 includes 6 months of data from the 2019 fishing season. The 2019 season produced the highest catches since 2008, largely as a result of increased use of the total allowable effort, and explains the larger GVP reported for 2018–19. The 2019 season data will be reported on more fully in the next reporting period.



	Catch (tonnes)		
Species	2016	2017	2018
Blue endeavour prawns	56	25	81
Brown tiger prawns	366	111	329
king prawns	5.3	0.9	6.5
Other prawns	4.5	0.3	2.7
Total prawn	432	137	419
Bugs	15	6	15
Total	447	143	434

Table 2: Prawn and bug catches in the prawn fishery for the 2015 season (Source: Logbook data)

Table 3: TSPF GVP for 2016–17, 2017–18 and 2018–19

Financial Year	Value ¹
2016–17	\$3.9 million
2017–18	\$4.6 million
2018–19	\$11.2 million

The prawn fishery is the only cost recovered fishery in the Torres Strait. Fishers are charged a levy to recover certain costs of management.

To ensure the amount of prawns caught each year is sustainable the total number of fishing days is capped and the length of boats and the size of nets that fishers can use are restricted.

Fishers use the otter trawl method where two, three or four trawl nets are towed by the fishing vessel. Fishing occurs in the eastern part of the Torres Strait at night and only during the prescribed fishing season.

The Torres Strait prawn fishery handbook provides a guide for fishers on management arrangements and is updated periodically. An annual data summary is also published for the fishery. These resources are available on the PZJA website (www.pzja.gov.au).



¹ Value is gross value of production (GVP) and are in Australian dollars.

In 2015, the Torres Strait Prawn Fishery bycatch action plan was updated, and a bycatch and discard workplan was implemented for the fishery. The workplan plan aims to:

- Respond to ecological risks assessed through the Ecological Risk Assessment for the Effect of Fishing and other assessment processes.
- Avoid interactions with species listed under the *Environment Protection* and *Biodiversity Conservation Act 1999* (EPBC Act) and species listed under the Torres Strait Species of Interest list.
- Reduce discarding of target species to as close to zero as practically possible.
- Minimise overall bycatch in the fishery.

The above workplan objectives are achieved by:

- Reducing the risk to high risk, protected and traditionally important species through targeted management measures.
- Providing protection for areas that are important habitat for vulnerable marine species through spatial management.
- Gaining a better understanding of the relative effectiveness of Bycatch Reduction Devices (BRDs) used in the fishery, and increase the uptake of the most effective BRDs. Continue to improve the quality of scientific data collected by scientific observers;
- Improving reporting of bycatch and TEP (threatened, endangered and protected species) interactions.
- Clarifying gear specifications in the relevant legislative instruments.

A harvest strategy for the fishery was approved by the PZJA on 8 July 2011. The strategy provides a transparent management framework to set the annual total allowable effort in the fishery to achieve the maximum sustainable take of prawns. Under these rules the annual effort has been set at 9,200 fishing days in the Australian jurisdiction of the Protected Zone. This is shared with Papua New Guinea through catch sharing arrangements under the Torres Strait Treaty: 75 per cent of the effort is allocated to Australian licence holders (6,867 fishing days) and 25 per cent is reserved for use by Papua New Guinea (2,333 fishing days).



Condition of the fishery

For 2016, the Australian Bureau of Agricultural and Resource Economics and Sciences evaluated the status of the brown tiger and blue endeavour prawns in the fishery as 'not overfished' and 'not subject to overfishing' (Patterson *et al.* 2016). In 2017 and 2018, this evaluation changed to uncertain (Patterson *et al.* 2017; Patterson *et al.* 2018). The uncertainty was because a stock assessment had not been undertaken since 2006 which was considered too long a period, introducing uncertainty. The stock assessment was updated in early 2019. It is expected the status evaluation of the stock may return to 'not overfished' and 'not subject to overfishing' in the next report.

Prawn stocks are abundant yet operators are fishing well below the allocated fishing days. The number of fishing days used by Australian fishers is detailed in Table 4. Papua New Guinean fishers, who are entitled to 25 per cent of the annual Total Allowable Effort, did not seek to fish their allocation during the reporting period.

Year	Days fished
2015	2969
2016	2313
2017	934
2018	2073

Table 4: TSPF effort (fishing days) for the 2015–2018 fishing seasons (Source: Logbook data)

The amount of prawns caught in the fishery declined from 1999 until 2009 as a direct result of decreasing fishing activity. Since 2009, the annual prawn catch has been around 500 tonnes with three lower catch years in 2011, 2014 and 2017 and a peak in 2015 (Figure 4). The fluctuations in effort since 2009 have occurred for a number of reasons, including a pro-rata effort reduction in November 2005, which brought effort from 13,400 days to 9,200 days. Prior to the 2006 season, there was also a voluntary tender process for the PZJA to buyback licences with the associated fishing effort be converted into fishing days and held in trust to accommodate for PNG's catch sharing entitlements under the Torres Strait Treaty. The buyback resulted in 16 licences and approximately 25% of the 9,200 days fishing effort being removed, which reduced the Australian fishing effort to 6,867 days.



Economic conditions may also influence the amount of actual fishing effort used in the Torres Strait Prawn Fishery from year to year, as well as the state of stocks and prices in the East Coast Trawl Fishery in which most Torres Strait licence holders also hold a licence. When stocks and prices are strong in this fishery, many operators will choose to fish here rather than the Torres Strait Prawn Fishery as it is economically viable to do so given higher fuel and freight costs and logistical challenges as associated with fishing in the more remote Torres Strait Prawn Fishery.



Figure 4: Annual catches of all prawn species in the prawn fishery 1989 to 2018, data is presented by fishing season (Source: Logbook data 1989 to 2015)

Strategic assessment—update

The prawn fishery was accredited under the Environment Protection and Biodiversity Conservation Act as an approved wildlife trade operation in 2013, valid until 4 August 2017. In 2017, the Torres Strait Prawn Fishery received a LENS (List of Exempt Native Specimens) exemption for 10 years, noting the low effort in the fishery, and lower risk under the current management arrangements. The Australian Fisheries Management Authority provides annual updates against the 10 year LENS.



TORRES STRAIT TROPICAL ROCK LOBSTER FISHERY

Figure 5: Area of the Torres Strait Tropical Rock Lobster Fishery

Description of the fishery

The Torres Strait Tropical Rock Lobster Fishery (Figure 5) is the most valuable commercial fishery in the Torres Strait. Only the ornate tropical rock lobster is caught and is an important species to both traditional inhabitants and non-traditional inhabitants. This fishery is also subject to catch sharing arrangements under the Torres Strait Treaty.

Divers work from dinghies to free dive on shallow reef tops or use hookah equipment (surface supplied air) to dive deeper areas of the Torres Strait. They collect the lobster by hand and short hand spear or loops. Scoop nets are also used during night collection activities. Most fishing occurs during neap tides when currents ease and underwater visibility improves.

The commercial fishing season for lobster is from 1 December through to 30 September the following year; and the use of hookah gear is permitted from 1 February. The majority of the catch is taken between March and August.

Management arrangements

A number of significant changes have been made to the management of the fishery during the reporting period.

The Torres Strait Fisheries (Tropical Rock Lobster) Management Instrument 2018 (the Instrument) commenced on 20 July 2018. The Instrument introduced some new arrangements and retained others, including:

- introduction of a mechanism to close the fishery early to commercial fishing, when the total allowable catch (TAC) for a fishing season is reached;
- introduction of a mechanism to prohibit the use of hookah gear (For example, during monthly moon-tide hookah closures) subject to a 'hookah season' and the issue of a prohibition notice (For example, the use of hookah gear is permitted from 1 February until 30 September unless the CEO of Australian Fisheries Management Authority has issued a notice prohibiting its use for a specified period/s);
- management arrangements remaining unchanged from the previous instrument include:
 - the fishing season (1 December to 30 September);
 - minimum size limits (minimum tail length of 115 mm or minimum carapace length of 90 mm);
 - restrictions on the use of certain fishing methods and equipment—take of lobsters by hand collection, or collection by handheld implements such as snares, scoop nets or spears;
 - prohibition of the use of hookah gear between 1 October and 31 January;
 - prohibition of processing or carrying lobster meat at sea;
 - prohibition of the possession or control of diving equipment (defined as a face mask and fins) between 1900–0600 AEST (unless stowed and secured).

On 1 December 2018, the Torres Strait Fisheries (Quotas for Tropical Rock Lobster (Kaiar)) Management Plan 2018 (the Plan) commenced, and provides for the introduction and establishment of a quota management system for the fishery. The Plan includes a formal TAC setting mechanism, replacing that in the Instrument.



While the fishery transitioned to a fully operational Plan (the period in which the allocation of quota units to the non-traditional inhabitant sector took place), interim arrangements were implemented through amendments to the Instrument, which:

- introduced a split of the TAC for the fishery between the traditional inhabitant (66.17% of the TAC) and non-traditional inhabitant sectors—applied from 1 December 2018 to 30 September 2019 only;
- introduced a mechanism to close the fishery to the traditional inhabitant sector once their part of the TAC is reached—applied from 1 December 2018 to 30 September 2019 only;
- provided for individual transferrable quota arrangements to be established for the non-traditional inhabitant sector via licence conditions—applied from 1 December 2018 to 30 September 2019 only; and
- provided for the operation of the Plan should the quota allocation process be finalised before 1 December 2019.

In addition to the above-mentioned management arrangements, expansion in the fishery is limited to traditional inhabitants. Aside from limited licence numbers, there is a range of provisions in place to prevent the expansion of the non-traditional inhabitant sector including:

- a boat replacement policy which aims to control fishing capacity by preventing the introduction of larger boats;
- a ban on trawlers taking lobster to prevent pressure on the lobster resource from the prawn trawling fleet.

Condition of the fishery

For the reporting period the Australian Bureau of Agricultural and Resource Economics and Sciences evaluated the status of the lobster stocks in the Protected Zone as 'not overfished' and 'not subject to overfishing' (Patterson *et al.* 2018, Patterson *et al.* 2019).

Since 2006, and in preparation for the making of the Plan, a recommended biological catch (RBC) has been advised for each fishing season and apportioned between Australia and PNG as per the terms of the Torres Strait Treaty. Because of a low RBC and the likelihood that catches would exceed the Australian catch share of the RBC in the 2017–18 season, the Instrument, made on 20 July 2018, provided for a binding TAC for the Australian fishery. The TAC for the Australian fishery is Australia's catch share of the final global TAC, as agreed with PNG.



The global TAC is currently based on a pre-season fishery independent survey, catch and effort data, application of the revised Harvest Strategy for the fishery, as well as a three-yearly stock assessment.

Details regarding catch limits, actual catch and value are outlined in Table 5 and a graph showing the annual level of catch in the fishery since 1989 is at Figure 6.

	Australia	Papua New Guinea	Total
		2016	
Catch limit (tonne) ²	507	289	796
Catch (tonne) (TIB/TVH ³)	508 (265/243)	248	756
Value (million) ⁴	14.5	na	na
		2017	
Catch limit (tonne) ²	316	180	496
Catch (tonne) (TIB/TVH³)	268 (118/150)	113	381
Value (million) ⁴	12.9	na	na
		2018	
Catch limit (tonne) ²	254	45	299
Catch (tonne) (TIB/TVH ³)	262 (127/134)	86	347
Value (million) ⁴	15.0	na	na

Table 5: Statistics for the tropical rock lobster fishery

STAR STAR

² Fishery statistics are provided by fishing season, unless otherwise indicated. The fishing season for the Australian fishery is 1 December-30 September. The fishing season for the PNG fishery is 1 January-31 December.

³ TVH-commercial fishing boat licence, TIB-Traditional Inhabitant commercial boat licence.

⁴ Value is gross value of production (GVP) in Australian dollars and by financial year (2015–16, 2016–17, 2017–18)—as per the Australian Bureau of Agricultural and Resource Economics and Sciences Fishery Status Reports 2018 and 2019 (Patterson *et al.* 2018, Patterson *et al.* 2019).

protected zone joint authority 泠



Figure 6: Annual catch of tropical rock lobster 1989 to 2018 in the Australian Jurisdiction (source: logbook data 1989 to 2017, docket book data 2004 to 2017 and catch disposal record data 2017–2018 and other records)

Strategic assessment—update

The fishery was accredited as an approved wildlife trade operation on 21 December 2017 until 18 December 2020 under section 303FN (Part 13A) of the *Environment Protection and Biodiversity Conservation Act 1999*. This accreditation is subject to the conditions and recommendations that were developed by the then Department of the Environment and Energy.







TORRES STRAIT FINFISH FISHERY

Figure 7: Area of the Spanish mackerel fishery



Figure 8: Area of the reef line fishery

Description of the fishery

The Torres Strait Finfish Fishery is a multi-species commercial fishery in which a range of target and by-product finfish species are harvested. Several hook fishing methods are used in the fishery including trolling and hand lining. The use of nets in this fishery has been banned in the Protected Zone and the outside but near area.

The Torres Strait Finfish Fishery comprises two sectors: the Spanish mackerel sector (Figure 7) and the reef line sector (Figure 8). The Spanish mackerel sector of the fishery is subject to catch sharing arrangements with Papua New Guinea under the Torres Strait Treaty. Both the Spanish mackerel and reef line sectors operate mainly in the eastern Torres Strait. The reef line fishery is closed in western Torres Strait.

The target species in the Spanish mackerel sector is the narrow-barred Spanish mackerel (*Scomberomorus commerson*). Other species caught in the fishery, and covered in the catch allowance, include school mackerel, grey mackerel, spotted mackerel, and shark mackerel. Mackerel are fished by trolling baits and lures, or on handlines, generally from dories/dinghies operating either to a primary vessel or alone.

Reef line fishers generally target a basket of four coral trout species which have the greatest value (common coral trout *Plectropomus leopardus*, passionfruit coral trout *Plectropomus areolatus*, bar-cheek coral trout *Plectropomus maculatus* and blue-spot coral trout *Plectropomus laevis*). Also caught are small numbers of medium value species including barramundi cod, mixed reef fish such as emperors, tropical snappers and several species of rock cod. These species are mostly caught using handlines from dories/ dinghies operating either to a primary vessel or a land-based facility.

Annual catches of Spanish mackerel and coral trout declined during the lead up to the 200708 buyout of transferable licences in the finfish fishery to secure allocation for the traditional inhabitant sector. Prior to the buyout the catch of finfish was variable, with annual catches of up to 400 tonnes. Catches of Spanish mackerel and coral trout have been relatively low since the buyout commenced in 2007.

The Australian traditional inhabitant sector now holds 100 per cent of the finfish resources allocated for commercial fishing in the Protected Zone with 40 per cent of the Spanish mackerel entitlements made available to Papua New Guinean fishers each fishing season (in accordance with catch sharing arrangements under the Torres Strait Treaty) should the PNG Government opt to take up its entitlement.



While mackerel and reef line species are commercially targeted by a small number of traditional inhabitants, a large number of traditional inhabitants fish for these species opportunistically for subsistence.

Sunset licences (licences that are not subject to renewal beyond a lease period) are issued by the PZJA to the Torres Strait Regional Authority each year for the purpose of leasing seasonal catch allowances to non-traditional inhabitant fishers. Decisions on the leasing of licences and catch allowances are made by the Board of the Torres Strait Regional Authority with advice from a Finfish Quota Management Committee comprising Board Members and other relevant community representatives. During this process, the Board also makes recommendations on any conditions that should apply to the leased licences, including catch limits per licence and spatial closures which would then be regulated by Australian Fisheries Management Authority through sunset licence conditions.

Catch reporting by the traditional inhabitant sector was voluntary through the docket book system up until 1 December 2017. Since this time, the PZJA has implemented a mandatory Fish Receiver System which makes it compulsory for all Torres Strait commercial catch to be landed to a licensed Fish Receiver (excluding catch taken in the prawn fishery). Under the Fish Receiver System, all commercial catch must be weighed and catch reports completed at the point of first landing and supplied to Australian Fisheries Management Authority. To date reporting on finfish catches by traditional inhabitant fishers under the Fish Receiver System has been successful.

The quantity of finfish taken for traditional purposes, including for subsistence, is poorly understood. Historically, only a small proportion of traditional inhabitant fishers with finfish-endorsed licences participated in the finfish fishery. Since 1 December 2017, the Fish Receiver System has indicated that between 20–30 traditional inhabitant fishers have been fishing for mackerel or reef-line species and have unloaded catch to 14 different licenced Fish Receivers.

The catch and catch limits for the fishery are provided in Table 6 and Figures 9 and 10. Figures 9 and 10 show the trends in catches since the 2002–03 season. The 'real value'⁵ of the fishery during the reporting period was:

- \$1.2 million in 2015–16;
- \$1.2 million in 2016–17; and
- \$1 million in 2017–18.



^{5 &#}x27;Real value' is gross value of production (GVP) across all species in the fishery, in Australian dollars and by financial year.

Table 6: Total allowable catch and catch for the Torres Strait Finfish Fishery in 2016–17, 2017–18 and 2018–19 (Source: Logbook and Catch Disposal Record Data)

Species	Catch limit (tonnes)	Catch (tonnes)	Catch limit (tonnes)	Catch (tonnes)
	2016-17		2017–18	
Spanish mackerel	187.5	93.2	132	73.8
Coral trout	135	18.0	135	27.3
Other species	-	4.4	-	2.2
Total		115.6		103.3
	2018–19			
Spanish mackerel	125	64.7	_	
Coral trout	135	17.3	_	
Other species	-	2.4	_	
Total		84.4	_	



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Figure 9: Catch history for Spanish mackerel in the Torres Strait Finfish Fishery (Source: Logbook, docket book data, catch disposal records and other data sources)



Figure 10: Catch history for coral trout species in the Torres Strait Finfish Fishery (Source: Logbook data, docket book data, catch disposal records and other data sources)



Management arrangements

Expansion of the number of licences in the finfish fishery is limited to traditional inhabitants to maximise their opportunities. Non-traditional inhabitant operators can only access the fishery by leasing limited annual catch allowances under sunset licences. Management controls for the harvest of finfish species include:

- gear restrictions
- minimum and maximum fish size limits
- no-take species
- ban on shark finning
- temporal and spatial closures.

The Torres Strait Finfish Fishery Management Plan was introduced in 2013. Additionally, both the Spanish mackerel and reef line sectors of the fishery are also subject to requirements under separate fishery management notices; Spanish mackerel fishery species—Fisheries Management Instrument No. 14 and reef line fishery species with Fisheries Management Instrument No. 8. These define the allowable activities, gear types and restrictions.

Condition of the fishery

During the reporting period the Australian Bureau of Agricultural and Resource Economics and Sciences evaluated the status of the Spanish mackerel stocks and coral trout species in the Protected Zone as 'not overfished' and 'not subject to overfishing' (ABARES Fishery Status Reports 2017, 2018 and 2019).

Strategic assessment—update

The fishery was most recently accredited as an approved wildlife trade operation (WTO) under the Environment Protection and Biodiversity Conservation Act in July 2013. At the time of accreditation, a number of recommendations to improve the sustainability of the fishery were made by the then Australian Government Department of Sustainability, Environment, Water, Population and Communities. The export accreditation originally valid until May 2016 has been recurrently extended throughout the reporting period, while the strategic assessment is re-assessed. The strategic assessment review and updated WTO accreditation for the fishery is expected to be finalised by the end of 2019.







TORRES STRAIT PEARL SHELL FISHERY

Figure 11: Area of the Torres Strait Pearl Shell Fishery

Description of the fishery

In the Torres Strait Pearl Shell Fishery (Figure 11) wild pearl shell is collected during the months of October through to March for use in pearl culture farms. The main species is the gold-lipped pearl shell, although at least six other species, including the black-lipped pearl shell and the winged pearl oyster, are also collected. Most divers use hookah equipment (surface supplied air).

Only a few licence holders specialise in collecting pearl shell. However, there are also a number of licence holders that collect pearl shell whilst fishing for lobster. Tables 9, 10, 12 and 13 in Section 6 of this report outline the number of licences with pearl shell endorsements.

Aquaculture farming of pearl shell in the Torres Strait is regulated and managed by Fisheries Queensland.


Management arrangements

Expansion of the number of licences in the pearl shell fishery is limited to traditional inhabitants to maximise their opportunities. Additionally, provisions that apply to non-traditional inhabitants operating in the fishery include strict boat replacement policies and the linking of tender boats with specific primary boats.

Divers must adhere to size limits between 130 mm minimum and 230 mm maximum for gold-lipped pearl oyster, and over 90 mm for black-lipped pearl oyster. There is a ban on the taking of shell by any method other than collection by hand.

To revitalise the Torres Strait Pearl Shell Fishery a review of the management regulations was completed in late 2014. The review was undertaken to assess the viability of reducing size limits for pearl shell down to 100 mm minimum (whilst maintaining the 230 mm maximum for gold-lipped pearl oyster). To allow the commercial assessment of the viability of using smaller pearl shell the PZJA issued eight developmental permits in March 2016 allowing the harvest of no more than 2000 gold-lipped pearl shell sized between 100 and 130mm. Approximately 800 pearl shell was reported to have been harvested during the permit period, with roughly 15–20% of shell between 100–130 mm. The pearl shells harvested were used for seeding in aquaculture but due to the low level of smaller size pearl shell harvested, any benefits to the aquaculture sector in relation to improved profitability could not be determined.

Condition of the fishery

The fishery was last surveyed in 1989. Based on past surveys, the abundance of pearl shell on the main fishing grounds is low, and the stock status remains uncertain. It should be noted that there has been insignificant amounts of pearl shell harvested since at least 2006.

Strategic Assessment—update

The pearl shell fishery has not undergone a strategic assessment due to insignificant pearl shell harvesting. However, depending on the level of activity in the fishery, it may in the future.



TORRES STRAIT CRAB FISHERY

Description of the fishery

In the Torres Strait Crab Fishery mud crabs and small quantities of blue swimmer crab are caught. Crabs are generally captured by hand or using scoop nets.

All fishery participants are traditional inhabitants. The level of participation in the commercial fishery is low and restricted mainly to Saibai and Boigu islands where there are large areas of crab habitat.

Management arrangements

Expansion of the number of licences in the crab shell fishery is limited to traditional inhabitants to maximise opportunities. A number of management arrangements (under Torres Strait Fisheries Management Notice No. 50) apply, including:

- a prohibition on the take or possession of female crabs and spanner crabs
- a limit of 50 prescribed crab apparatus per operator
- no vessels greater than 14 m in length
- a minimum carapace length of 150 mm.

During the reporting period, at 30 June each year, there have been 89, 96 and 114 license holders endorsed to operate in the Torres Strait Crab Fishery, respectively. These endorsements are, in nearly all cases, one of a package of multiple endorsements even though the license holder is active in only one or two fisheries. Of these license holders only three have landed crab to fish receivers since 2018.

Condition of the fishery

The status of crab stocks in the Protected Zone is uncertain due to the lack of catch data on which to base an assessment. In 2008 a stock assessment took place around Saibai and Boigu Islands. Recommendations at that time were that the crab fishery could sustainably support one full time fishing operation only, and that a further survey be conducted again at some future date.





In late 2016 one fisherman commenced commercial crabbing operations based around Saibai Island, however was unsuccessful in engaging local crew to assist in the operation. This fisherman then turned to PNG nationals to commercially fish for crab around Saibai and in PNG waters and sell the crab to him. AFMA became aware of this situation and the operation was closed down by the operator shortly afterwards.

During 2017 and 2018 an increase in illegal camping and commercial fishing by PNG treaty villagers was apparent at Saibai Island. AFMA with support from the ABF and Saibai locals AFMA apprehended several PNG boats, with the boats, catch and gear seized. Crews were repatriated to PNG and were later prosecuted by PNG authorities for breaches of Australian fishing legislation. Several consignments of live crab shipped from Saibai and Boigu Islands were also intercepted and subsequently seized by AFMA. Saibai and Boigu Island residents involved in this illegal activity were investigated and referred to the Commonwealth Director of Public Prosecutions for further action.

Very little commercial crabbing activity has been identified or reported post 2018.

Strategic assessment—update

The crab fishery has not been assessed under the Environment Protection and Biodiversity Conservation Act 1999. It may in the future, depending on activity in the fishery.



TORRES STRAIT TROCHUS FISHERY

Description of the fishery

The Torres Strait Trochus Fishery is a small, commercial and traditional fishery for a single-species. The marine snail 'trochus' is generally collected opportunistically while fishing for other marine animals. Trochus is usually taken by free diving with fishers generally operating from dinghies with two or three crew members. Reef top collection of trochus is also possible at low tide.

Access to the fishery is reserved for traditional inhabitants of the Torres Strait. Between 1920 and 1950, and more recently during the 1980s, the fishery was an important source of income for some traditional inhabitants, especially in the central and eastern Torres Strait communities.

The fishery is characterised, like trochus fisheries elsewhere, by fluctuating fishing activity related to the economic value of the shell. Trochus shell is sold when the shell is in demand for items such as buttons for clothing and relies upon fashion trends. Since the mid 1980 the demand for shell has peaked three times; in the late eighties, the mid to late nineties and from 2005 to 2006. Trochus meat is often consumed by fishers' families or other members of the community and there is interest in finding a viable market for the meat as well as the shells.

Management arrangements

The take of trochus is restricted to hand collection—the use of an underwater breathing apparatus is not permitted.

The size of trochus collected during commercial fishing must be between 80 mm and 125 mm. The catch limit for the fishery is 150 tonnes annually.

Condition of the fishery

The Australian Bureau of Agricultural and Resource Economics and Sciences classified trochus in the Protected Zone as not subject to overfishing, but acknowledged uncertainty about the biomass of the stock (Patterson *et al.* 2019).

The reason for the uncertainty is because of low fishing effort and catch driven by sporadic market demand. This has resulted in a lack of fishery data making stock assessment not possible.



Whilst there has been from 39 to 80 traditional inhabitant boat licences over the years with a trochus endorsement the reported catch in 2018 was 0.04t. Data collected from the irregular sale of the product indicates that a total of 280 tonnes of trochus has been collected since 1988, with an average of less than 10 tonne per year; well below the catch limit of 150 tonnes.

Additionally, a survey in 2009 of the eastern Torres Strait trochus population indicated that trochus stocks are stable or increasing in abundance. However, there is some uncertainty due to their patchy distribution and difficulty in finding trochus. Further investigation of this uncertainty is not warranted at this time with the low level of effort in the fishery.

Strategic assessment—update

The trochus fishery was most recently accredited as an approved wildlife trade operation under the *Environment Protection and Biodiversity Conservation Act 1999* for continued export approval until 9 October 2026.



TORRES STRAIT SEA CUCUMBER (BÊCHE-DE-MER) FISHERY

Description of the fishery

The Torres Strait Sea Cucumber (Bêche-de-mer) Fishery has a history that dates back to at least the 19th century. In 1916–17 558 tons (567 tonnes) of Bêche-de-mer was exported from Thursday Island with 124 boats registered to collect it. The fishery is now accessed only by traditional inhabitants and it forms an important source of income for some Torres Strait traditional inhabitants.

Characteristic of Bêche-de-mer fisheries throughout the world, there have been several "booms and busts" in the Torres Strait fishery. The life-history of sea cucumbers and the fact they are easily collected make them vulnerable to overfishing, which has occurred in the Torres Strait in the past.

Bêche-de-mer is mainly collected by free-divers from dinghies or by people walking along reefs at low tide and collecting by hand. Once collected, the animal is gutted, cleaned and graded, and then either boiled, smoked or dried. This is a labour-intensive process carried out on processing vessels or at shore-based facilities.

Management arrangements

Expansion of the number of licences in the Bêche-de-mer fishery is limited to traditional inhabitants to maximise their opportunities; in February 2015 the sole non-traditional inhabitant licence was purchased by the Torres Strait Regional Authority with the commercial entitlements now 100 per cent held by the traditional inhabitant sector.

Bêche-de-mer may only be collected by hand. The use of hookah (surface supplied air) or scuba diving gear is not permitted. Boats that are used to collect Bêche-de-mer must be under seven metres in length.

A bag limit of three per person with a maximum of six per boat applies to traditional fishing. Catch is limited for the year across the fishery (measured in wet weight gutted) and size limits of Bêche-de-mer also apply. Three species were closed to fishing; sandfish, black teatfish and surf redfish. The details of restrictions across the species are outlined in Table 7.



The black teatfish fishery has been opened twice for limited (15 tonne) fishing trials in 2014 and 2015. There is increasing interest in the fishery with the 15 tonne allowable catch being exceeded within two weeks of the opening of the season for 2014 and within eight days for 2015; noting that the total amount collected each season was under 25 tonne which is regarded as a sustainable harvest. Whilst reporting of catch by fishers improved significantly between 2014 and 2015 there was a significant lag between collection and reporting which undermined the ability to manage the fishery within the catch limit. Fishing for black teatfish has been closed since 2016.

The total allowable catch for prickly redfish was reduced from 20t to 15t during 2017 due to sustainability concerns as a result of previous overfishing and inadequate catch reporting.

On 1 December 2017 a mandatory Fish Receiver System was implemented for all Torres Strait fisheries (except the Torres Strait Prawn Fishery). Under the Fish Receiver System, persons or business receiving (including buying) Torres Strait seafood need to hold a Torres Strait Fish Receivers licence. Licenced Fish Receivers are only allowed to receive product from licenced Torres Strait commercial fishers. Licenced Torres Strait commercial fishers are only allowed to dispose of their catch to licenced Fish Receivers. The Fish Receiver System has improved the accuracy and timelines of catch reporting in the fishery and allowed for better monitoring of total allowable catches.

A formal harvest strategy is currently being developed for the Torres Strait Bêche-de-mer Fishery to provide a framework for making evidence-based, precautionary and transparent decisions about the amount of Bêche-de-mer that can be caught in a fishing season. The Harvest Strategy will set out the harvesting objectives for the fishery, and how the fishery will be monitored and assessed. It will also set out clear rules to guide the re-opening of fishing for a species that is subject to no fishing, if enough information becomes available. A Harvest Strategy will provide greater certainty to fishers, traditional owners, communities, scientists and managers about how the fishery will be managed.



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Table 7: Catch limits and size limits of commercially harvested species in the Torres Strait Bêche-de-mer (Sea Cucumber) Fishery (size limits source: Torres Strait Fisheries Management Instrument No. 15)

Commercial Value	Common name	Catch limit ⁶ (tonnes)	Size Limits (mm)
High	Sandfish	nil	180
	White teatfish	15	320
	Black teatfish	07	250
Medium	Surf redfish	nil	220
	Deepwater redfish	Combined 80	120
	Blackfish	Combined 80	220
	Prickly redfish	15	300
Low	Stonefish	Combined 80	
	Lollyfish	Combined 80	150
	Elephant's trunkfish	Combined 80	240
	Greenfish	Combined 80	
	Curryfish	Combined 80	270
	Amberfish	Combined 80	
	Brown sandfish	Combined 80	
	Leopardfish*	Combined 80	
	Pinkfish	Combined 80	

* also known as tigerfish

Condition of the fishery

Because sea cucumbers are easily collected they are susceptible to overfishing. However, the fishery was assessed in 2018 (Patterson *et al.* 2019) as not subject to overfishing (noting that there is uncertainty about some basket species, which are managed under a joint total allowable catch, taken in 2018). Aside from sandfish, a stock abundance survey conducted in 2009 indicated that sea cucumbers that have been overfished in the past are now recovering.



⁶ Catch limits are implemented through licence conditions / all species listed as 'combined 80' have a combined catch limit across the species of 80 tonnes.

⁷ Catch limits of 15t were set during trial openings of the black teatfish fishery in 2014 and 2015.

During the 1990s, the fishery was based primarily on sandfish, a high-value species occurring in relatively shallow waters, which as a result is vulnerable to over-harvesting. Serious overexploitation and resource depletion of sandfish stocks occurred on Warrior Reef. This has been confirmed through several fishery-independent surveys that were conducted to assess the status of sandfish abundance. The harvest of sandfish has been prohibited in the Australian jurisdiction of the Protected Zone since 1998. Despite this, further decline in stock abundance was found in 2004, which may have been the result of illegal harvesting.

There was no recorded increase in stock of sandfish until 2010, where a survey of sandfish at Warrior Reef and surrounding area was conducted and results indicated signs of stock recovery. The survey also identified potential uncertainty in the estimates of stock abundance due to limitations in the survey techniques for recording sandfish that have burrowed into the seafloor.

Illegal fishing incursions by Papua New Guinea nationals at Warrior Reef have reduced as a result of a closure of Papua New Guinea's bêche-de-mer fishery in October 2009. Australia continues to conduct surveillance of the reef and maintain a response capability in the area through the Australian Fisheries Management Authority's Foreign Compliance program. Coastwatch flights also cover the area daily.

When the sandfish harvest was closed in 1998, fishing focussed on other high value species—surf redfish, black teatfish, white teatfish and some lower-value species. In 2002 it was found that black teatfish and surf redfish had experienced significant declines in abundance on the eastern reefs of Torres Strait. As a result the PZJA set zero catch limits for surf redfish and black teatfish, effectively closing the fishery for these two species. By 2005 restrictive catch limits were also set for white teatfish and prickly redfish.

In 2009 a stock abundance survey undertaken by the CSIRO showed signs of recovery of black teatfish with higher numbers and larger individuals being found. It was also found that other Bêche-de-mer species were either stable or increasing in abundance. The catch limits that were set for the various species of Bêche-de-mer to ensure that the stocks either remain healthy or improve are outlined in Table 7.

The status of species in the fishery varies. Table 8 provides a summary of species status as assessed by the Australian Bureau of Agricultural and Resource Economics and Sciences.



Tabl	le 8:	Summ	nary	of s	pecies	status	within	the	Torres	Strait	Bêche-	de-m	er
(Sea	Си	cumbe	er) Fi	sher	ry (Pai	tterson	et al. 2	2019)				

Species	Comments
Black teatfish	The species has been assessed as not overfished or subject to overfishing. The most recent survey estimates (2009) indicate that the stock has recovered and is no longer overfished. The species has been closed to fishing since 2016.
Prickly redfish	The species has been assessed as not overfished and not subject to overfishing. The catch limit was reduced from 20t to 15t during 2017 due to sustainability concerns as a result of previous overfishing and inadequate catch reporting. Acatch of 12.4t was reported in 2018 which is less than the catch limit. There are relatively stable densities across the surveys carried out in the fishery in 1995, 2002, 2005 and 2009.
Sandfish	This species has been assessed as overfished but not subject to overfishing. The most recent published survey (2010) showed density is still below the 1995 density estimate. Illegal catch taken by Papua New Guinea nationals has been reported in recent years but no such reports were received for 2018.
White teatfish	This species was assessed as not overfished or subject to overfishing. Catch was reported in 2018 of 1.4 t. There were relatively stable densities in 1995, 2002 and 2005 surveys, potentially increasing between 2005 and 2009 surveys.
Other Bêche-de-mer species (18 species)	There is uncertainty of the catch composition and basket composition of stock. Catch was reported across these species in 2018 of 46.6 t.

Strategic assessment—update

The fishery was accredited under the *Environment Protection and Biodiversity Conservation Act 1999* as an approved wildlife trade operation until December 2020. It is subject to conditions and management recommendations.



TORRES STRAIT DUGONG AND TURTLE FISHERIES

Description of the fisheries



Figure 12: Area of the Torres Strait Dugong Fishery



Figure 13: Area of the Torres Strait Turtle Fishery



The Torres Strait dugong and turtle fisheries (Figures 12 and 13) are allowed under Native Title legislation. Commercial take of these species is not permitted. Traditional take of dugong and turtle is an important part of the traditional way of life and a source of protein in the diet of traditional inhabitants of the Torres Strait.

Whilst the subsistence importance of these species is recognised, measures are still implemented to ensure the sustainable take of these species is prioritised through legislated management arrangements across both Australia and Papua New Guinea and through the Torres Strait Community Based Dugong and Turtle Management Plans.

Strong partnerships have been established between Traditional Owners and research institutions for monitoring projects including dugong and turtle aerial population assessment surveys and marine turtle tagging, nesting effort and success, hatching success and hatchling production surveys.

Management arrangements

The legislated management arrangements for the Torres Strait Dugong and Turtle fisheries are outlined in *Torres Strait Fisheries Management Instrument No. 16*, summarised below.

Community-based Dugong and Turtle Management Plans, developed by individual Torres Strait Islander communities, are being implemented on a voluntary basis throughout the Torres Strait with the assistance of the Torres Strait Regional Authority. Each community plan includes a range of culturally-based management arrangements that have been agreed to by the respective community. The Torres Strait Ranger Program is the means by which the Plans are implemented. For more information visit the TSRA website at www.tsra.gov.au.

Regulations currently implemented in the Torres Strait Dugong and Turtle fisheries include:

- Dugongs and turtles may only be taken by a traditional inhabitant who is in the course of traditional fishing;
- Dugongs may only be taken using the traditional spear (wap);
- Dugong hunting is banned in a large area of western Torres Strait which has been set aside as a dugong sanctuary (see map); and
- Dugongs and turtles cannot be taken or carried in a commercially licensed fishing boat greater than 6m in length (boats under 6m with a Traditional Inhabitant Boat licence are permitted to take and carry turtle and dugong).



Habitat

Seagrass meadows are the primary food resource for dugongs and green turtles as well as the 'nurseries' of critical young fish stocks. Approximately 30% of Queensland's seagrass meadows are in the Torres Strait—with one of the largest single continuous seagrass meadows recorded in Australia and the largest and most abundant seagrass area on Earth.

These meadows continue to be assessed and monitored by the Torres Strait Regional Authority's Land and Sea Management Unit in partnership with James Cook University, Centre for Tropical Water and Aquatic Ecosystem Research.

Condition of the fisheries

Dugong: The population of dugongs in the Torres Strait is considered to be substantial and genetically healthy (Marsh *et al.* 2011). The highest dugong population estimate was in 2013 at approximately 100 000 individuals (Hagihara *et al.* 2016). Additionally, Marsh *et al.* (2015) used several lines of evidence to re-evaluate the sustainability of the Torres Strait dugong harvest. Their evidence suggested that the harvest is sustainable. Dugong relative density was significantly higher in 2013 than in any other survey year and their index of Area of Occupancy has trended slightly upward since 1987. The proportion of calves in 2013 was the highest recorded. Genetic diversity is high and it is believed that there are excellent breeding conditions as there are a high proportion of calves in the population (17.9 per cent) (Sobtzick *et al.* 2014).

Aerial surveys of the Torres Strait (in whole or in part) to estimate the dugong population were conducted in 1987, 1991, 1994, 1996, 2001, 2005, 2006, 2011 and 2013. These surveys largely include waters of the central Torres Strait, and adjacent coastal waters of Cape York and Papua New Guinea and exclude the waters of the eastern Torres Strait. Since 2011 they also included areas of the western waters of the Torres Strait. TSRA's Land and Sea Management Unit hopes to instigate an aerial survey again in November 2020.

Turtle: Six of the world's seven species of marine turtle, all of which are of conservation concern, are found across the Torres Strait region. These include the green, hawksbill, flatback, loggerhead, leatherback and olive ridley. The green and hawksbill turtles are the most significant species in the broader region (green for meat and eggs, hawksbill for eggs).



The hawksbill is listed as critically endangered and the green is endangered. These two species are high bio-cultural species and under enormous pressures for ongoing survival. Aerial surveys conducted in November 2013 found a substantial population of approximately 600,000 adult and sub-adult turtles (Hagihara *et al.* 2015), of which 95% were estimated to be green turtles using the foraging grounds of the western and central Torres Strait and excluding the eastern Torres Strait (Fuentes *et al.*, 2015).

Despite seemingly large green turtle stock estimates across Torres Strait, the nesting site of Raine Island (which accounts for near 90 percent of all green turtles across the GBR system, including Torres Strait) is reporting near 100 percent feminization of hatchlings over recent years due to sand temperatures above 32 degrees.

TSRA's Land and Sea Management Unit will further develop research initiatives and partnerships focused on green turtle recovery across the Northern GBR in a joint research/management project from July 2020 through to June 2023, focusing on stock recovery.

There are no population estimates for the hawksbill turtle population of the Torres Strait. Most research efforts have been focused on the Howlick Islands of the central GBR. In 2020, TSRA, along with primary support from the Department of Agriculture, Water and Environment, and in partnership with the Great Barrier Reef Marine Park Authority and the Queensland State government, intend to instigate a three-year monitoring program to ascertain population estimates on Hawksbills.

Strategic assessment—update

The strategic assessment report of the Torres Strait turtle and dugong fisheries was submitted in 2007 to the then Australia Government Department of Sustainability, Environment, Water, Population and Communities after consideration by the Torres Strait Fisheries Management Advisory Committee (no longer in operation), the Australian Fisheries Management Authority Environment Committee (no longer in operation) and the PZJA. The then Australian Government Department of Sustainability, Environment, Water, Population and Communities made several recommendations in consultation with Torres Strait communities and relevant Government agencies. Given the non-commercial nature of these fisheries, finalising the strategic assessment has not been a priority.



6 LICENSING

In order to fish in a Torres Strait Commercial fishery a person mush hold a licence, or number of licences. There are different types of licences associated with commercial fishing in the Torres Strait fisheries. These include: Fishing Licences, Processor-Carrier Boat Licences, and Master Fisherman's Licences.

Further information on the licensing arrangements in place for commercial fishing in the Torres Strait is available online at https://www.pzja.gov.au/licences.

FISHING LICENCES

All commercial fishers require a fishing licence to be able to access any commercial fishery in the Torres Strait. These licences are issued with an endorsement which identifies the fishery (or fisheries) in which a licence holder can operate, including boats authorised to operate under the licence.

There are three categories of fishing licences issued in the Australian jurisdiction of the Protected Zone:

- Traditional Inhabitant Licences
- Torres Strait Fishing Licences
- Torres Strait Sunset Fishing Licences.

Only Australian traditional inhabitants are eligible for Traditional Inhabitant licences. Torres Strait Fishing licences and Torres Strait Sunset Fishing licences are the only avenue by which non-traditional inhabitants take fish from commercial fisheries in the Torres Strait. Non-traditional inhabitants can access commercial fisheries by purchasing or leasing an existing (transferable) Torres Strait Fishing licence or by leasing a Torres Strait Sunset Fishing licence.

Figures relating to fishing licences issued or renewed by the PZJA at 30 June each year during the reporting period are provided in Tables 9 to 11. Figures provided for fishing licences exclude those held by non-traditional inhabitants in "no boat" status, where there are no registered vessels attached to the licence.



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Table 9: Number of endorsements	in e	each	Torres	Strait	fishery	held	by
traditional inhabitants ⁸							

Fishery	2017	2018	2019
Bêche-de-mer	102	123	138
Crab	89	96	114
Tropical rock lobster	333	398	447
Reef line	145	143	169
Spanish mackerel	173	165	191
Pearl shell	62	61	71
Trochus	60	69	78

Table 10: Number of Torres Strait Fishing Licences by fishery

	Primary		Tenders			Total			
Fishery	2017	2018	2019	2017	2018	2019	2017	2018	2019
Bêche-de-mer ⁹	1	1	1	2	2	2	3	3	3
Tropical rock lobster	12	12	12	33	33	33	45	45	45
Pearl shell	9	9	9	13	13	13	22	22	22
Prawn	60	60	60	0	0	0	60	60	60

Table 11: Number of Torres Strait Sunset Fishing Licences by fishery¹⁰

	Primary		Tenders			Total			
Fishery	2017	2018	2019	2017	2018	2019	2017	2018	2019
Finfish-reef line	3	5	3	15	18	10	18	23	13
Finfish– Spanish mackerel	7	7	5	24	21	13	31	28	18



⁸ Note that some licence holders held multiple commercial fishery endorsements, and not all licence holders were active within the fishery (or fisheries) for which they held a commercial endorsement.

⁹ This licence was purchased by the Torres Strait Regional Authority in February 2015. Whilst these licences exist, they are not active and no vessels are linked to them. The licences in this fishery are now 100 per cent held by traditional inhabitants.

¹⁰ The finfish fishery is the only fishery in the Protected Zone that has sunset licences.

PROCESSOR-CARRIER LICENCES

There are three classes of processor-carrier boat licence that regulate how commercial seafood products are carried and/or processed in the Torres Strait: Class A, B and C.

- Class A processor-allow primary boats to process and carry product taken by their associated tender boats.
- Class B processor-carrier licences allow the authorised boat to carry product taken by other licensed operations, but does not allow the product to be processed while aboard.
- Class C processor-carrier licences allow the authorised boat to process and carry product taken by other licensed operations. However, unlike the other classes of processor-carrier licences a Class C licenced boat cannot also be used to fish commercially.

Figures relating to processor-carrier boat licences issued or renewed by the PZJA at 30 June each year (exc. 2017) during the reporting period are provided in Table 12.

		Processor-Carrier Licences								
	(Class A			Class B			Total		
Fishery	2017	2018	2019	2017	2018	2019	2017	2018	2019	
Bêche-de-mer		0	0		7	7		7	7	
Crab		0	3		1	3		1	6	
Tropical rock lobster		17	19		12	14		29	33	
Reef line		7	10		3	3		10	13	
Spanish mackerel		13	13		8	8		21	21	
Pearl shell		4	7		3	6		7	13	
Trochus		1	1		2	4		3	3	
Total	N/A	42	53	N/A	36	45	N/A	78	98	

Table 12: Number of processor-carrier Licences by fishery



MASTER FISHERMAN'S LICENCES

A Master Fisherman's Licence is required to be held by at least one person aboard each boat endorsed on a Torres Strait Fishing Licence or a Torres Strait Sunset Licence¹¹. Each Master Fisherman's Licence must be endorsed for the fishery in which the boat is operating. Figures relating to Master Fisherman's licences issued or renewed by the PZJA at 30 June each year during the reporting period are provided in Table 13.

Table 13: Number of Master Fisherman's licences by combinations of fishery endorsement

Fishery	2017	2018	2019
Tropical rock lobster	55	52	21
Tropical rock lobster, reef line, Spanish mackerel and pearl	9	10	10
Tropical rock lobster, reef line and prawn	1	1	1
Tropical rock lobster, reef line, Spanish mackerel, pearl and prawn	5	4	4
Tropical rock lobster and Spanish mackerel	1	1	1
Tropical rock lobster, Spanish mackerel and pearl	18	17	16
Tropical rock lobster and pearl	2	2	2
Reef line	25	20	16
Reef line and Spanish mackerel	7	10	6
Reef line, Spanish mackerel and prawn	4	4	1
Reef line and prawn	35	23	15
Spanish mackerel	6	5	4
Pearl	2	1	2
Prawn	36	37	58
Bêche-de-mer	0	1	0
Total	206	188	157



¹¹ Note: Where a Primary boat operating as part of a Primary-Tender licence package only receives fish from its associated tenders, a Master Fisherman's License is only required for each of the tender boats operating in the licence package.

7 SURVEILLANCE AND ENFORCEMENT

The PZJA has a responsibility to undertake surveillance and enforce the provisions of the Act, rules and regulations in the Protected Zone. The purpose of the Protected Zone Compliance Program is to:

- enforce fisheries legislation in a manner that results in a high level of compliance
- educate and advise both traditional and commercial fishers on the need for fishing laws in a manner that results in a high level of voluntary compliance
- undertake duties as required by the PZJA to protect the resources of the Protected Zone.

In July 2018, the Australian Fisheries Management Authority took over the responsibility, from Fisheries Queensland, for undertaking domestic compliance activities of the Protected Zone Compliance Program on behalf of the PZJA. Fisheries Queensland's Queensland Boating and Fisheries Patrol had undertaken this role for the previous 34 years. This change was part of a broader range of initiatives undertaken to improve the efficiency of the PZJA administration, which also included the transfer of licensing responsibilities to the Australian Fisheries Management Authority, from Fisheries Queensland, in July 2015.

Domestic compliance operations in the Protected Zone are often supported by other government agencies including Australian Border Force, Royal Australian Navy, Queensland Water Police Service and Torres Strait Rangers. Using other government resources improves the ability to patrol and enforce fisheries legislation throughout the Protected Zone.

FISHERIES QUEENSLAND DOMESTIC COMPLIANCE OPERATIONS (2016–17 TO 2017–18)

In 2016–17 and 2017–18, Fisheries Queensland's Queensland Boating and Fisheries Patrol delivered the domestic compliance activities by visiting communities and through at-sea inspections. Queensland Boating and Fisheries Patrol achieved a total of 47 and 20 Protected Zone patrol days in 2016–17 and 2017–18, respectively. All patrols were conducted on the Queensland Water Police Service vessel.



Extension and education services were also undertaken by Queensland Boating and Fisheries Patrol during community visits. These visits are important for achieving voluntary compliance and were conducted when possible during at sea patrols. Table 14 outlines the frequency that these visits occurred during the reporting period.

Table 14: Queensland Boating and Fisheries Patrol community visits in the Protected Zone during the financial years 2016–17 and 2017–18.

	Number of Visits			
Community	2016-17	2017–18		
Badu Island	3	2		
Boigu Island	3	1		
Coconut (Poruma) Island	1	1		
Darnley (Erub) Island	1	1		
Dauan Island				
Gabba Island				
Horn (Ngurapai) Island	4	3		
Mabuiag Island	2			
Moa Island	1			
Murray (Mer) Island	2			
Saibai Island	5	1		
Stephen Island	2	1		
Sue Island	1			
Tuesday Island				
Thursday Island	11	3		
Warraber Island				
Warrior Reef				
Wednesday Island				
Woody Island				
Yam (Iama) Island	1			
Yorke (Masig) Island	4	2		
ZoggiI Island				
Total	41	15		

AUSTRALIAN FISHERIES MANAGEMENT AUTHORITY DOMESTIC COMPLIANCE OPERATIONS (2018–19)

Australian Fisheries Management Authority fisheries officers participated in 16 'at sea' patrols within the Protected Zone and adjacent waters during the 2018–19 reporting period. Supporting agencies involved the Australian Border Force, Royal Australian Navy, Queensland Water Police Service and the Torres Strait Rangers. Whilst no foreign fishing vessels were apprehended during this period a number of domestic compliance issues were attended to. Pre-season stockpiling of Tropical Rock Lobster, unlicensed fishing / receiving and breaching license conditions resulted in the seizure of catch and fishing gear in some cases.

Throughout the 2018–19 reporting period a total of 47 boats were inspected, 15 ports / freight hubs were visited and 21 Fish Receiver premises were inspected. These were undertaken during the course of patrols and as part of other Australian Fisheries Management Authority compliance operations.

In addition, a number of official warnings were issued for relatively minor offences, in line with Australian Fisheries Management Authority's policy of encouraging voluntary compliance by those active in the fishing sector. Six more serious matters were referred to the Commonwealth Director of Public Prosecutions (CDPP), two cases were not proceeded with, with the remainder scheduled for hearing or still under consideration by the CDPP.

Australian Fisheries Management Authority officers also participated in eighteen stakeholder / community meetings throughout the TSPZ to increase education and awareness of compliance related issues and foster voluntary compliance with licence conditions and the fisheries management arrangements in place.

Seventeen media articles / Facebook posts and SMS messages, targeted at licence holders, also assisted in lifting the Australian Fisheries Management Authority Operations branch profile in the Torres Strait.



8 RESEARCH PROGRAM

The Torres Strait Scientific Advisory Committee continued to assess and prioritise strategic and operational research activities for Torres Strait fisheries. To reflect changes in fisheries status and tactical research needs, annual operational plans were developed.

To ensure that research is conducted in a culturally appropriate manner in the Torres Strait, a Procedural framework for undertaking research in the Torres Strait (2018) is provided to people undertaking research. The procedural framework was developed during the reporting period and updates the previous Guide to researchers working in the Torres Strait (2012). The Procedural framework for undertaking research in the Torres Strait is available online at https://www.pzja.gov.au/resources/research.

Projects were funded by the Australian Fisheries Management Authority based on recommendations of the Torres Strait Scientific Advisory Committee. Reports from the projects can be accessed at www.cmar.csiro. au/datacentre/torres/tsmr_other.htm. Details of the projects conducted during the reporting period are provided in Table 15.

Research project	Research provider	Principal Investigator	Financial year completed ¹²
Commenced prior to July 2016			
Defining the Status of Torres Strait Spanish mackerel to inform future fisheries allocation and sustainable fishing ¹³	James Cook University	Andrew Tobin	2016–17
Commenced in 2016–17			
2016 stock assessment and total allowable catch estimation for the Torres Strait tropical rock lobster	CSIRO	Eva Plaganyi- Lloyd	2018–2019
Harvest Strategy for the Torres Strait finfish fishery	CSIRO	Andrew Tobin	2017/2018

Table 15: Research projects conducted in the Protected Zone presented by the financial year they were commenced

¹² Financial years in brackets indicate when the project is due for completion.

¹³ This project was originally scheduled to be completed in the 2015–16 financial year; however, the research was deferred until the 2016–17 financial year.

Research project	Research provider	Principal Investigator	Financial year completed ¹²
Harvest Strategy for the Torres Strait Beche-de-Mer fishery	CSIRO	Eva Plaganyi- Lloyd	2018/2019
Environmental influences on Torres Strait lobster recruitment	CSIRO	Eva Plaganyi- Lloyd	2017/2018
Commenced in 2017–18			
2017 stock assessment and total allowable catch estimation for the Torres Strait tropical rock lobster	CSIRO	Eva Plaganyi- Lloyd	2017–18
Mid-year survey to support management of Torres Strait Tropical Rock Lobster	CSIRO	Eva Plaganyi- Lloyd	2017/2018
Commenced in 2018–19			
2018 stock assessment and total allowable catch estimation for the Torres Strait tropical rock lobster	CSIRO	Eva Plaganyi- Lloyd	(2021/2022)
Climate change variability and change relevant to key fisheries in the Torres Strait	CSIRO	Leo Dutra	(2019/2020)
Spanish mackerel stock assessment	Sea Sense	Rik Buckworth	(2020/2021)
Enhancing biological data inputs Torres Strait Spanish mackerel stock assessment	QDAF	Jo Langstreth	(2019/2020)
Management Strategy Evaluation for the Torres Strait Prawn Fishery Season Dates	Clive Turnbull	Clive Turnbull	(2019/2020)
Updated Tiger Prawn Assessment for the Torres Strait Prawn Fishery	Clive Turnbull	Clive Turnbull	(2018/2019)



9 FINANCIAL ARRANGEMENTS

The costs for managing PZJA fisheries during the 2016–17, 2017–18 and 2018–19 financial years were incurred by the:

- Australian Fisheries Management Authority for fisheries management, licensing and PZJA committee administrative functions
- Fisheries Queensland for the domestic compliance function
- Torres Strait Regional Authority for capacity building in Torres Strait communities.

Due the transfer of responsibility for undertaking the domestic compliance activities of the Protected Zone Compliance Program during the reporting period the distribution of costs between the Australian Fisheries Management Authority and Fisheries Queensland has changed. Expenses, and revenue, for the Australian Fisheries Management Authority and Fisheries Queensland for the financial years 2016–17, 2017–18 and 2018–19 are outlined in Tables 16 to 18, noting that:

- The financial performance of the Australian Fisheries Management Authority and Fisheries Queensland are reported through their respective annual reports
- For Fisheries Queensland actual expenditure has been recorded where possible, otherwise the budget for the period has been recorded. There may be some difference between the two; however, it is unlikely to be significant.
- The Torres Strait Prawn Fishery is the only Torres Strait fishery for which some costs of management are recovered. As such, reported cost recovered expenses are only applicable to the Torres Strait Prawn Fishery. Note that Australian Fisheries Management Authority applied the revised Cost Recovery Implementation Statement (CRIS) model to the Torres Strait Prawn Fishery for cost recovery from 2017–18 onwards.



To support activities associated with Torres Strait fisheries, levies and/or licence fees are collected from traditional and non-traditional commercial fishers that offset costs. Revenue is also sourced from the collection of rent for office and residential accommodation in buildings held by the agencies on Thursday Island, as well as fees for services such as those paid by Torres Strait Regional Authority to Australian Fisheries Management Authority for administration of traditional inhabitant representation on PZJA forums from 2015 to 2018. Implementation of the initial capital items program, fully funded by the Australian Government, began in 1985–86 and was completed in the first half of the financial year 1991–92. Each agency tends to its own capital items. The Australian Government's capital items held include:

- a joint fisheries/quarantine administrative centre on Thursday Island
- three residences on Thursday Island for the use of regional fisheries staff.

During the reporting period Torres Strait Regional Authority met its financial obligations associated with the PZJA from its own appropriation funding. The Torres Strait Regional Authority's financial statements are audited annually by the Australian National Audit Office and included in their annual reports. The Torres Strait Regional Authority does not report the financial costs associated with PZJA activity separately as it forms part of its day to day program activity.

The Australian Government Australian Government Department of Agriculture, Water and the Environment also incurs costs when providing policy and legislative support when needed. However, there is not a dedicated Torres Strait section in the Department and any expenditure is not directly recorded against the PZJA.

Description	AFMA	FQ	Total
Expenses			
Salaries & on costs	\$663 597	\$362 685	\$1 026 282
Consultants & contractors	\$69 138	\$245	\$69 383
Meetings, travel & subsistence	\$327 673	\$22 858	\$350 531
Research contracts	\$394 195		\$394 195
Other administrative costs	\$570 844	\$12 960	\$583 804
Total expenditure (excluding Cost Recovery)	\$2 025 447	\$398 748	\$2 424 195

Table 16: 2016–17 Australian Fisheries Management Authority (AFMA) —Fisheries Queensland (FQ) cost-sharing details



Description	AFMA	FQ	Total
Cost Recovered Expenses (Torres S	trait Prawn)		
Fisheries Management			
Salary costs	\$51 920		\$51 920
Consultancy & contractors	\$7 620		\$7 620
Other administrative	\$68		\$68
Type A overheads	\$6 479		\$6 479
Type B overheads	\$25 790		\$25 790
Type C overheads	\$7 175		\$7 175
Type D overheads	\$4 629		\$4 629
Sub-total Fisheries Management	\$103 681		\$103 681
Indirect Costs			
Logbooks	\$5 240		\$5 240
Data management	\$6 539		\$6 539
Observers & e-Monitoring ¹⁴	\$68 115		\$68 115
Compliance data collection	\$41 760		\$41 760
Sub-total Indirect Costs	\$121 654		\$121 654
Total Cost Recovered Expenditure	\$225 335		\$225 335
Total Expenditure	\$2 250 782	\$398 748	\$2 649 530
Revenue			
Fee for service & other revenue	\$371 782	\$77 240	\$449 022
Other revenue	\$442 891		\$442 891
Total Revenue	\$814 673	\$77 240	\$891 913
Net Expenditure	\$1 436 109	\$321 508	\$1 757 617



¹⁴ There was a 20% government contribution to the cost of observers for the Torres Strait Prawn Fishery under the previous Cost Recovery Impact Statement (CRIS).

Table 17: 2017–18 Australian Fisheries Management Authority (AFMA) —Fisheries Queensland (FQ) cost-sharing details

Description	AFMA	FQ	Total
Expenses			
Salaries & other staff related costs	\$808 161	\$127 103	\$935 264
Consultants & contractors	\$111 088		\$111 088
Meetings, travel & subsistence	\$367 173	\$ 5 478	\$372 651
Research contracts	\$406 742		\$406 742
Other administrative costs	\$503 750	\$1 702	\$505 452
Overheads	\$465 143		\$465 143
Total expenditure (excluding Cost Recovery)	\$2 662 058	\$134 283	\$2 796 341
Cost Recovered Expenses (Torres St	crait Prawn)		
Fisheries Management			
Species & environmental management	\$33 147		\$33 147
Risk Management	\$12 047		\$12 047
Management advisory forums	\$35 156		\$35 156
Consultation & engagement	\$5 947		\$5 947
Strategy, governance & leadership	\$14 406		\$14 406
Sub-total Fisheries Management	\$100 704		\$100 704
Data Collection & Management			
Vessel Monitoring	\$95 985		\$95 985
Logbook data	\$3 152		\$3 152
Data management	\$5 297	\$3 000	\$8 297
Sub-total Data Collection & Management	\$104 434	\$3 000	\$107 434
Licensing & Revenue Collection			
Licensing administration & revenue collection	\$16 719		\$16 719
Licensing administration & revenue collection systems	\$17 531		\$17 531
Sub-total Licensing & Revenue Collection	\$34 250		\$34 250



Description	AFMA	FQ	Total
Policy Support			
Policy	\$11 382		\$11 382
Sub-total Policy Support	\$11 382		\$11 382
Total Cost Recovered Expenditure	\$250 770		\$250 770
Total Expenditure	\$2 912 828	\$137 283	\$3 050 111
Revenue			
Fee for service (Torres Strait Prawn Levy)	\$268 675		\$268 675
Licence fees	\$82 135		\$82 135
Other revenue	\$313 303		\$313 303
Total Revenue	\$664 113	\$0	\$664 113
Net Expenditure	\$2 248 715	\$137 283	\$2 385 998



Table 18: 2018–19 Australian Fisheries Management Authority (AFMA) —Fisheries Queensland (FQ) cost-sharing details

Description	AFMA	FQ	Total
Expenses			
Salaries & other staff related costs	\$999 607	\$19,524	\$1 019 131
Consultants & contractors	\$91 174		\$91 174
Meetings, travel & subsistence	\$428 466	\$10,445	\$438 911
Research contracts	\$424 245		\$424 245
Vessel Monitoring	\$42 017		\$42 017
Other administrative costs	\$577 303	\$691	\$577 994
Overheads	\$594 043		\$594 043
Total Expenditure (excluding Cost Recovery)	\$3 156 856	\$30 660	\$3 187 516

Cost Recovered Expenses (Torres Strait Prawn)

Fisheries Management			
Species & environmental management	\$28 647		\$28 647
Risk Management	\$7 331		\$7 331
Bycatch	\$9 679		\$9 679
Management advisory forums	\$17 236		\$17 236
Consultation & engagement	\$2 987		\$2 987
Strategy, governance & leadership	\$7 256		\$7 256
Sub-total Fisheries Management	\$73 136	\$0	\$73 136
Data Collection & Management			
Observers	\$68 654		\$68 654
Vessel Monitoring	\$59 180		\$59 180
Logbook data	\$9 094		\$9 094
Data management	\$5 913		\$5 913
Sub-total Data Collection & Management	\$142 842	\$ 0	\$142 842



Description	AFMA	FQ	Total
Licensing & Revenue Collection			
Licensing administration & revenue collection	\$26 535		\$26 535
Licensing administration & revenue collection systems	\$16 390		\$16 390
Sub-total Licensing & Revenue Collection	\$42 925	\$ O	\$42 925
Research			
Research Contract Administration	\$970		\$970
Research projects	\$15 750		\$15 750
Sub-total Research	\$16 720		\$16 720
Policy Support			
Policy	\$11 034		\$11 034
Sub-total Policy Support	\$11 034	\$ O	\$11 034
Total Cost Recovered Expenditure	\$286 658	\$0	\$286 658
Total expenditure	\$3 443 514	\$30 660	\$3 474 174
Revenue			
Fee for service (Torres Strait Prawn Levy)	\$220 091		\$220 091
Licence fees	\$89 100		\$89 100
Other revenue	\$148 368		\$148 368
Total Revenue	\$457 560	\$0	\$457 560
Net Expenditure	\$2 985 954	\$30 660	\$3 016 614



ANNEXE A: PZJA AND PZJA CONSULTATIVE COMMITTEE MEETINGS¹⁵

Protected Zone Joint Authority

- Meeting 26: 1 September 2016, teleconference
- Meeting 27: 25 October 2018, teleconference
- Meeting 28: 26 November 2018, teleconference
- Meeting 29: PZJA Chair visit to Thursday Island (unofficial meeting)
- Meeting 30: 25 February 2019, teleconference
- Meeting 31: 1 April 2019, teleconference

Torres Strait Scientific Advisory Committee

- 26–27 March 2018, Thursday Island
- 5-6 December 2018, Thursday Island
- 26 February 2019, teleconference
- 28–29 May 2019, Thursday Island

Torres Strait Prawn Management Advisory Committee

- 6 June 2017, teleconference
- 13-14 June 2018, Cairns

Torres Strait Hand Collectables Working Group

- 3 November 2016, Thursday Island
- 27 June 2017, Thursday Island
- 24–26 July 2018, Thursday Island
- 24 October 2018, Erub Island



¹⁵ The PZJA and PZJA consultative groups also considered decisions outside of meetings. PZJA and PZJA consultative group meeting and out-of-session decisions are published online at https://www.pzja.gov.au/pzja-and-committees/pzja-meeting-papers-andrecords.

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Torres Strait Tropical Rock Lobster Working Group

- 25–26 July 2017, Thursday Island
- 6 April 2016, Thursday Island
- 24–26 October 2017, Thursday Island
- 26 April 2018, teleconferece
- 8 November 2018, Thursday Island
- 19 February 2019, Thursday Island

Torres Strait Finfish Working Group

- 12–13 July 2016, Thursday Island
- 16-17 March 2017, Thursday Island
- 20 March 2018, Thursday Island
- 15 March 2019, Thursday Island

Torres Strait Tropical Rock Lobster Resource Assessment Group

- 2-3 August 2016, Thursday Island
- 13 December 2016, teleconference
- 28 March 2017, Thursday Island
- 12–13 December 2017
- 27-28 March 2018
- 15 May 2018, Cairns
- 18–19 October, Cairns
- 11–12 December, Thursday Island
- 5 February 2019, Cairns

Torres Strait Finfish Resource Assessment Group

- 6 April 2017, teleconference
- 9–10 November 2017, Brisbane
- 20-21 March 2018, Thursday Island
- 20 November 2018, Cairns
- 13–14 March 2019, Cairns



ANNEXE B: REFERENCES

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ANNEXE C: GLOSSARY

SPECIES LIST

Common name	Scientific Name
Crustaceans	
Blue endeavour prawns	Metapenaeus endeavouri
Blue swimmer crab	Portunus pelagicus
Brown tiger prawns	Penaeus esculentus
King prawns	Merlicertus plebejus
Moreton Bay bugs	Thenus spp
Mud crab	Scylla spp.
Ornate tropical rock lobster	Panulirus ornatus
Red spot king prawns	Melicertus longistylus
Slipper and shovel-nosed lobster	Scyllaridae
Fish	
Barramundi	Lates calcarifer
Barramundi cod	Cromileptes altivelis
Coral trout species	Plectropomus spp.
Grey mackerel	Scomberomorus semifasciatus
mixed reef fish	Lutjanus spp. and Lethrinus spp.
Narrow-barred Spanish mackerel	Scomberomorus commerson
Rock Cod	Epinephelus spp.
School mackerel	Scomberomorus queenslandicus
Shark mackerel	Grammatorcynus bicarinatus
Spotted mackerel	Scomberomorus munroi
Molluscs	
Black-lipped pearl shell	Pinctada margaritifera
Gold-lipped pearl shell	Pinctada maxima
Squid	Teuthoidea
Scallops	Amusium spp.
Trochus	Tectus niloticus (previously Trochus niloticus)
Winged pearl oyster	Pteria penguin



Common name	Scientific Name
Mammals	
Dugong	Dugong dugon
Reptiles	
Flatback turtle	Natator depressus
Green turtle	Chelonia mydas
Hawksbill turtle	Eretmochelys imbricata
Bêche-de-mer	
Amberfish	Thelenota anax
Blackfish	Actinopyga miliaris
Black teatfish	Holothuria whitmaei (previously H. nobilis)
Brown sandfish	Bohadschia vitiensis
Curryfish	Stichopus hermanni
	(previously S.variegatus)
Deepwater redfish	Actinopyga echinites
Elephant's trunkfish	Holothuria fuscopunctata
Greenfish	Stichopus chloronotus
Leopardfish	Bohadschia argus
(also known as tigerfish)	
Lollyfish	Holothuria atra
Pinkfish	Holothuria edulis
Prickly redfish	Thelenota ananas
Sandfish	Holothuria scabra
Stonefish	Actinopyga lecanora
Surf redfish	Actinopyga mauritiana
White teatfish	Holothuria fuscogilva


ACRONYMS AND ABBREVIATIONS

CSIRO	Commonwealth Scientific and Industrial Research Organisation
PZJA	Protected Zone Joint Authority
The Act	The Torres Strait Fisheries Act 1984
The Torres Strait Treaty	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 that was signed at Sydney on 18 December 1978
Protected Zone	Torres Strait Protected Zone
WTO	wildlife trade operation



